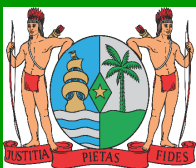


# Suriname

Monitoring the situation of children and women



## Multiple Indicator Cluster Survey 2010



Government of  
Suriname



United Nations  
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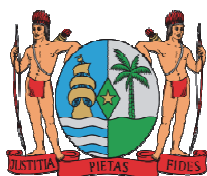
Suriname

**Multiple Indicator Cluster Survey**

2010

**Final Report**

January, 2013



The Suriname Multiple Indicator Cluster Survey (MICS) was carried out in 2010 by the Ministry of Social Affairs and Housing in collaboration with General Bureau of Statistics and the Institute for Social Research (IMWO) of the University of Suriname. 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 Suriname 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](http://www.childinfo.org).

Cover photo: UN Suriname/2011/Pelu Vidal

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Suggested citation: Ministry of Social Affairs and Housing and General Bureau of Statistics, 2012. Suriname Multiple Indicator Cluster Survey 2010, Final Report: Paramaribo, Suriname.

Printed by Suriprint n.v.

**Suriname**

**Multiple Indicator Cluster Survey**

**2010**

Ministry of Social Affairs and Housing

United Nations Children's Fund

General Bureau of Statistics

Institute for Social Research of the  
Anton de Kom University of Suriname

January, 2013

## Summary Table of Findings

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

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value	
<b>NUTRITION</b>					
Nutritional status	2.1a	1.8	Underweight prevalence	5.8	Percent
	2.1b		Moderate and Severe (- 2 SD)	1.3	Percent
	2.2a		Stunting prevalence	8.8	Percent
			Moderate and Severe (- 2 SD)	2.2	Percent
	2.2b		Severe (- 3 SD)		
	2.3a		Wasting prevalence	5.0	Percent
Moderate and Severe (- 2 SD)			0.8	Percent	
Breastfeeding and infant feeding	2.4		Children ever breastfed	90.4	Percent
	2.5		Early initiation of breastfeeding	44.7	Percent
	2.6		Exclusive breastfeeding under 6 months	2.8	Percent
	2.7		Continued breastfeeding at 1 year	22.7	Percent
	2.8		Continued breastfeeding at 2 years	14.9	Percent
	2.9		Predominant breastfeeding under 6 months	18.4	Percent
	2.10		Duration of breastfeeding	8.0	Months
	2.11		Bottle feeding	71.9	Percent
	2.12		Introduction of solid, semi-solid or soft foods	47.0	Percent
	2.13		Minimum meal frequency	64.3	Percent
	2.14		Age-appropriate breastfeeding	14.7	Percent
2.15		Milk feeding frequency for non-breastfed children	80.6	Percent	
Low birth weight	2.18		Low-birth weight infants	13.9	Percent
	2.19		Infants weighed at birth	80.5	Percent
<b>CHILD HEALTH</b>					
Vaccinations	3.2	4.3	Polio immunization coverage (18-29 months old children, before age 12 months)	79.0	Percent
	3.4		Measles (MMR) immunization coverage (18-29 months old children, before age 18 months)	73.9	Percent
	3.6		Yellow fever immunization coverage (18-29 months old children, at any time before the survey) <sup>1</sup>	64.0	Percent
Tetanus toxoid	3.7		Neonatal tetanus protection	36.4	Percent
Care of illness	3.8		Oral rehydration therapy with continued feeding	60.8	Percent
	3.9		Care seeking for suspected pneumonia	75.8	Percent
	3.10		Antibiotic treatment of suspected pneumonia	71.2	Percent
Solid fuel use	3.11		Solid fuels	11.4	Percent
Malaria <sup>1</sup>	3.12	6.7	Household availability of insecticide-treated nets (ITNs)	60.5	Percent
	3.13		Households protected by a vector control method	60.9	Percent
	3.14		Children under age 5 sleeping under any mosquito net	53.6	Percent
	3.15	Children under age 5 sleeping under insecticide-treated nets (ITNs)	43.4	Percent	
	3.16		Malaria diagnostics usage	14.9	Percent
	3.17		Antimalarial treatment of children under 5 the same or next day	0.0	Percent
	3.18	6.8	Antimalarial treatment of children under age 5	0.0	Percent
3.19		Pregnant women sleeping under insecticide-treated nets (ITNs)	50.5	Percent	

<sup>1</sup> Brokopondo and Sipaliwini only

WATER AND SANITATION					
Water and sanitation	4.1	7.8	Use of improved drinking water sources	95.0	Percent
	4.2		Water treatment	10.1	Percent
	4.3	7.9	Use of improved sanitation facilities	80.2	Percent
	4.4		Safe disposal of child's faeces	22.0	Percent
	4.5		Place for handwashing	86.3	Percent
	4.6		Availability of soap	96.2	Percent
REPRODUCTIVE HEALTH					
Maternal and newborn health	5.3	5.3	Contraceptive prevalence rate	47.6	Percent
	5.4	5.6	Unmet need	16.9	Percent
	5.5a	5.5	Antenatal care coverage		
			At least once by skilled personnel	94.9	Percent
	5.5b		At least four times by any provider	66.8	Percent
	5.6		Content of antenatal care	92.3	Percent
	5.7	5.2	Skilled attendant at delivery	92.7	Percent
	5.8		Institutional deliveries	92.3	Percent
5.9		Caesarean section	19.0	Percent	
CHILD DEVELOPMENT					
Child development	6.1		Support for learning	72.9	Percent
	6.2		Father's support for learning	25.9	Percent
	6.3		Learning materials: children's books	25.0	Percent
	6.4		Learning materials: playthings	58.8	Percent
	6.5		Inadequate care	7.1	Percent
	6.6		Early child development index	70.9	Percent
	6.7		Attendance to early childhood education	34.3	Percent
EDUCATION					
Literacy and education	7.1	2.3	Literacy rate among young women	92.1	Percent
	7.2		School readiness	75.8	Percent
	7.3		Net intake rate in primary education	87.2	Percent
	7.4	2.1	Primary school net attendance ratio (adjusted)	95.4	Percent
	7.5		Secondary school net attendance ratio (adjusted)	59.4	Percent
	7.6	2.2	Children reaching last grade of primary	95.8	Percent
	7.7		Primary completion rate	88.2	Percent
	7.8		Transition rate to secondary school	79.2	Percent
	7.9		Gender parity index (primary school)	1.02	Percent
	7.10		Gender parity index (secondary school)	1.24	Percent
CHILD PROTECTION					
Birth registration	8.1		Birth registration	98.9	Percent
Child labour	8.2		Child labor	9.6	Percent
	8.3		School attendance among child laborers	94.2	Percent
	8.4		Child labour among students	9.4	Percent
Child discipline	8.5		Violent discipline	86.1	Percent
Early marriage and Polygyny	8.6		Marriage before age 15	5.4	Percent
	8.7		Marriage before age 18	23.0	Percent
	8.8		Young women age 15-19 currently married or in union	11.8	Percent
	8.9		Polygyny	3.9	Percent
	8.10a		Spousal age difference Women age 15-19	14.7	Percent
	8.10b		Women age 20-24	17.1	Percent
Domestic violence	8.14		Attitudes towards domestic violence	12.5	Percent
HIV/AIDS, SEXUAL BEHAVIOUR, AND ORPHANED AND VULNERABLE CHILDREN					
HIV/AIDS knowledge and attitudes	9.1		Comprehensive knowledge about HIV prevention	42.5	Percent
	9.2	6.3	Comprehensive knowledge about HIV prevention among young people	41.9	Percent
	9.3		Knowledge of mother-to-child transmission of HIV	51.8	Percent
	9.4		Accepting attitude towards people living with HIV	21.1	Percent
	9.5		Women who know where to be tested for HIV	85.0	Percent
	9.6		Women who have been tested for HIV and know the results	20.3	Percent
	9.7		Sexually active young women who have been tested for HIV and know the results	33.4	Percent
	9.8		HIV counseling during antenatal care	49.3	Percent
	9.9		HIV testing during antenatal care	79.5	Percent
Sexual behaviour	9.10		Young women who have never had sex	54.7	Percent
	9.11		Sex before age 15 among young women	9.6	Percent

Summary Table of Findings

	9.12		Age-mixing among sexual partners	15.0	Percent
	9.13		Sex with multiple partners	2.5	Percent
	9.14		Condom use during sex with multiple partners	37.2	Percent
	9.15		Sex with non-regular partners	58.8	Percent
	9.16	6.2	Condom use with non-regular partners	55.5	Percent
Orphaned children	9.17		Children's living arrangements	7.9	Percent
	9.18		Prevalence of children with at least one parent dead	4.6	Percent
	9.20	6.4	School attendance of non-orphans	96.9	Percent
<b>ACCESS TO MASS MEDIA AND USE OF INFORMATION/COMMUNICATION TECHNOLOGY</b>					
Access to Mass Media	MT.1		Exposure to mass media	66.4	Percent
Use of Information and Communication Technology	MT.2		Use of computer in the past 12 months – persons 15-24 years	59.8	Percent
	MT.3		Use of the internet in the past 12 months – persons 15-24 years	48.5	Percent

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## List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
CEDAW	Convention on the Elimination of all Forms of Discrimination Against Women
CRC	Convention on the Rights of the Child
CSPro	Census and Survey Processing System
DPT	Diphtheria Pertussis Tetanus
ECDI	Early Childhood Development Index
EPI	Expanded Programme on Immunization
GBS	General Bureau of Statistics
GPI	Gender Parity Index
HIV	Human Immunodeficiency Virus
ITN	Insecticide Treated Net
IUD	Intrauterine Device
LAM	Lactational Amenorrhea Method
LPG	Liquified Petroleum Gas
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MMR	Mumps, Measles and Rubella
MoH	Ministry of Health
NAR	Net Attendance Rate
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Treatment
PLOS	Ministry of Planning and Development Co-operation
RHF	Recommended Home Fluid
SOZAVO	Ministry of Social Affairs and Housing
SPSS	Statistical Package for Social Sciences
STIs	Sexually Transmitted Infections
UNAIDS	United Nations Programme on HIV/AIDS
UNDAP	United Nations Development Plan
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
WFFC	World Fit for Children
WHO	World Health Organization
WSC	World Summit for Children

## Foreword

With the support of United Nations Children's Fund (UNICEF), the fourth round of the Multiple Indicators Cluster Survey (MICS) commenced in 2010 in Suriname. The MICS is an international household survey regarding the situation of children and women. It is conducted in subsequent rounds of four to five years and was first conducted in Suriname in the year 2000, during the second round of MICS.

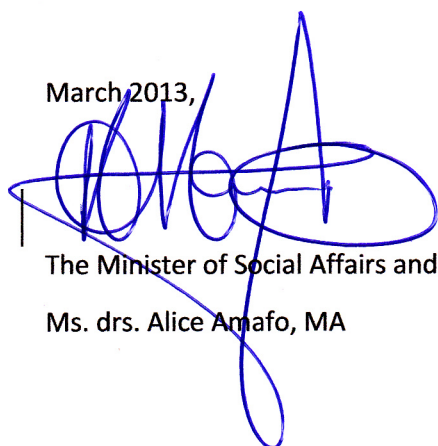
This last survey follows up on the MICS3 in Suriname, conducted in 2006 by the General Bureau of Statistics in collaboration with the Ministry of Social Affairs and Housing (SOZAVO) and the Ministry of Planning and Development Cooperation (PLOS). The survey provides valuable information on the situation of children and women in Suriname, and is based to a great extent on the need to monitor progress towards goals and targets emanating from recent international agreements: the Millennium Declaration, adopted by all 191 United Nations Member States in September 2000, and the Plan of Action of A World Fit For Children, adopted by 189 Member States at the United Nations Special Session on Children in May 2002. Both of these commitments build upon promises made by the international community at the 1990 World Summit for Children. The MICS3 data were subsequently used for reporting on the progress towards Millennium Development Goals. In signing these international agreements, governments committed themselves to improve conditions for their children and to monitor progress towards that end. UNICEF was assigned a supporting role in this task.

The Multiple Indicator Cluster Survey (MICS) facilitates the collection, preparation and analysis of national data that constitute an in-depth and up-to-date set of statistics on the well-being of children in Suriname. The data can be used as an input for national planning and exercise that permit efforts to monitor and evaluate the achievement of the Millennium Development Goals.

The first Suriname MICS report was based on data collected in 2000 while the second was based on data collected in 2006. This third report of the MICS has been informed by the fourth round of MICS which was executed in 2010.

The Ministry of Social Affairs and Housing wishes to acknowledge all contributed towards the finalization of the report. Sincerest appreciation goes also to key stakeholders, in particular, those involved in conducting the survey, preparing this report and publishing the results; from the fieldworkers to the members of the MICS Technical Steering Committee, UNICEF Suriname Country Office, UNICEF Regional Office and UNICEF Headquarters.

March 2013,



The Minister of Social Affairs and Housing

Ms. drs. Alice Amafo, MA



## Executive Summary

The Suriname Multiple Indicator Cluster Survey (MICS) which was carried out as part of the fourth round of the global MICS household survey programme with the technical and financial support from UNICEF. MICS is a nationally representative sample survey of women aged 15-49 and children under age five of 7,407 responding households out of a total of 9,356 sampled households. The main purpose of MICS 2010 is to support the government of Suriname to generate statistically sound and comparable data for monitoring the situation of children and women in the country. MICS 4 covers topics related to nutrition, child health, water and sanitation, reproductive health, child development, literacy and education, child protection, HIV and AIDS, mass media and the use of information and communication technology and attitude towards domestic violence.

The results of this MICS reveal interesting similarities and differences between the rural interior area that is the principal spatial domain of the maroons and indigenous peoples of Suriname, and the urban and rural coastal areas. More favourable outcomes are evident for indicators when reference is made to urban spaces as opposed to the rural coastal area or the rural interior.

### Nutrition

In MICS, weights and heights of all children under 5 years of age were measured using anthropometric equipment recommended by UNICEF ([www.childinfo.org](http://www.childinfo.org)). Findings are based on the results of these measurements. Almost 6 percent of children under age five are moderately or severely underweight (5.8 percent) and 1.3 percent are classified as severely underweight. Just under one tenth of children (9%) are moderately or severely stunted or too short for their age and 5 percent are moderately or severely wasted or too thin for their height. A higher prevalence of being overweight appears to be consistent with children whose mothers have higher levels of educational attainment. Whether underweight, stunted, wasted or overweight, the data point to higher prevalence rates among boys when compared to girls.

45 percent of mothers are estimated to have initiated breastfeeding of their infants within the first hour of birth while two in the three (64%) initiated such feeding within the first day. Whether within one day or one hour, greater proportions of mothers from rural districts are observed to have initiated breastfeeding within such time spans subsequent to their infants' births when compared to corresponding proportions in urban areas.

Just 3 percent of children aged less than six months are exclusively breastfed, a level considerably lower than recommended. Girls were more likely to be exclusively breastfed than boys. For children under 2 years, more than a half of the children 8-9 months or in older age groups are no longer breastfed.

### Child health

About 83 percent of children age 18-29 months received three doses of the polio vaccine at any time before the survey. As much as 91 percent had received at least a first dose of the polio vaccine. HepB at birth shows a prevalence of 39 percent of children age 18-29 months vaccinated at any time before the survey. In rural communities, 64 percent of these children were immunized for Yellow Fever before their first birthday or at some point prior to the survey. With respect to the vaccine against measles (MMR), MICS4 data indicate that approximately 78 percent of children age 18-29 months were estimated to have received the measles (MMR) vaccine.

Overall, approximately 10 percent of under five children had diarrhoea in the two weeks preceding the survey. Diarrhoea prevalence rates were highest in Sipaliwini (13%), Brokopondo (13%) and Wanica (11%) and lowest in Saramacca (6%). Similar rates ranging between 8 percent and 10 percent were observed in

the remaining districts. 72 percent of the children who were reported as having diarrhoea received oral rehydration treatment. Children from rural districts appear more likely to have received oral rehydration treatment when compared to children from urban areas. Two percent of children aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey. Of these children, almost 76 percent were taken to an appropriate provider. Just over a half of the children (51%) of the children with suspected pneumonia were cared for in a public sector government health centre. The vast majority of children were cared for in government health centres in both urban and rural areas.

For Malaria the survey results relate specifically to the rural interior districts, namely Brokopondo and Sipaliwini. Almost 61 percent of households have at least one insecticide treated net and/or received indoor residual spraying in the last 12 months preceding the survey. 54 percent of children under the age of five slept under any mosquito net the night prior to the survey and 43 percent slept under an insecticide treated net. For pregnant women, 65% of them slept under any mosquito net the night prior to the survey with a notably lower percentage indicating that they slept under an insecticide treated net.

### Water and sanitation

Overall, 95 percent of the population is using an improved source of drinking water (99 percent in urban areas and 85 percent in rural areas). Compared to the other districts where there are negligible differences in the proportion of population with improved source of drinking water, markedly lower proportions are observed in Sipaliwini (64%).

Ninety-one percent of the population of Suriname are living in households using improved sanitation facilities. This percentage is 98 in urban areas and 71 percent in rural areas. For rural coastal and the rural interior, the respective percentages are 93 and 42. Faeces of a little more than one fifth of all children 0-2 years, is disposed of safely (22%). This is alarming especially since the disposal of faeces is safe for less than one third of every sub-population of children 0-2 years.

A specific place for handwashing was observed in approximately 74 percent of the households while 11 percent of all households could not indicate a specific place where household members usually wash their hands and 10 percent of the households did not give any permission to see the place used for handwashing. Of those households where place for handwashing was observed, nearly 9 in every 10 (86%) had both water and soap present at the designated place.

### Reproductive Health

Current use of contraception was reported by 48 percent of women currently married or in union. The most popular method is the pill which is used by one in four married women in Suriname. The next most popular method is female sterilization, which accounts for 11 percent of married women. Variable proportions ranging between two and five percent of women reported use of the Intra-uterine devices (IUD), injectables, and the condom. Less than one percent use periodic abstinence, withdrawal, male sterilization, vaginal methods, or the Lactational Amenorrhea Method (LAM). Contraceptive prevalence is highest in Commewijne at approximately 59%. Though lower than in Commewijne, similar magnitudes of contraceptive prevalence are observed in Wanica (52%), Nickerie (54%) and Saramacca (54%).

Total unmet need for contraception is highest in the rural interior amounting to 33 percent. Total met need for contraception is highest in rural coastal areas amounting to 51 percent. It is worth noting that Sipaliwini (43%), Brokopondo (43%) and Marowijne (60%) have the lowest percentage of demand for contraception satisfied.

The vast majority of women obtained antenatal care from a doctor, nurse/midwife or a community health worker, the respective proportions being 71 percent, 19 percent and 4 percent. 3 percent received no antenatal care whatsoever. In the rural interior, relatively smaller proportions of women obtained care from doctors and relatively larger proportions obtained care from community health workers than are observed to be the case in any of the other districts.

With respect to women giving birth in the year prior to the MICS survey, as much as 54 percent claimed to have had such deliveries with assistance from a nurse/midwife while 36 percent claimed to have had such assistance from doctors. In the rural interior, relatively small proportions of women claimed to have had births that were delivered by a doctor and relatively larger proportions claimed to have had births that were delivered by community health workers when compared to corresponding estimates in any of the other districts.

92 percent of women 15-49 with births in the two years preceding the survey delivered their babies in a health facility; 72 percent of women delivered in public sector facilities and 20.8 percent in private sector facilities. Only 4 percent of women delivered at home.

## Child Development

Around three quarters (76 percent) of children aged 36-59 months was attending pre-school at the time of the survey. Urban-rural and district differentials are substantial – the figure is as high as 44 percent in urban areas, compared to 19 percent in rural areas. For approximately 73 percent of children 36-59 months, an adult has been engaged in four or more activities that promote learning and school readiness during the 3 days preceding the survey. For a little more than a quarter (25.9%) of the children 36-59 months, fathers have been involved with one or more activities. A relatively high proportion of children 36-59 months have not been living with their natural fathers, this proportion being in the vicinity of 39 percent.

Leaving children alone or in the presence of other young children is known to increase the risk of accidents. In Suriname, 3 percent of children aged 0-59 months were left in the care of other children, while 6 percent were left alone during the week preceding the interview. Combining the two care indicators, it is calculated that 7 percent of children were left with inadequate care during the week preceding the survey.

The Early Child Development Index (ECDI) represents the percentage of children who are developmentally on track in at least three of four domains (literacy-numeracy, physical socio-emotional and learning). 71 percent of children aged 36-59 months were developmentally on track with the ECDI being lower among boys (63 percent) than girls (72 percent).

## Education and literacy

92 percent of women 15-24 years in the survey were literate. Literacy rates in urban areas are higher than those in rural areas being 96 percent and 80 percent respectively.

Overall, 76 percent of children attending the first grade of primary school were attending pre-school the previous year. Of children who are of primary school entry age (age 6) in Suriname, 87 percent are attending the first grade of primary school. The majority of children of primary school age are attending school (95%). The primary school age children of the poorest households are estimated to have the lowest school attendance rates (92%) when compared to children in each of the other wealth status groups.

Only 79 percent of the children that completed successfully the last grade of primary school were found at the moment the survey to be attending the first grade of secondary school.

The gender parity index for primary school is close to 1.00, indicating that there is no difference in the attendance of girls and boys to primary school. With respect to the secondary level, the gender parity index is 1.24 and indicative of higher school attendance at the secondary level among girls than among boys.

## Child Protection

Births of 99 percent of children under five years have been registered and there does not appear to be any major variations in birth registration across sex, age, or education categories.

At least 10 percent of children 5-14 years are engaged in child labour in Suriname. While there are no observed differences across the sexes, there are noteworthy variations across the districts and urban/rural domains of Suriname. In districts such as Sipaliwini, Brokopondo, Para and Marowijne, the prevalence of child labour is observed to be at least equal to or greater than the national estimate of 10 percent. In the remaining districts, the prevalence of child labour is estimated to be lower than the national estimate.

86 percent of children aged 2-14 years were subjected to at least one form of psychological or physical punishment by their mothers/caretakers or other household members. 12 percent of children were subjected to severe physical punishment. 13 percent of mothers/caretakers believed that children should be physically punished.

Almost 6 percent of women 20-49 years have been married before their 15<sup>th</sup> birthday and 23 percent before their 18<sup>th</sup> birthday. The respective proportions are greatest in Sipaliwini (20% and 50%) and Brokopondo (11% and 45%) and in the rural interior (19% and 48%). With respect to spousal age difference, 15 percent of women 15-19 years are estimated to be married or in union with a man who is at least 10 years older.

Overall, 13 percent of the women 15-49 years believe a husband is justified in beating his wife/partner for any of the reasons mentioned in the MICS study. With respect to the belief that a husband is justified in beating his wife/partner, this was mostly prevalent among women from Sipaliwini (27%) and Brokopondo (30%).

In Suriname, as much as 56 percent of children 0-17 years lived with both parents while 29 percent lived with their mothers only despite the fact that their fathers were alive. Another 6 percent consisted of children who lived with neither parent although both were alive.

## HIV and AIDS

98 percent of interviewed women 15-49 years have heard of AIDS. However, the percentage that know of two ways of preventing HIV transmission is 71 percent. Overall, 43 percent of women were found to have comprehensive knowledge of HIV prevention, which was markedly higher in urban areas (47%) than in rural coastal areas (37%), the rural interior (20%) and by extension rural areas (30%). While as much as 93 percent 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 52 percent.

Among women 15-49 years, as much as 85 percent know a place where they can be tested for HIV, while 55 percent have actually been tested. A smaller proportion equivalent to 21 percent have been tested in the past 12 months and only 20 percent of those tested in the past 12 months have been told the result.

Among women 15-49 years who had given birth within the two years preceding the survey, 91 percent received antenatal care from a health care professional for their last pregnancy with just under a half (49%) receiving HIV counselling while receiving antenatal care. During antenatal care, 82 percent were offered a HIV test and tested for HIV. From the latter set of women, 80 percent had also received the results of their test.

55 percent of never married women 15-24 years never had sex. In the rural coastal areas, a notably larger proportion estimated to be 63 percent never had sex while in the rural interior the proportion is estimated to be substantially lower being in the vicinity of 29 percent.

The MICS4 data for Suriname also show that 10 percent of women 15-24 years had sex before their 15<sup>th</sup> birthday. 15 percent of women 15-24 years who had sex in the last 12 months, had such an experience with a man who was at least 10 years older.

Fifty-nine percent of women 15-24 years report having sex with a non-regular partner in the 12 months prior to the MICS with only 56 percent of such women claimed to have used a condom when they had such an experience.

### **Access to Mass Media and use of Information/communication technology**

At least once a week, 77 percent of women in Suriname read a newspaper, 84 percent listen to the radio and 90 percent watch television. Overall, 2 percent do not have regular exposure to any of the three media, while 66 percent are exposed to all the three types of media at least on a weekly basis.

Moreover, 72 percent have used a computer, 60 percent used a computer during the last year and 46 percent used at least once a week during the last month. Overall, 57 percent of women age 15-24 have ever used the internet, while 49 percent have surfed the internet during the last year. Almost 4 in every 5 (79 percent) claimed to have had a cellular phone that worked. Smaller percentages indicated that they use their phones to make or receive call (69 percent), to send text messages (58%), to receive text messages (60 percent) and to access the internet (9%).

# 1. Introduction

## Background

The Multiple Indicator Cluster Survey (MICS) is an international household survey programme developed by the United Nations Children's Fund (UNICEF) to assist countries in filling data gaps for monitoring human development in general and the situation of children and women in particular. MICS data are critical when there is lack of continuous and updated disaggregated national data on specific groups and districts to support evidence-based planning. The survey is based, in large part, on the needs to monitor progress towards goals and targets emanating from 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. MICS was originally developed in response to the 1990 World Summit for Children (WSC) to collect statistically sound, internationally comparable estimates of key indicators used to assess the situation of children and women in the areas of health, education, child protection, and HIV/AIDS. MICS indicators enable the monitoring and the measurement of progress towards national goals and global commitments aimed at promoting the welfare of children, including among others, the Millennium Development Goals (MDGs).

The first round of MICS was conducted around 1995 in more than 60 countries. The second round of MICS was conducted in 2000 followed by the third round in 2006 contributing to an increasing wealth of data to monitor the situation of children and women.

As part of the global effort to increase the availability of high quality data, UNICEF launched the 4th round of MICS (MICS4) in 2009, with results available from 2010 onwards. The increased frequency of MICS rounds helps countries to capture rapid changes in key indicators as the MDG target year 2015 approaches and aims to expand the evidence-base for policies and programs.

Since the inception of MICS, two survey rounds have been carried out in Suriname: In 2000 (MICS2) and 2006 (MICS3). This report is based on the fourth round of MICS that was conducted in 2010 by the Ministry of Social Affairs and Housing, General Bureau of Statistics (GBS), and the Institute for Social Research (IMWO) of the University of Suriname.

The MICS of 2006 enabled Suriname to present data on the different goals and objectives that were set in the international and regional action plans. The Situation Assessment and Analysis of Children in Suriname (SITAN 2010)<sup>2</sup> which is an analysis of achievements in the fulfilment of children's rights in Suriname against the guiding framework of the MDGs and the Convention on the Rights of the Child (CRC) is a clear example of the use of the MICS survey data.

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

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<sup>2</sup> See: Situation Assessment and Analysis of Children's Rights in *Suriname* 2010  
[http://undpsuriname.org/index.php?option=com\\_content&view=article&id=135:situation-assessment-and-analysis-of-childrens-rights-in-suriname-2010](http://undpsuriname.org/index.php?option=com_content&view=article&id=135:situation-assessment-and-analysis-of-childrens-rights-in-suriname-2010)

### A Commitment to Action: National and International Reporting Responsibilities

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

*“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.”*

Since its commitments to the implementation of the CRC in 1993, the Government of the Republic of Suriname has planned, executed, and evaluated programs to set and improve the basic conditions for the implementation of the CRC. In this regard, the UN Committee on the Rights of the Child was informed through the Initial Report for the period 1995-2000 and the Second Country Report, which was presented in 2007. The recommendations of the UN for 2000 and 2007 are interpreted into a feasible and realistic Child Action Plan for the period 2009-2013. The combined third and fourth country progress report on the implementation of the CRC will soon be submitted to the Board of Ministers for approval. To this extent, a permanent monitoring mechanism for the Action Plan for Children will be installed. The MICS 2010 will provide useful input for this monitoring mechanism. The MICS allows not only generation of disaggregated data merely for international reporting, but is one of the key data sets used by governments, UNICEF, other UN agencies, and stakeholders to monitor the achievement of the rights of children and women as defined in the CRC and the Convention on the Elimination of All forms of Discrimination against Women (CEDAW). Therefore, the findings of the MICS4 survey will enable the government of Suriname to prepare and evaluate national progress towards goals set in the Millennium Declaration and monitor goals set in national policies such as the Development Plan 2012-2016 and the United Nations Development Action Plan 2012-2016 (UNDAP).

As agreed in the UNDAP, the United Nations in Suriname will support the Government of Suriname in its goal to strengthen its statistical and information systems and its capacity to analyse and interpret the data for policy formulation and dissemination. The Government has prioritized the 'optimal use of technical, as well as financial assistance, through coherent planning and close monitoring'. Data collection, analysis, information systems, and effective dissemination are needed to inform and monitor evidence-based policies, legislative initiatives, and programming. In order to monitor the situation of children, efforts are being made to strengthen the monitoring and evaluation capacity at various levels of implementation. The

MICS 2006 data have been entered in the DEVINFO based data storage system: SURINFO. DEVINFO is a harmonized system to store, organize, and disseminate disaggregated data to serve as a monitoring tool. SURINFO will be updated with MICS 2010 data and data from other national sources. The General Bureau of Statistics of Suriname is leading the process to make SURINFO accessible for policymakers and line ministers for evidence based policy formulation and evaluation of programs.

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

## Survey Objectives

The 2010 Suriname Multiple Indicator Cluster Survey has as its primary objectives:

- To provide up-to-date information for assessing the situation of children and women in Suriname;
- 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 Suriname and to strengthen technical expertise in the design, implementation, and analysis of such systems.
- To generate data on the situation of children and women, including the identification of vulnerable groups and of disparities, to inform policies and interventions.



## 2. Sample and Survey Methodology

### Sample Design

The sample for the Suriname MICS was designed to provide estimates for a large number of indicators on the situation of children and women at the national level, for urban, rural coastal and rural interior areas, and representative for different country levels.

Suriname is located on the northern coast of South America. It is bordered in the north by the Atlantic Ocean, in the south by Brazil, in the east by French Guyana and in the west by Guyana. Topographically there is a subdivision of the country in the coastal lowlands, the savannah and the highlands in the south with its tropical rainforest. Approximately 90% of the population, estimated at 493,000 during the Seventh Population and Housing Census in 2004, lives in the coastal lowland bordering the Atlantic Ocean. The population density of 3.0 per square kilometre (km<sup>2</sup>) is among the lowest in South America. The population density in the coastal area is 17.2/km<sup>2</sup>, while in the highlands it is approximately 2.9/km<sup>2</sup>.

The country is divided into ten districts: Paramaribo, Wanica, Nickerie, Coronie, Saramacca, Commewijne, Marowijne, Para, Brokopondo, and Sipaliwini and 62 'sub-districts' by law. The 'sub-districts' are subdivisions at the district level. For purposes of conducting the fieldwork during the Seventh Population and Housing Census in 2004, the General Bureau of Statistics sub-divided each sub-district in the coastal area (lowland and savannah) into enumeration 'blocks'. An enumeration 'block' is considered to be a manageable workload for a census enumerator for the fieldwork period of two weeks and would ideally have between 100 and 150 households. In the interior, a somewhat different fieldwork approach was used due to the geographical spread of villages to the extent that teams consisting of 5-7 fieldworkers canvassed clusters of villages. These clusters are enumeration areas and were expected to have approximately 500 households, or the workload of 5 enumerators.

The MICS 2010 sample was selected based on the sample frame from the 2004 census. Based up on this sample, GBS conducted a specific listing exercise in the field, in order to result in the final MICS clusters for fieldwork. In the ten districts of Suriname, three settlement types form the basis for the establishment of strata that ought to reflect geographical spaces that are more likely to be internally homogeneous when found within the same settlement type but and different when found in different settlement types.

According to settlement types, three strata can be distinguished across the ten districts of Suriname:

- An urban stratum.
- A rural stratum in the coastal area.
- A rural stratum in the interior.

Urban areas include Paramaribo, Wanica, Nickerie (Nw. Nickerie), and Commewijne (Meerzorg and Tamanredjo). Rural Interior areas include Brokopondo and Sipaliwini while rural Coastal areas include the remainder of Nickerie, the remainder of Commewijne, Coronie, Saramacca, Para, and Marowijne.

The three strata or classes were identified as the main sampling domains and the sample was selected in two stages meaning that a sample of enumeration blocks were selected in a first stage of selection in each of the three strata systematically with probability proportion to size. This was followed by a second stage of selection in which a sample of clusters was selected within the enumeration blocks selected in the first stage. In accordance with the MICS4 guidelines<sup>3</sup>, clusters consisted of between 20 and 30 households. The

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<sup>3</sup> See [www.childinfo.org/mics4\\_manual.html](http://www.childinfo.org/mics4_manual.html) for the MICS4 Manual.

actual sample selection in the selected clusters was done as follows. In urban and rural coastal areas, where enumeration districts (EDs) usually contain about 150 households, one pointer address (PA) was selected at random within the ED. If it was not the address of a private household, the next address was taken as the starting point. Twenty adjacent addresses (1 to 20) were then selected around this PA, and a printed map provided to each team, showing the location of each address. In rural areas the enumeration areas might consist of either one village or several smaller villages combined. Where a village was very isolated, it was treated as one enumeration area, even though sometimes it did not contain many households. Prior to the start of the MICS4 fieldwork, cartography personnel of the GBS undertook fieldwork activities in order to establish as much as possible (with the exception of the interior stratum) the landmarks and the boundaries of each selected MICS-cluster. This was required to facilitate the interview teams in the field with maps and clearly defined boundaries. The interview teams received during the fieldwork the instructions to gather information on each household encountered within the boundaries of designated MICS-clusters. For the Interior stratum where it is relatively difficult to geographically divide each enumeration block into clusters of households, names of heads of households were used to select households that were sampled.

The sample is not self-weighting meaning that the sampling rate for households in districts such as Sipaliwini and Brokopondo were higher than those in other districts. In reporting national level results, sample weights are used. A more detailed description of the sample design can be found in Appendix A.

## Questionnaires

MICS questionnaires are designed in a modular fashion that can be easily customized to the needs of a country. 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 Standard MICS Questionnaires<sup>4</sup> were revised, adapted, and customized to country specific conditions and translated into Dutch. The pre-test of these modified questionnaires was done in June 2010. Based on the results of the pre-test the Questionnaires were finalized for the actual fieldwork ensuring that the customized and translated questionnaires were comparable to standard MICS questionnaires. A copy of the Suriname MICS questionnaires is provided in the Appendix.

The Household Questionnaire included the following modules:

- Household Listing Form
- Education
- Water and Sanitation
- Household Characteristics
- Insecticide Treated Nets (in Brokopondo and Sipaliwini only)
- Indoor Residual Spraying (in Brokopondo and Sipaliwini only)
- Child Labour
- Child Discipline
- Handwashing

<sup>4</sup> See [www.childinfo.org/mics4\\_questionnaire.html](http://www.childinfo.org/mics4_questionnaire.html) for the standard MICS4 Questionnaires.

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

- Woman's Background
- Access to Mass Media and Use of Information/Communication Technology
- Desire For Last Birth
- Illness Symptoms
- Maternal and Newborn Health
- Illness Symptoms
- Contraception
- Unmet Need
- Attitudes Towards Domestic Violence
- Marriage/Union
- Sexual Behaviour
- HIV/AIDS

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

- Age
- Birth Registration
- Early Childhood Development
- Breastfeeding
- Care of Illness
- Malaria (in Brokopondo and Sipaliwini only)
- Immunization (Yellow Fever in Brokopondo and Sipaliwini only)
- Anthropometry

In addition to the administration of questionnaires, fieldwork teams 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.

The questionnaires included very few non-standard MICS questions, such as on women's ownership and use of cell phones, as well as a further question to mothers of children under 5 whose child's birth had not been registered.

It should be noted that the Malaria related modules and questions were only administered in Brokopondo and Sipaliwini. The same approach was used on vaccination against Yellow Fever.

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

## Training and Fieldwork

Training for the fieldwork was conducted for 11 days in July 2010. Training included lectures on interviewing techniques, 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 part of the second week practicing interviewing skills.

The data were collected by 12 teams; eight consisting of six persons (1 supervisor, 1 editor and 4 interviewers) and four consisting of five persons (1 supervisor, 1 editor and 3 interviewers). Fieldwork began in July 2010 and concluded in September 2010.

For the anthropometry module, the supervisor was responsible for the measurements. This constitutes a deviation from the recommended MICS4 guidelines which require the existence of a separate dedicated measurer in each team to enhance the quality of the anthropometric data collected in the field.

## Data Processing

Data were entered using the CSPro software. The data were entered on 6 microcomputers and carried out by 15 data entry operators on a shift system basis and one data entry supervisor. 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 Suriname questionnaire were used throughout. Data processing began simultaneously with data collection in July 2010 and was completed early January 2011. Data were analysed using the Statistical Package for Social Sciences (SPSS) software program and the model tabulation syntax developed by UNICEF facilitated the generation of the estimates.

### 3. Sample Coverage and the Characteristics of Households and Respondents

#### Sample Coverage

Of the 9,356 households selected for the sample, 8,532 were found to be occupied. Successful interviews were conducted in 7,407 of the 8,532 occupied households resulting in a household response rate of 86.8 percent. In the interviewed households, 7,237 women (age 15-49) were identified. Of these, 6,290 were successfully interviewed, yielding a response rate of 86.9 percent. In addition, 3,462 children under age five were listed in the household questionnaire. Questionnaires were completed for 3,308 of these children, which corresponds to a response rate of 95.6 percent. Overall response rates of 75.5 and 83.0 are calculated for the women's and under-5's interviews respectively (Table HH.1, page 9)

In the rural interior, virtually all of the sampled households were occupied (99.3%) with respective proportions of 99.8 percent and 99.2 percent in Brokopondo and Sipaliwini. The proportions of sampled households that were occupied were lowest in Wanica (86.3%) and Coronie (86.5%). Household response rates are expressed as the percentage of occupied households in which interviews were successfully conducted and were highest in Sipaliwini (93.8%) and Brokopondo (90.5%) being lowest in Coronie (76.2%). In the remaining districts, household response rates ranged between 83.4 percent in Commewijne and 89.7 percent in Nickerie. While there is not much difference between the household response rates between urban communities and those in rural coastal areas being 84.4 percent and 85.6 percent respectively, markedly higher household response rates are evident in the rural interior (93.0%).

A wide variety of issues contributed to the low response rates recorded countrywide at household level among which absent household members was the dominant. This will inform future surveys. Please also note that the actual number of interviewed households, individual women, and children under five for Coronie is so low that only few results could be produced for the district. Unfortunately the sample design did not include oversampling of district with low population. This should be addressed in future sample designs in Suriname, as not only Coronie was affected by a low absolute sample.

#### Characteristics of Households

The age and sex distribution of the survey population is provided in Table HH.2 (page 10). The distribution is also used to produce the population pyramid in Figure HH.1 (page 11). In the 7,407 households successfully interviewed in the survey, 28,421 household members were listed. Of these, 14,021 were males, and 14,398 were females.

Using data from the 2004 Population and Housing Census in Suriname, the population size was disaggregated by age and sex in accordance with the following age group categories: 0-14 years, 15-64 years and 65 years or older. Males in the respective age groups constitute 15.0 percent, 31.7 percent and 2.8 percent. Corresponding figures for females are 14.8 percent, 31.8 percent and 3.2 percent. A similar age sex distribution is generated using the data from the 2010 Suriname MICS and reveal that males 0-14 years, 15-64 years and 65 years or older constitute 15.6 percent, 30 percent and 2.9 percent of the total population with corresponding estimates for the female population being 14.3 percent, 32.3 percent and 3.7 percent (calculations not shown). Despite the time lapse between the national census in 2004 and the 2010 MICS, the age-sex distribution of the population reflected in the context of the 2010 MICS seem consistent with population dynamics associated with expected temporal changes in components that facilitate changes in population sizes. Whether in the context of the 2004 Population and Housing Census or the 2010 MICS, less than 1 percent of the total population constituted males or females for whom age was not known. As such, the low proportion of missing information is not expected to seriously threaten the quality of observations pertaining to age and sex based on the 2010 MICS.

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

	District										Total					
	Area					District										
	Urban	Rural Coastal	Rural Interior	Total Rural		Paramaribo	Wanica	Nickerie	Coronie	Saramacca		Commewijne	Marowijne	Para	Brokopondo	Sipaliwini
<b>Households</b>																
Sampled	4,243	3,095	2,018	5,113	2,905	1,013	977	141	608	552	565	577	484	1,534	9,356	
Occupied	3,763	2,765	2,004	4,769	2,612	874	880	122	529	501	519	491	483	1,521	8,532	
Interviewed	3,176	2,367	1,864	4,231	2,184	757	789	93	445	418	446	411	437	1,427	7,407	
Household response rate	84.4	85.6	93.0	88.7	83.6	86.6	89.7	76.2	84.1	83.4	85.9	83.7	90.5	93.8	86.8	
<b>Women</b>																
Eligible	3,282	2,329	1,626	3,955	2,197	856	760	64	420	404	485	425	387	1,239	7,237	
Interviewed	2,788	2,036	1,466	3,502	1,836	749	669	58	375	352	425	360	331	1,135	6,290	
Women's response rate	84.9	87.4	90.2	88.5	83.6	87.5	88.0	90.6	89.3	87.1	87.6	84.7	85.5	91.6	86.9	
Women's overall response rate	71.7	74.8	83.9	78.6	69.9	75.8	78.9	69.1	75.1	72.7	75.3	70.9	77.4	85.9	75.5	
<b>Children under 5</b>																
Eligible	1,053	976	1,433	2,409	676	313	230	23	146	125	333	183	355	1,078	3,462	
Mothers/caretakers interviewed	993	932	1,383	2,315	634	295	223	22	140	119	318	174	333	1,050	3,308	
Under-5's response rate	94.3	95.5	96.5	96.1	93.8	94.2	97.0	95.7	95.9	95.2	95.5	95.1	93.8	97.4	95.6	
Under-5's overall response rate	79.6	81.7	89.8	85.3	78.4	81.6	86.9	72.9	80.7	79.4	82.1	79.6	84.9	91.4	83.0	

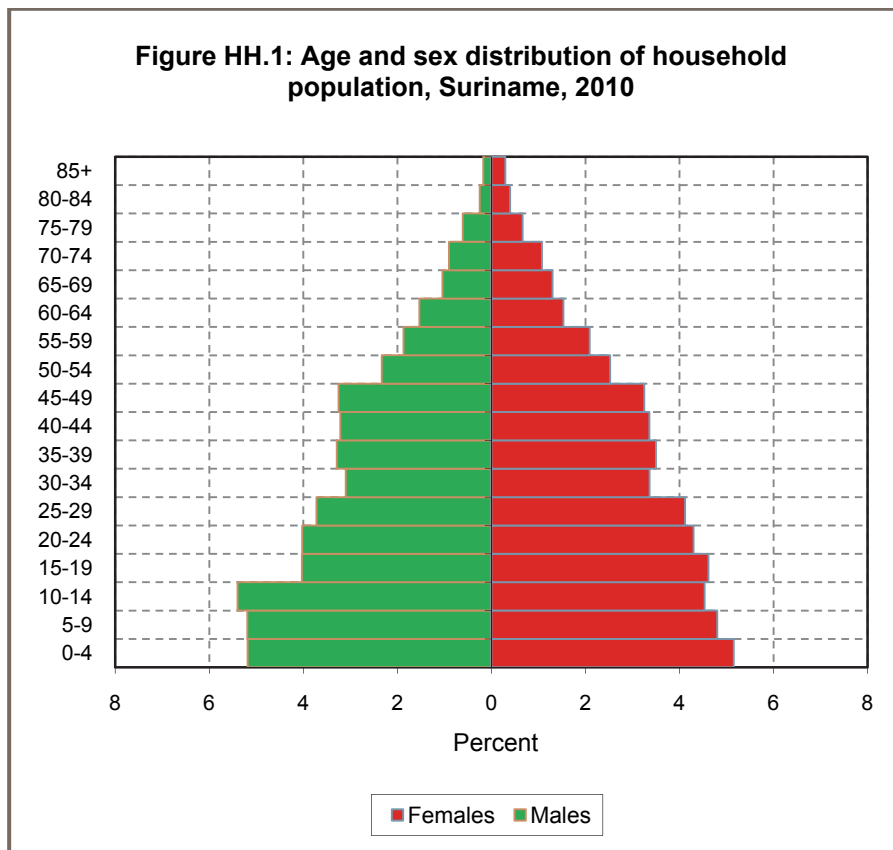
<b>Table HH.2: Household age distribution by sex</b>								
Percent and frequency distribution of the household population by five-year age groups, dependency age groups, and by child (age 0-17 years) and adult populations (age 18 or more), by sex, Suriname, 2010								
	<b>Males</b>		<b>Females</b>		<b>Missing</b>		<b>Total</b>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Age</b>								
0-4	1,458	10.4	1,450	10.1	1	40.5	2,908	10.2
5-9	1,460	10.4	1,352	9.4	0	0.0	2,812	9.9
10-14	1,519	10.8	1,276	8.9	0	0.0	2,795	9.8
15-19	1,133	8.1	1,299	9.0	0	0.0	2,433	8.6
20-24	1,132	8.1	1,210	8.4	0	0.0	2,341	8.2
25-29	1,047	7.5	1,160	8.1	0	0.0	2,206	7.8
30-34	871	6.2	947	6.6	0	0.0	1,818	6.4
35-39	925	6.6	985	6.8	0	0.0	1,910	6.7
40-44	904	6.4	945	6.6	0	0.0	1,849	6.5
45-49	914	6.5	915	6.4	0	0.0	1,830	6.4
50-54	656	4.7	711	4.9	0	0.0	1,366	4.8
55-59	525	3.7	588	4.1	0	0.0	1,113	3.9
60-64	430	3.1	431	3.0	0	29.8	862	3.0
65-69	293	2.1	367	2.5	0	0.0	660	2.3
70-74	253	1.8	303	2.1	0	29.8	556	2.0
75-79	171	1.2	187	1.3	0	0.0	358	1.3
80-84	70	0.5	113	0.8	0	0.0	183	0.6
85+	49	0.3	84	0.6	0	0.0	133	0.5
Missing/DK	213	1.5	75	0.5	0	0.0	288	1.0
<b>Dependency age groups</b>								
0-14	4,437	31.6	4,078	28.3	1	40.5	8,516	30.0
15-64	8,537	60.9	9,191	63.8	0	29.8	17,728	62.4
65+	835	6.0	1,054	7.3	0	29.8	1,889	6.6
Missing/DK	213	1.5	75	0.5	0	0.0	288	1.0
<b>Child and adult populations</b>								
Children age 0-17 years	5,118	36.5	4,823	33.5	1	40.5	9,941	35.0
Adults age 18+ years	8,690	62.0	9,500	66.0	1	59.5	18,192	64.0
Missing/DK	213	1.5	75	0.5	0	0.0	288	1.0
<b>Total</b>	<b>14,021</b>	<b>100.0</b>	<b>14,398</b>	<b>100.0</b>	<b>1</b>	<b>100.0</b>	<b>28,421</b>	<b>100.0</b>

Table HH.2 shows the age-sex structure of the household population. The proportions in child, working and old-age age groups (0–14, 15–64 and 65 years and over) in the household population of the sample are 30.0, 62.4 and 6.6 percent, respectively

Table HH.3 (page 12) provides basic background information on the households. Within households, the sex of the household head, district, urban/rural status, number of household members, and ethnic group of the household head are shown in the table. These background characteristics are also 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, page 178). The table also shows the proportions of households where at least one child under 18, at least one child under 5, and at least one eligible woman age 15-49 were found. In accordance with the MICS sample, households are predominantly male-headed (64%). The largest ethnic group among heads of households is Indian (Hindustani, descendants of India) at 28 percent with the next highest proportion being headed by someone who is a Maroon (22%). The MICS sample also estimates that 20

percent of households are headed by a Creole person and 15 percent being headed by someone who is Javanese.



At 20 percent, a four member household is the most common size of households. However, 13 percent consist of persons living alone while 2 percent have at least 10 persons. These figures also indicate that the survey estimated the average household size at 3.8.

A little more than half of all of the households (52%) are headed by someone who attained a secondary-level education or higher with another 31 percent being headed by someone attaining education only up to the primary-level.

Almost half (49%) of households are located in Paramaribo. Wanica accounted for 17 percent of the households in Suriname while Nickerie accounted for 8 percent. Almost 5 percent of the households were located in Commewijne while similar proportions of just over 3 percent were located in Saramacca, Marowijne, and Para. Less than one percent of all households were located in Coronie. Consistent with Suriname's predominantly urban profile, 72 percent of all households are in areas classified as being urban.

Please note the small number of cases with "Missing/DK" in background characteristic 'Ethnicity of household head'. As this characteristic is used throughout the report and indicator value for "Missing/DK" is required to be suppressed consistently, the tables in the report presenting this background characteristic for households do not include the 'Missing/DK' category or, in other words, the row is suppressed. Whenever this approach is applied to a table, a note is presented below the table. The implication of this approach is that the denominator sum will not add up to the total denominator in such tables.



<b>Table HH.3: Household composition</b>			
Percent and frequency distribution of households by selected characteristics, Suriname, 2010			
	Weighted percent	Number of households	
		Weighted	Unweighted
<b>Sex of household head</b>			
Male	63.5	4,700	4,573
Female	36.5	2,707	2,833
Missing	0.0	0	1
<b>District</b>			
Paramaribo	49.1	3,640	2,184
Wanica	17.2	1,275	757
Nickerie	7.6	563	789
Coronie	0.7	51	93
Saramacca	3.3	244	445
Commewijne	4.9	359	418
Marowijne	3.1	226	446
Para	3.3	243	411
Brokopondo	2.5	186	437
Sipaliwini	8.4	619	1,427
<b>Area</b>			
Urban	71.6	5,301	3,176
Rural Coastal	17.6	1,300	2,367
Rural interior	10.9	806	1,864
Total Rural	28.4	2,106	4,231
<b>Number of household members</b>			
1	13.1	971	1,039
2	17.4	1,288	1,230
3	18.3	1,354	1,283
4	19.5	1,447	1,367
5	12.8	946	982
6	8.7	644	668
7	4.2	313	354
8	2.3	169	196
9	1.4	104	121
10+	2.3	171	167
<b>Education of household head</b>			
None	10.8	800	1,293
Primary	30.8	2,281	2,526
Secondary +	52.3	3,875	3,158
Other/Non-standard	1.4	107	85
Missing/DK	4.6	344	345
<b>Ethnicity of household head</b>			
Indigenous/Amerindian	3.7	271	408
Maroon	21.5	1,594	2,454
Creole	19.5	1,447	1,060
Hindustani	27.9	2,069	1,775
Javanese	14.5	1,072	988
Mixed	10.5	777	587
Others	2.3	172	126
Missing/DK	0.1	6	9
<b>Total</b>	<b>100.0</b>	<b>7,407</b>	<b>7,407</b>
<b>Households with at least</b>			
One child age 0-4 years	28.5	7,407	7,407
One child age 0-17 years	58.2	7,407	7,407
One woman age 15-49 years	71.2	7,407	7,407
<b>Mean household size</b>	<b>3.8</b>	<b>7,407</b>	<b>7,407</b>

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

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

Table HH.4 (page 14) provides background characteristics of female respondents 15-49 years of age. The table includes information on the distribution of women according to district, urban-rural areas, age, marital status, motherhood status, education<sup>6</sup>, wealth index quintiles<sup>7</sup>, and ethnicity. The distribution of women 15-49 years by background characteristics such as district, area (urban/rural), and ethnicity of household head is very similar to corresponding distributions observed in the context of households. While just over 70 percent of these women attained at least secondary-level education (71%), corresponding proportions attaining at most a primary level education or no education whatsoever are observed to be 21 percent and 6 percent, respectively.

Among the 15-49 year old women, the largest group is aged 15-19 years (17%) with corresponding proportions following a generally downward trend in successive five-year age groups. The smallest proportion amounting to 12 percent were age 45-49 years. In accordance with the MICS sample, the proportion of women in each of the wealth quintile groups is inversely related to wealth quintile with the highest proportion in the wealthiest quintile (21%) and the lowest proportion in the poorest quintile (18%).

More than half of the women 15-49 years in the MICS sample were currently married or in a common-law relationship (54%) compared to 32 percent that were never married or never in a union. Some 10 percent were separated with substantially smaller proportions being either divorced (2%) or widowed (1%). Almost two thirds of the women (65%) had given birth in their life and 17 percent indicated that they had a birth in the past two years.

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<sup>6</sup>Unless otherwise stated, “education” refers to educational level attended by the respondent throughout this report when it is used as a background variable.

<sup>7</sup> 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: persons per sleeping room, type of floor, type of roof, type of wall, type of cooking fuel, other household assets namely: electricity, radio, television, mobile telephone, non-mobile telephone, refrigerator, computer, washing machine, ownership of a watch, bicycle, motor cycle/scooter, car/truck, boat with motor, source of drinking water, and type of sanitary facility. 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.*

<b>Table HH.4: Women's background characteristics</b>			
Percent and frequency distribution of women age 15-49 years by selected background characteristics, Suriname, 2010			
	Weighted percent	Number of women	
		Weighted	Unweighted
<b>District</b>			
Paramaribo	48.3	3,037	1,836
Wanica	19.9	1,252	749
Nickerie	7.5	471	669
Coronie	0.5	31	58
Saramacca	3.2	198	375
Commewijne	4.7	296	352
Marowijne	3.3	208	425
Para	3.3	205	360
Brokopondo	2.1	132	331
Sipaliwini	7.3	461	1,135
<b>Area</b>			
Urban	73.5	4,620	2,788
Rural Coastal	17.1	1,077	2,036
Rural interior	9.4	593	1,466
Total Rural	26.5	1,670	3,502
<b>Age</b>			
15-19	17.2	1,085	1,088
20-24	15.8	991	965
25-29	15.5	972	991
30-34	13.0	816	838
35-39	13.5	852	856
40-44	13.2	831	839
45-49	11.8	743	713
<b>Marital/Union status</b>			
Currently married/in union	54.1	3,406	3,470
Widowed	1.1	72	78
Divorced	2.4	153	133
Separated	10.0	630	750
Never married/in union	31.8	1,998	1,825
Missing	0.5	32	34
<b>Motherhood status</b>			
Ever gave birth	64.8	4,078	4,343
Never gave birth	34.7	2,180	1,926
Missing	0.5	32	21
<b>Births in last two years</b>			
Had a birth in last two years	16.9	1,060	1,265
Had no birth in last two years	82.6	5,198	5,004
Missing	0.5	32	21
<b>Education</b>			
None	5.7	361	718
Primary	21.2	1,335	1,683
Secondary +	71.0	4,463	3,785
Other/Non-standard	1.8	111	85
Missing/DK	0.3	21	19

<b>Table HH.4: Women's background characteristics (continued)</b>			
	Weighted percent	Number of women	
		Weighted	Unweighted
<b>Wealth index quintile</b>			
Poorest	17.8	1,117	1,981
Second	19.6	1,231	1,199
Middle	20.3	1,276	1,079
Fourth	21.1	1,328	1,064
Richest	21.3	1,339	967
<b>Ethnicity of household head</b>			
Indigenous/Amerindian	3.9	246	372
Maroon	24.0	1,510	2,178
Creole	16.8	1,056	762
Hindustani	29.4	1,851	1,613
Javanese	13.8	870	783
Mixed	9.9	621	475
Others	2.1	131	100
Missing/DK	0.1	5	7
<b>Total</b>	<b>100.0</b>	<b>6,290</b>	<b>6,290</b>

Please note the small number of cases with “Missing/DK” in background characteristics ‘Education of women’ and ‘Ethnicity of household head’. As these characteristics are used throughout the report and indicator values for “Missing/DK” are required to be suppressed consistently, the tables in the report presenting these background characteristics for women do not include the ‘Missing/DK’ categories or, in other words, the rows are suppressed. Whenever this approach is applied to a table, a note is presented below the table. The implication of this approach is that the denominator sum will not add up to the total denominator in such tables.

Some background characteristics of children under 5 years are presented in Table HH.5 (page 16). These include distribution of children by several attributes: sex, district, area, age in months, mothers (or caretaker’s) education, wealth, and ethnicity. The sex composition is indicative of an even split between the sexes with males marginally outnumbering females. The largest group of children were 12-23 months (23%) while the smallest proportion were children under 6 months (9%). If, however, the ages were distributed in accordance with 12-month age groups, children under 5 years will virtually be distributed evenly, though with the smallest group being age 48-59 months (18%).

More than half of the children under 5 years reside in the two districts of Paramaribo (39%) and Wanica (18%). The rural interior consisting of Sipaliwini (16%) and Brokopondo (5%) accounted for just over one fifth of all children under 5 years. Nickerie and Marowijne each accounted for almost 6 percent, but the smallest proportion is evident in Coronie (0.4%). Although the majority of children live in urban areas (61%), a comparison with the national distribution of the population by urban/rural areas suggest that children under age 5 constitute a noteworthy proportion of persons living in rural communities.

A high proportion of children are born in households headed by a Maroon (42%). Although the group of Hindustanis constitute the largest share of the national population, just about 20 percent of all children under 5 years live in households headed by a Hindustani. Relatively lower proportions of children under 5 years live in households headed by Creole (13%) and Javanese (11%) persons. More than a half of children under age 5 were born to mothers who had at least a secondary-level education (55%). As much as 14 percent were born to mothers who had no education whatsoever. The MICS sample is consistent with an inverse relationship between wealth index quintile groups and the proportion of children in the different quintiles. A little more than one third (34%) of the children were in the poorest wealth quintile while a little more than one tenth were in the wealthiest quintile group (13%).

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

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

	Weighted percent	Number of under-5 children	
		Weighted	Unweighted
<b>Sex</b>			
Male	50.1	1,659	1,644
Female	49.8	1,649	1,663
Missing	0.0	1	1
<b>District</b>			
Paramaribo	38.5	1,274	634
Wanica	18.1	599	295
Nickerie	5.7	188	223
Coronie	0.4	14	22
Saramacca	2.8	91	140
Commewijne	3.7	122	119
Marowijne	5.8	192	318
Para	3.7	122	174
Brokopondo	5.1	167	333
Sipaliwini	16.2	537	1,050
<b>Area</b>			
Urban	60.5	2,001	993
Rural Coastal	18.2	603	932
Rural interior	21.3	705	1,383
Total Rural	39.5	1,307	2,315
<b>Age</b>			
0-5 months	8.6	286	304
6-11 months	10.9	360	351
12-23 months	22.5	744	711
24-35 months	19.3	640	657
36-47 months	21.0	694	699
48-59 months	17.7	584	586
<b>Mother's education*</b>			
None	13.7	454	728
Primary	29.2	967	1,157
Secondary +	55.1	1,824	1,375
Other/Non-standard	1.4	48	35
Missing/DK	0.5	16	13
<b>Wealth index quintile</b>			
Poorest	34.4	1,139	1,758
Second	20.4	675	564
Middle	17.0	563	401
Fourth	15.2	501	327
Richest	13.0	429	258
<b>Ethnicity of household head</b>			
Indigenous/Amerindian	4.6	153	215
Maroon	42.0	1,389	1,860
Creole	12.9	428	267
Hindustani	19.5	644	480
Javanese	10.5	346	250
Mixed	9.3	308	207
Others	1.1	38	24
Missing/DK	0.1	3	5
<b>Total</b>	<b>100.0</b>	<b>3,308</b>	<b>3,308</b>

\* Mother's education refers to educational attainment of mothers (or caretakers) of children under 5.

Please note the small number of cases with “Missing”, “Missing/DK” or “Others” in background characteristics ‘Sex’, ‘Mother’s education’ and ‘Ethnicity of household head’. As these characteristics are used throughout the report and indicator values for “Missing”, “Missing/DK” and “Others” are required to be suppressed consistently, the tables in the report presenting these background characteristics for children under age five do not include these categories or, in other words, the rows are suppressed. Whenever this approach is applied to a table, a note is presented below the table. The implication of this approach is that the denominator sum will not add up to the total denominator in such tables.

### Children’s Living Arrangements and Orphans

Table HH.6 (page 18) presents information on the living arrangements and orphanhood status of children under age 18. As much as 56 percent of children 0-17 years lived with both parents while 29 percent lived with their mothers only despite the fact that their fathers were alive. Another 6 percent of children lived with neither parent although both were alive. In total, 8 percent of children did not live with a biological parent and 5 percent had lost one or both parents. As the wealth of households increase, the likelihood of the child living with both parents increase. As many as 38 percent of children from the poorest households lived only with their mother, despite their father being alive. Saramacca and Nickerie stand out among the districts, where 79 percent of children live with both parents. At the other end of the scale, in Coronie, Brokopondo, and Sipaliwini, less than half of children live with both their parents. Over 10 percent of children in these three districts do not live with a biological parent.

Due to the low prevalence (0.4%) of orphans, that is children whose mother and father have died, in Suriname, it is not possible to produce the standard MICS table comparing school attendance of orphans and non-orphans age 10-14. However, as it is part of an MDG indicator, the percentage of non-orphans who are attending school should be mentioned: 97%.

**Table HH.6: Children's living arrangements and orphanhood**

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

Sex*	Living with neither parent				Living with mother only		Living with father only		Impossible to determine	Total	Not living with a biological parent <sup>1</sup>	One or both parents dead <sup>2</sup>	Number of children age 0-17 years	
	Living with both parents	Only father alive	Only mother alive	Both alive	Both dead	Father alive	Father dead	Mother alive						Mother dead
Male	56.4	0.6	0.7	5.6	0.4	28.7	2.4	2.6	0.4	2.2	100.0	7.3	4.5	5,118
Female	56.0	0.8	0.4	7.0	0.3	28.4	2.5	1.8	0.5	2.4	100.0	8.5	4.6	4,823
<b>District</b>														
Paramaribo	51.2	0.9	0.6	5.3	0.5	31.0	3.0	3.7	0.5	3.3	100.0	7.2	5.7	4,050
Wanica	62.1	0.6	0.7	5.5	0.4	25.3	1.7	1.2	0.7	1.9	100.0	7.2	4.0	1,804
Nickerie	78.8	0.6	1.1	3.1	0.5	11.0	2.0	1.4	0.2	1.3	100.0	5.3	4.6	649
Coronie	42.7	1.0	0.0	13.6	0.0	39.8	1.9	1.0	0.0	0.0	100.0	14.6	2.9	56
Saramacca	78.9	0.2	0.4	3.6	0.0	9.2	2.9	2.2	1.1	1.6	100.0	4.1	4.5	304
Commewijne	72.0	0.4	0.1	5.6	0.1	16.2	1.5	1.1	0.0	3.0	100.0	6.3	2.2	407
Marowijne	54.6	0.5	0.6	8.0	0.0	30.7	2.1	1.6	0.4	1.5	100.0	9.1	3.6	524
Para	53.3	0.7	0.7	8.4	0.1	31.7	2.0	1.7	0.4	1.2	100.0	9.8	3.8	451
Brokopondo	46.0	1.0	0.4	11.5	0.1	36.8	2.3	0.6	0.2	1.0	100.0	13.0	4.0	423
Sipaliwini	47.4	0.4	0.4	9.5	0.1	37.6	2.6	0.4	0.0	1.4	100.0	10.5	3.6	1,273
<b>Area</b>														
Urban	55.7	0.8	0.6	5.2	0.4	28.5	2.6	2.7	0.5	2.9	100.0	7.1	5.1	6,324
Rural Coastal	65.8	0.4	0.7	6.4	0.1	20.9	2.0	1.9	0.4	1.4	100.0	7.6	3.7	1,922
Rural interior	47.1	0.6	0.4	10.0	0.1	37.4	2.6	0.5	0.1	1.3	100.0	11.1	3.7	1,695
Total Rural	57.0	0.5	0.5	8.1	0.1	28.6	2.3	1.2	0.3	1.3	100.0	9.3	3.7	3,618
<b>Age</b>														
0-4	61.4	0.3	0.1	4.0	0.2	30.6	0.8	1.2	0.1	1.3	100.0	4.6	1.6	2,908
5-9	56.3	0.7	0.4	6.0	0.2	29.7	2.1	2.5	0.5	1.7	100.0	7.3	3.9	2,812
10-14	54.9	0.8	0.9	7.4	0.4	26.8	3.8	2.6	0.6	1.8	100.0	9.6	6.8	2,795
15-17	48.0	1.4	1.2	9.3	0.6	25.4	3.9	3.0	0.6	6.6	100.0	12.5	7.7	1,426

**Table HH.6: Children's living arrangements and orphanhood**

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

	Living with neither parent			Living with mother only		Living with father only		Total	Not living with a biological parent <sup>1</sup>	One or both parents dead <sup>2</sup>	Number of children age 0-17 years				
	Living with both parents	Only father alive	Only mother alive	Both alive	Both dead	Father alive	Father dead					Mother alive	Mother dead	Impossible to determine	
<b>Wealth index quintiles</b>															
Poorest	46.2	0.8	0.7	7.8	0.5	38.0	2.7	0.9	0.1	2.3	100.0	9.8	4.9	2,899	
Second	56.3	0.4	0.6	6.4	0.1	26.8	2.8	3.1	0.7	2.8	100.0	7.5	4.6	2,167	
Middle	59.0	0.6	0.7	5.6	0.3	25.3	2.4	2.8	0.7	2.7	100.0	7.1	4.9	1,756	
Fourth	63.6	1.0	0.2	5.4	0.6	23.7	1.8	2.0	0.5	1.3	100.0	7.1	4.2	1,609	
Richest	64.2	0.8	0.6	5.0	0.1	21.9	2.3	2.9	0.1	2.1	100.0	6.5	4.0	1,511	
<b>Ethnicity of household head*</b>															
Indigenous/Amerindian	73.0	0.1	0.4	5.9	0.4	15.6	0.8	2.0	0.9	0.9	100.0	6.9	2.7	536	
Maroon	41.3	0.8	0.7	8.9	0.5	40.8	3.0	1.5	0.1	2.4	100.0	10.8	5.1	3,737	
Creole	43.7	0.8	0.6	5.2	0.2	40.2	2.5	3.0	0.5	3.3	100.0	6.8	5.0	1,469	
Hindustani	78.4	0.8	0.5	2.7	0.3	10.3	2.0	2.4	0.5	2.0	100.0	4.3	4.1	2,135	
Javanese	72.7	0.1	0.5	5.1	0.1	15.7	0.8	2.5	0.5	2.1	100.0	5.7	2.1	1,071	
Mixed	53.3	1.3	0.7	8.0	0.4	26.1	4.4	2.9	1.0	2.0	100.0	10.4	7.8	847	
Others	74.0	0.0	0.0	0.3	0.0	18.4	1.2	3.6	0.0	2.4	100.0	0.3	1.2	138	
<b>Total</b>	<b>56.2</b>	<b>0.7</b>	<b>0.6</b>	<b>6.3</b>	<b>0.3</b>	<b>28.5</b>	<b>2.5</b>	<b>2.2</b>	<b>0.4</b>	<b>2.3</b>	<b>100.0</b>	<b>7.9</b>	<b>4.6</b>	<b>9,941</b>	

\* 'Missing/DK' categories not shown due to low number of observations

<sup>1</sup> MICS indicator 9.17

<sup>2</sup> MICS indicator 9.18



## 4. Nutrition



## Nutritional Status

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

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

In a well-nourished population, there is a reference distribution of height and weight for children under age five. Under-nourishment in a population can be gauged by comparing children to a reference population. The reference population used in this report is based on the WHO growth standards<sup>8</sup>. Each of the three nutritional status indicators can be expressed in standard deviation units (z-scores) from the median of the reference population.

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

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

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

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

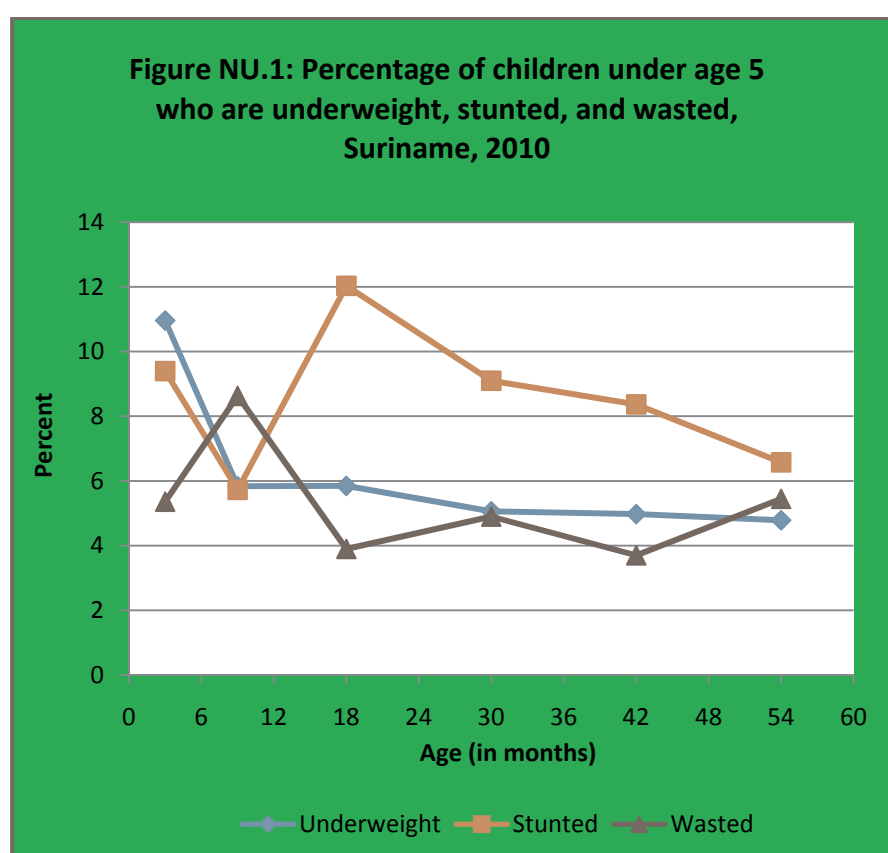
Table NU.1 (page 24) shows percentages of children classified into each of these categories, based on the anthropometric measurements that were taken during fieldwork. Additionally, the table includes the percentage of children who are overweight, which takes into account those children whose weight for height is above 2 standard deviations from the median of the reference population, and mean z-scores for all three anthropometric indicators.

Children whose full birth date (month and year) were not obtained, and children whose measurements are outside a plausible range are excluded from Table NU.1. Children are excluded from one or more of the anthropometric indicators when their weights and heights have not been measured, whichever applicable.

<sup>8</sup> [http://www.who.int/childgrowth/standards/second\\_set/technical\\_report\\_2.pdf](http://www.who.int/childgrowth/standards/second_set/technical_report_2.pdf)

For example if a child has been weighed but his/her height has not been measured, the child is included in underweight calculations, but not in the calculations for stunting and wasting. Percentages of children by age and reasons for exclusion are shown in the data quality tables DQ.6 and DQ.7 in Appendix D. Overall 13 percent of children did not have both weights and heights measured (Table DQ.6, page 210). Table DQ.7 (page 211) shows that due to incomplete dates of birth, implausible measurements, and missing weight and/or height, 15 percent of children have been excluded from calculations of the weight-for-age indicator, while the figures are 19 percent for the height-for-age indicator, and 19 percent for the weight-for-height indicator. Such relatively high rates of excluded children warrant cautious interpretation of the anthropometric indicators.

The MICS shows that almost 6 percent of children under age five in Suriname are moderately or severely underweight (5.8 percent) and 1.3 percent are classified as severely underweight. Just under one tenth of children (9%) are moderately or severely stunted (too short for their age) and 5 percent are moderately or severely wasted (too thin for their height).



Wasting prevalence is lowest in rural interior areas, but, in contrast, stunting prevalence is significantly higher, mainly driven by 17 percent moderate and severe stunting in Sipaliwini. High stunting levels are also seen among children of mothers with no education and in the poorest wealth quintile at 17 and 13 percent, respectively. Considering the caution necessary with this data and the confidence intervals they carry, no further observations seem appropriate.

With reference to Figure NU.1 above, undernourishment is assessed children less than 6 months, 6-11 months, 12-23 months, 24-35 months, 36-47 months and 48-59 months. For children aged 12-23 months or in an older age group, stunting prevalence is greater than underweight and wasting prevalence. With regard to stunting, the highest prevalence rates are observed among children 12-23 months and declines markedly among children in each of the successive age groups. With regard to being underweight or

wasted, there appears to be little or no differences in prevalence rates between children in age groups 12-23 months or older age groups.

## Breastfeeding and Infant and Young Child Feeding

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

WHO/UNICEF have the following feeding recommendations:

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

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

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

- Early initiation of breastfeeding (within 1 hour of birth)
- Exclusive breastfeeding rate (< 6 months)
- Predominant breastfeeding (< 6 months)
- Continued breastfeeding rate (at 1 year and at 2 years)
- Duration of breastfeeding
- Age-appropriate breastfeeding (0-23 months)
- Introduction of solid, semi-solid and soft foods (6-8 months)
- Minimum meal frequency (6-23 months)
- Milk feeding frequency for non-breastfeeding children (6-23 months)
- Bottle feeding (0-23 months)

Table NU.2 (page 26) 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, and those who received a prelacteal feed. These practices are very important step in the management of lactation and the establishment of a physical and emotional relationship between the baby and the mother. Figure NU.2 (page 27) is illustrative of the proportion of women who started breastfeeding their infants within one hour of birth, and women who started breastfeeding within one day of birth (which includes those who started within one hour). Whether within one day or one hour, greater proportions of mothers from rural districts such as Sipaliwini (81% and 63%), Para (79% and 53%), Brokopondo (74% and 63%) and Nickerie (77% and 53%) are observed to have initiated breastfeeding within such time spans subsequent to their infants' births when compared to corresponding proportions in urban areas such as Paramaribo (52% and 36%) and Wanica (64% and 43%). At the national level, approximately 45 percent of mothers responded to have initiated breastfeeding of their infants within the first hour of birth while as much as 64% initiated such feeding within the first day.

**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, Suriname, 2010

	Weight for age					Height for age					Weight for height									
	Underweight					Stunted					Wasted					Overweight				
	percent below - 2 SD <sup>1</sup>	percent below - 3 SD <sup>2</sup>	Mean Z- Score (SD)	Number of children under age 5	Number of children under age 5	percent below - 2 SD <sup>3</sup>	percent below - 3 SD <sup>4</sup>	Mean Z- Score (SD)	Number of children under age 5	Number of children under age 5	percent below - 2 SD <sup>5</sup>	percent below - 3 SD <sup>6</sup>	Mean Z- Score (SD)	percent above + 2 SD	Number of children under age 5					
<b>Sex</b>																				
Male	6.2	1.1	-0.4	1,439	1,439	9.9	2.6	-0.5	1,376	1,376	5.7	0.9	-0.1	5.0	1,370					
Female	5.3	1.4	-0.3	1,432	1,432	7.6	1.8	-0.4	1,369	1,369	4.2	0.8	-0.2	3.0	1,355					
<b>Area</b>																				
Urban	5.6	1.1	-0.3	1,775	1,775	6.8	2.0	-0.3	1,692	1,692	5.0	0.8	-0.2	4.3	1,678					
Rural Coastal	7.2	1.8	-0.4	525	525	8.8	1.8	-0.4	500	500	6.9	1.1	-0.2	4.9	496					
Rural interior	5.1	1.1	-0.5	570	570	14.9	3.1	-0.8	552	552	3.1	0.6	-0.1	2.2	551					
Total Rural	6.1	1.4	-0.5	1,095	1,095	12.0	2.5	-0.6	1,052	1,052	4.9	0.8	-0.1	3.5	1,047					
<b>District</b>																				
Paramaribo	5.6	1.1	-0.2	1,118	1,118	5.8	1.9	-0.2	1,067	1,067	5.0	0.8	-0.1	4.2	1,053					
Wanica	5.6	1.5	-0.4	542	542	9.7	2.7	-0.5	522	522	5.1	0.8	-0.2	5.4	522					
Nickerie	8.3	1.5	-0.4	174	174	5.9	0.8	-0.3	167	167	9.2	1.2	-0.3	4.8	164					
Coronie	(*)	(*)	(*)	14	14	(*)	(*)	(*)	14	14	(*)	(*)	(*)	(*)	14					
Saramacca	4.8	0.8	-0.5	82	82	6.8	0.8	-0.5	77	77	5.1	0.0	-0.3	5.1	77					
Commewijne	8.9	0.6	-0.5	104	104	5.9	0.7	-0.3	90	90	13.2	4.4	-0.6	2.9	90					
Marowijne	5.1	2.6	-0.3	165	165	9.1	2.7	-0.5	159	159	2.7	0.4	0.0	4.6	157					
Para	6.9	1.4	-0.4	101	101	11.8	2.2	-0.5	96	96	3.6	0.7	-0.2	2.9	96					
Brokopondo	5.7	0.4	-0.4	124	124	7.5	1.2	-0.6	127	127	3.3	0.8	-0.2	3.3	123					
Sipaliwini	4.9	1.3	-0.5	446	446	17.1	3.7	-0.9	425	425	3.1	0.6	0.0	1.9	429					
<b>Age</b>																				
0-5 months	11.0	2.8	-0.3	245	245	9.4	6.6	-0.3	228	228	5.4	1.9	-0.1	6.5	215					
6-11 months	5.8	1.6	-0.2	324	324	5.7	1.3	0.1	313	313	8.6	1.9	-0.2	3.8	313					
12-23 months	5.8	0.9	-0.3	670	670	12.0	1.9	-0.5	628	628	3.9	0.3	-0.1	5.5	626					
24-35 months	5.1	0.6	-0.4	537	537	9.1	3.1	-0.6	506	506	4.9	1.3	-0.1	4.0	507					
36-47 months	5.0	1.9	-0.5	582	582	8.4	1.8	-0.6	565	565	3.7	0.2	-0.2	3.8	559					
48-59 months	4.8	0.7	-0.5	512	512	6.6	0.8	-0.4	505	505	5.4	0.7	-0.4	1.4	506					

**Table NU.1: Nutritional status of children (continued)**

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

	Weight for age					Height for age					Weight for height									
	Underweight					Stunted					Wasted					Overweight				
	percent below - 2 - 3 SD <sup>1</sup>	SD <sup>2</sup>	Mean Z- Score (SD)	Number of children under age 5		percent below - 2 - 3 SD <sup>3</sup>	SD <sup>4</sup>	Mean Z- Score (SD)	Number of children under age 5		percent below - 2 - 3 SD <sup>5</sup>	SD <sup>6</sup>	Mean Z- Score (SD)	Number of children under age 5		percent above + 2 SD	Mean Z- Score (SD)	Number of children under age 5		
<b>Mother's education*</b>																				
None	4.4	0.8	-0.5	370		17.0	5.6	-0.9	357		2.4	0.3	-0.1	357		2.2	-0.1	357		
Primary	7.2	1.8	-0.4	857		10.6	2.5	-0.5	817		6.0	1.3	-0.2	809		2.4	-0.2	809		
Secondary +	5.2	1.1	-0.3	1,586		6.0	1.3	-0.3	1,514		5.1	0.7	-0.2	1,503		5.0	-0.2	1,503		
Other/Non-standard	(11.4)	(0.0)	(-0.2)	41		(4.9)	(0.0)	(-0.3)	41		(4.9)	(0.0)	(0.0)	41		(4.9)	(0.0)	41		
<b>Wealth index quintile</b>																				
Poorest	6.2	1.6	-0.5	949		13.4	3.4	-0.7	902		4.0	1.0	-0.1	900		3.1	-0.1	900		
Second	5.6	1.1	-0.4	607		8.3	1.2	-0.4	583		6.5	0.7	-0.2	579		2.4	-0.2	579		
Middle	5.2	1.3	-0.2	500		5.1	1.5	-0.2	482		6.0	1.1	-0.2	477		6.0	-0.2	477		
Fourth	6.9	1.2	-0.3	444		6.6	2.7	-0.3	424		5.2	1.1	-0.2	422		4.6	-0.2	422		
Richest	4.2	0.5	-0.2	370		5.5	1.1	-0.2	353		3.5	0.0	-0.1	347		5.6	-0.1	347		
<b>Ethnicity of household head*</b>																				
Indigenous/Amerindian	4.5	1.8	-0.1	139		12.1	3.6	-0.6	128		1.8	0.0	0.3	128		4.9	0.3	128		
Maroon	4.4	1.1	-0.4	1,159		11.1	2.8	-0.6	1,119		3.7	1.1	-0.1	1,113		3.4	-0.1	1,113		
Creole	6.3	1.1	-0.3	383		3.5	0.6	-0.1	362		4.5	0.7	-0.2	358		4.7	-0.2	358		
Hindustani	9.1	1.8	-0.6	587		5.6	1.7	-0.3	563		9.3	0.8	-0.5	561		2.6	-0.5	561		
Javanese	7.0	1.9	-0.5	291		11.9	2.3	-0.7	267		5.3	0.5	-0.1	263		6.3	-0.1	263		
Mixed	2.8	0.2	-0.1	279		9.2	2.6	-0.2	272		2.7	0.7	0.1	270		6.5	0.1	270		
Others	(*)	(*)	(*)	32		(*)	(*)	(*)	32		(*)	(*)	(*)	32		(*)	(*)	32		
<b>Total</b>	<b>5.8</b>	<b>1.3</b>	<b>-0.4</b>	<b>2,870</b>		<b>8.8</b>	<b>2.2</b>	<b>-0.4</b>	<b>2,744</b>		<b>5.0</b>	<b>0.8</b>	<b>-0.2</b>	<b>2,726</b>		<b>4.0</b>	<b>-0.2</b>	<b>2,726</b>		

\* 'Missing/DK' categories not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 2.1a and MDG indicator 1.8<sup>2</sup> MICS indicator 2.1b <sup>3</sup> MICS indicator 2.2a<sup>4</sup> MICS indicator 2.2b <sup>5</sup> MICS indicator 2.3a<sup>6</sup> MICS indicator 2.3b

**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, and percentage who received a prelacteal feed, Suriname, 2010

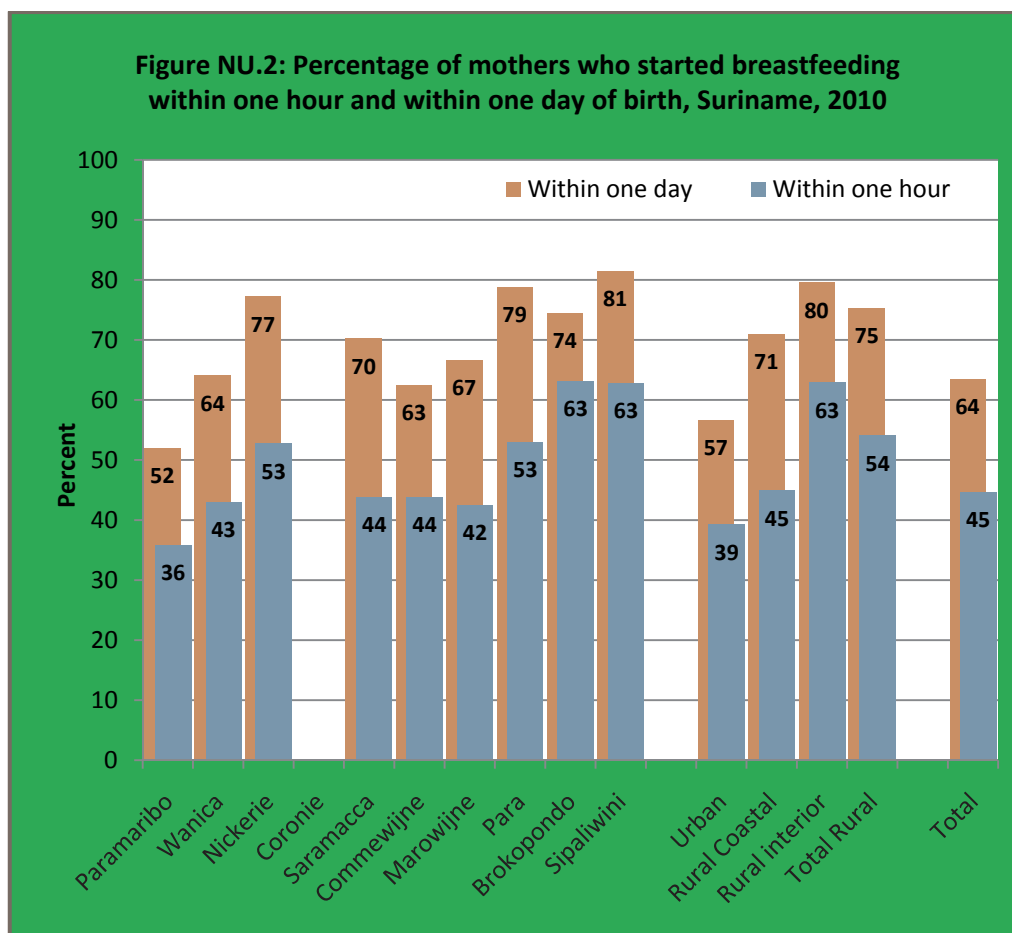
	Percentage who were ever breastfed <sup>1</sup>	Percentage who were first breastfed:		Percentage who received a prelacteal feed	Number of last-born children in the two years preceding the survey
		Within one hour of birth <sup>2</sup>	Within one day of birth		
<b>District</b>					
Paramaribo	88.1	35.8	51.9	53.1	430
Wanica	92.1	43.0	64.0	46.5	191
Nickerie	91.2	52.7	77.2	52.6	61
Coronie	(*)	(*)	(*)	(*)	4
Saramacca	91.2	43.9	70.2	54.4	30
Commewijne	86.2	43.8	62.5	45.0	44
Marowijne	87.9	42.4	66.7	40.2	65
Para	92.4	53.0	78.8	53.0	38
Brokopondo	94.7	63.2	74.4	62.4	53
Sipaliwini	94.7	62.8	81.4	37.8	146
<b>Area</b>					
Urban	89.1	39.2	56.6	50.9	668
Rural Coastal	90.6	44.9	70.9	48.5	193
Rural interior	94.7	62.9	79.5	44.3	199
Total Rural	92.7	54.0	75.3	46.4	392
<b>Months since last birth</b>					
0-11 months	92.3	41.7	62.5	50.8	509
12-23 months	88.7	47.5	64.4	47.7	551
<b>Assistance at delivery</b>					
Skilled attendant	91.2	44.7	63.5	49.8	982
Traditional birth attendant	93.4	51.4	75.9	47.2	57
<b>Place of delivery</b>					
Public sector health facility	90.5	43.9	62.5	49.7	758
Private sector health facility	94.3	48.5	66.1	52.1	220
Home	90.0	52.2	76.2	41.9	41
Other/Missing	69.3	31.5	55.4	32.5	41
<b>Mother's education*</b>					
None	94.9	61.0	77.2	38.8	125
Primary	87.5	49.4	63.7	48.0	305
Secondary +	91.0	38.9	60.6	51.9	609
Other/Non-standard	(*)	(*)	(*)	(*)	16
<b>Wealth index quintile</b>					
Poorest	91.1	54.8	73.7	43.4	341
Second	87.3	42.9	56.1	51.5	212
Middle	88.8	39.7	64.0	45.7	200
Fourth	92.8	31.1	50.3	54.0	167
Richest	93.1	46.1	64.9	59.1	141
<b>Ethnicity of household head*</b>					
Indigenous/Amerindian	85.3	52.0	70.3	36.5	50
Maroon	91.7	53.3	70.9	45.9	429
Creole	90.7	25.0	48.4	51.4	131
Hindustani	90.8	43.0	59.2	54.0	216
Javanese	86.6	34.1	57.4	47.7	111
Mixed	90.5	43.0	62.0	55.7	104
Others	(*)	(*)	(*)	(*)	20
<b>Total</b>	<b>90.4</b>	<b>44.7</b>	<b>63.5</b>	<b>49.2</b>	<b>1,060</b>

\* 'Missing/DK' categories not shown due to low number of observations

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 2.4

<sup>2</sup> MICS indicator 2.5



In Table NU.3 (page 28), breastfeeding status is based on the reports of mothers/caretakers of children's consumption of food and fluids during the previous day or night prior to the interview. *Exclusively breastfed* refers to infants who received only breast milk (and vitamins, mineral supplements, or medicine). The table shows exclusive breastfeeding of infants during the first six months of life, as well as continued breastfeeding of children at 12-15 and 20-23 months of age.

Only about three percent of children aged less than six months are exclusively breastfed. By age 12-15 months, 23 percent of children are still being breastfed and by age 20-23 months, 15 percent are still breastfed. Girls were more likely to be exclusively breastfed than boys. This is also true with respect to continued breastfeeding whether by age 12-15 month or 20-23 months. While there are other interesting observations to make, caution is advised due to a limited number of observations and therefore large confidence intervals on estimates. However, there is an interesting dynamic to note in the urban/rural disaggregation, where the urban children have less chance of breastfeeding exclusively or predominantly at the young age, but that the opposite holds true for continued breastfeeding at age 2. It would seem that fewer urban women choose to breastfeed, but that those who do breastfeed continue to do so.

According to Figure NU.3 (page 29), it is estimated that 6 percent of children are exclusively breastfed among those in their first two months of life. Among those in their fourth and fifth months, less than 1 percent (0.8%) was exclusively breastfed. Figure NU.3 also shows that approximately 6 in every 10 infants in their first two months are breastfed and given milk or formula. This is observed to be the case for nearly 7 in every 10 infants 2-3 months old. There appears to be consecutive increases in the proportion of infants who are breastfed and given solid food among infants in successive two-month age groups comprising the first year of life. While the proportion among infants in their first two years of life is 0.6 percent, it increased to 21 percent among infants 6-7 months and 32 percent among those 10-11 months. For



children under 2 years, more than half of the children 8-9 months or in older age groups are no longer breastfed. Among those 22-23 months, approximately 88 percent were no longer breastfeeding thus implying that about 12 percent of the children had still been breastfeeding while having solid food just before their second birthday.

**Table NU.3: Breastfeeding**

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

	Children age 0-5 months			Children age 12-15 months		Children age 20-23 months	
	Percent exclusively breastfed <sup>1</sup>	Percent predominantly breastfed <sup>2</sup>	Number of children	Percent breastfed (Continued breastfeeding at 1 year) <sup>3</sup>	Number of children	Percent breastfed (Continued breastfeeding at 2 years) <sup>4</sup>	Number of children
<b>Sex</b>							
Male	1.6	18.6	150	19.2	103	12.0	150
Female	4.0	18.1	136	26.8	88	17.5	163
<b>District</b>							
Paramaribo	1.8	10.7	113	(20.0)	80	15.8	115
Wanica	(*)	(*)	41	(*)	32	(17.1)	71
Nickerie	(*)	(*)	15	(*)	6	(*)	18
Coronie	(*)	(*)	1	(*)	1	(*)	1
Saramacca	(*)	(*)	8	(*)	8	(*)	7
Commewijne	(*)	(*)	7	(*)	7	(*)	15
Marowijne	(2.4)	(11.9)	25	(*)	13	(18.5)	16
Para	(*)	(*)	10	(*)	6	(*)	13
Brokopondo	(4.5)	(34.1)	22	(*)	9	(*)	11
Sipaliwini	2.3	40.7	44	39.2	26	6.6	47
<b>Area</b>							
Urban	1.3	10.1	159	17.2	117	17.8	204
Rural Coastal	6.4	18.1	61	26.8	39	12.2	53
Rural interior	3.1	38.5	66	36.3	35	7.1	57
Total Rural	4.7	28.7	127	31.3	74	9.5	110
<b>Mother's education</b>							
None	1.3	28.9	39	(22.0)	30	3.5	44
Primary	5.6	20.4	76	30.5	58	20.2	95
Secondary +	1.9	15.6	165	18.5	100	15.2	167
Non-standard/ Missing/DK	(*)	(*)	6	(*)	3	(*)	8
<b>Wealth index quintile</b>							
Poorest	2.4	24.7	116	27.5	54	11.6	96
Second	(3.0)	(13.5)	39	(29.7)	48	(21.4)	62
Middle	(1.3)	(14.4)	51	(*)	28	(11.4)	59
Fourth	(6.8)	(14.7)	49	(*)	31	(18.8)	57
Richest	(*)	(*)	31	(*)	29	(*)	39
<b>Ethnicity of household head*</b>							
Indigenous/Amerindian	(*)	(*)	10	(*)	9	(*)	18
Maroon	1.2	24.2	137	27.8	67	4.6	134
Creole	(*)	(*)	35	(*)	25	(*)	38
Hindustani	(4.0)	(5.3)	49	(13.1)	45	(22.5)	68
Javanese	(*)	(*)	28	(*)	21	(*)	32
Mixed	(*)	(*)	24	(*)	16	(*)	20
Others	(*)	(*)	3	(*)	6	(*)	3
<b>Total</b>	<b>2.8</b>	<b>18.4</b>	<b>286</b>	<b>22.7</b>	<b>191</b>	<b>14.9</b>	<b>313</b>

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 2.6<sup>2</sup> MICS indicator 2.9<sup>3</sup> MICS indicator 2.7<sup>4</sup> MICS indicator 2.8

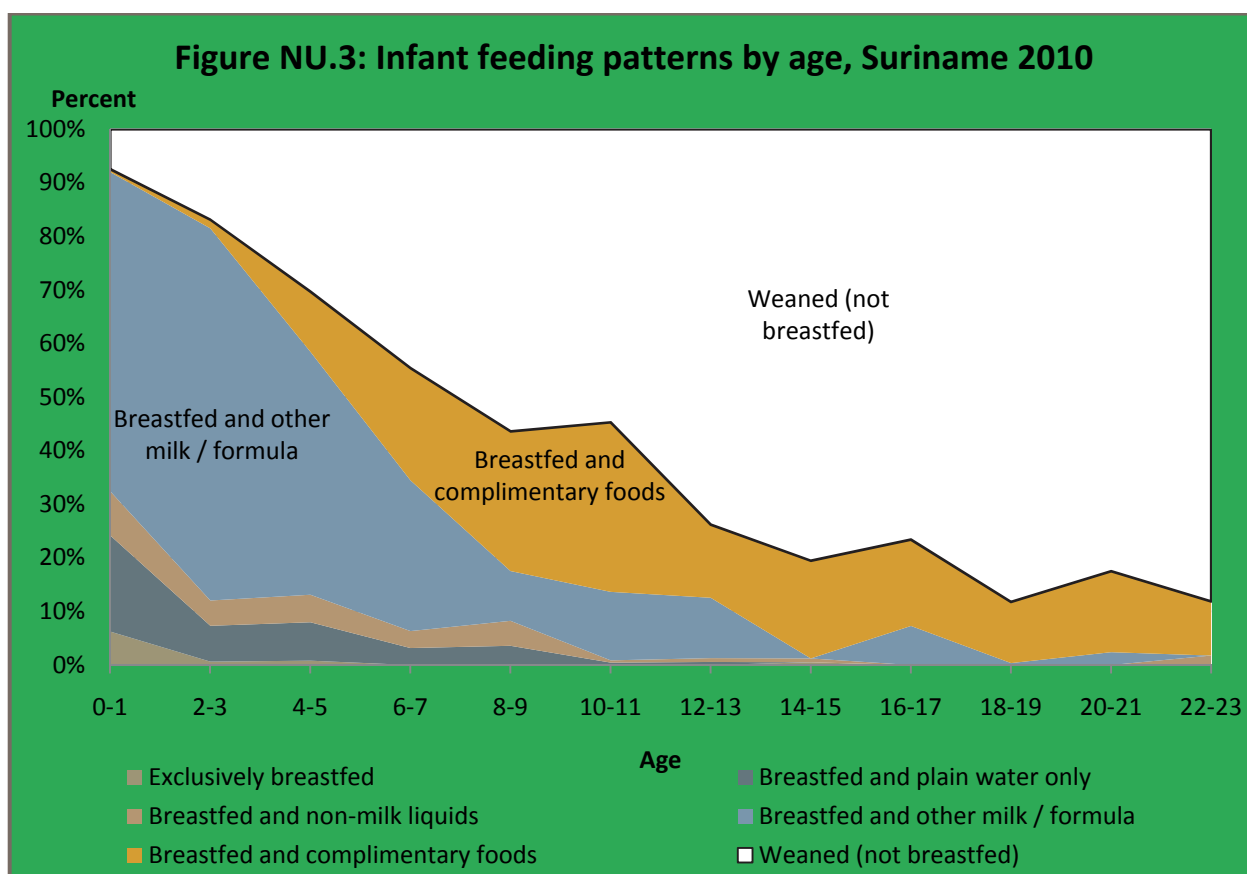


Table NU.4 (page 31) shows the median duration of breastfeeding by selected background characteristics. Among children under age 3, the median duration is 8.0 months for any breastfeeding, 0.4 months for exclusive breastfeeding, and 0.5 months for predominant breastfeeding. With respect to any breastfeeding, girls were more likely to have continued breastfeeding than boys. This is also the case for children who living in the rural interior as opposed to rural coastal areas or urban areas. The median duration of any breastfeeding was longer among children whose mothers had no education than among those whose mothers had higher levels of education, as well as for particularly the poorest wealth quintile.

The adequacy of infant feeding in children under 24 months is provided in Table NU.5 (page 32). Different criteria of feeding are used depending on the age of the child. For infants aged 0-5 months, exclusive breastfeeding is considered as age-appropriate feeding, while infants aged 6-23 months are considered to be appropriately fed if they are receiving breast milk and solid, semi-solid or soft food. As a result of these feeding patterns, only 18 percent of children aged 6-23 months are being appropriately fed. Age-appropriate feeding among all infants age 0-5 months drops to 3 percent. Whether 0-5 months or 6-23 months, girls are more likely to be adequately breastfed than boys and children from rural areas are more likely to be adequately fed when compared to those from urban areas. There does not appear to be any clear pattern of relationship associating the adequacy of infant feeding in children under 24 months with either their mothers' education or their wealth status.

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

months and older who are not breastfed, four or more meals of solid, semi-solid or soft foods or milk feeds are needed.

Overall, 47 percent of infants' age 6-8 months received solid, semi-solid, or soft foods (Table NU.6, page 33). Among currently breastfeeding infants this percentage is 41 while it is 53 among infants currently not breastfeeding.

Table NU.7 (page 34) presents the proportion of children age 6-23 months who received semi-solid or soft foods the minimum number of times or more during the previous day according to breastfeeding status (see the note in Table NU.7 for a definition of minimum number of times for different age groups). Overall, a little less than two-thirds of the children age 6-23 months (64 percent) were receiving solid, semi-solid and soft foods the minimum number of times. The disaggregated values show that while 70 percent of urban and 73 percent of rural coastal children enjoy the minimum meal frequency, the percentage in the rural interior is only 38. Large differences are also found according to mother's education and wealth of the household. Somewhat expected, the children of the higher educated and the wealthier are better off. Interestingly, the percentage of children receiving the minimum meal frequency increases with age of the child as well, ranging from 52 percent of children age 6-8 months to 69 percent of 18-23 month olds.

Looking just at the currently breastfeeding children age 6-23 months, just 16 percent of them were receiving solid, semi-solid and soft foods the minimum number of times. Among non-breastfeeding children, as much as 83 percent of the children were receiving solid, semi-solid and soft foods or milk feeds 4 times or more. As above, this however masks large discrepancies with poor conditions in the rural interior, especially Sipaliwini where only 51 percent of non-breastfeeding children enjoyed feeds 4 times or more.

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 (page 35) shows that bottle-feeding is still prevalent in Suriname with 72 percent of children under 2 years being reported to be fed using a bottle with a nipple. Greater percentages are observed among children from urban areas and those from rural coastal areas than among those from the rural interior, at 78, 72, and 52 percent, respectively. Greater percentages can also be observed among children whose mothers had higher levels of educational attainment, the respective percentages ranging between 58 percent among children whose mothers had no education and 76 percent among those whose mothers had at least a secondary school education.

**Table NU.4: Duration of breastfeeding**

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children age 0-35 months, Suriname, 2010

	Median duration (in months) of			Number of children age 0-35 months
	Any breastfeeding <sup>1</sup>	Exclusive breastfeeding	Predominant breastfeeding	
<b>Sex*</b>				
Male	6.9	0.4	0.6	1,063
Female	10.5	0.4	0.5	966
<b>District</b>				
Paramaribo	5.7	0.4	0.5	788
Wanica	7.6	0.0	0.5	362
Nickerie	9.0	0.0	0.0	124
Coronie	(*)	(*)	(*)	7
Saramacca	5.5	0.5	2.8	54
Commewijne	5.8	1.4	1.4	74
Marowijne	7.9	0.0	0.5	127
Para	6.5	0.0	0.6	72
Brokopondo	10.1	0.5	1.6	105
Sipaliwini	13.1	0.4	1.0	316
<b>Area</b>				
Urban	5.8	0.4	0.5	1,231
Rural Coastal	6.6	0.4	0.6	378
Rural Interior	12.6	0.4	1.3	421
Total Rural	10.4	0.4	0.7	799
<b>Mother's education</b>				
None	11.4	0.4	1.4	267
Primary	9.8	0.4	0.5	572
Secondary +	5.6	0.4	0.5	1,154
Non-standard/Missing/DK	(*)	(*)	(*)	25
<b>Wealth index quintile</b>				
Poorest	11.7	0.4	0.5	668
Second	7.5	0.4	0.5	425
Middle	6.1	0.4	0.5	355
Fourth	3.1	0.5	0.6	331
Richest	5.5	0.0	0.5	250
<b>Ethnicity of household head**</b>				
Indigenous	17.0	0.5	0.6	96
Maroon	10.8	0.4	0.6	843
Creole	6.2	0.4	0.4	250
Hindustani	4.1	0.4	0.4	402
Javanese	5.2	0.5	1.5	219
Mixed	3.8	0.0	0.5	196
Others	(*)	(*)	(*)	24
Median	8.0	0.4	0.5	2,030
Mean for all children (0-35 months)	10.5	0.2	1.4	2,030
* 'Missing/DK' categories not shown due to low number of observations				
(*) Figures that are based on less than 25 unweighted cases				
<sup>1</sup> MICS indicator 2.10				

**Table NU.5: Age-appropriate breastfeeding**

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

	Children age 0-5 months		Children age 6-23 months		Children age 0-23 months	
	Percent exclusively breastfed <sup>1</sup>	Number of children	Percent currently breastfeeding and receiving solid, semi-solid or soft foods	Number of children	Percent appropriately breastfed <sup>2</sup>	Number of children
<b>Sex*</b>						
Male	1.6	150	15.7	575	12.8	724
Female	4.0	136	20.1	528	16.8	665
<b>District</b>						
Paramaribo	1.8	113	14.5	442	12.0	555
Wanica	(*)	41	17.0	203	14.2	244
Nickerie	(*)	15	31.6	64	26.5	79
Coronie	(*)	1	(*)	5	(*)	5
Saramacca	(*)	8	(16.7)	31	16.4	40
Commewijne	(*)	7	(20.8)	48	20.5	55
Marowijne	(2.4)	25	17.9	64	13.5	89
Para	(*)	10	18.5	38	14.7	48
Brokopondo	(4.5)	22	12.5	48	10.0	70
Sipaliwini	2.3	44	22.7	160	18.3	204
<b>Area</b>						
Urban	1.3	159	16.5	697	13.6	856
Rural Coastal	6.4	61	19.9	198	16.7	259
Rural interior	3.1	66	20.3	208	16.2	274
Total Rural	4.7	127	20.1	407	16.4	534
<b>Mother's education</b>						
None	1.3	39	14.5	134	11.5	173
Primary	5.6	76	21.1	330	18.2	407
Secondary +	1.9	165	17.1	618	13.9	782
Non-standard/Missing/DK	(*)	6	(*)	22	(*)	27
<b>Wealth index quintile</b>						
Poorest	2.4	116	20.3	335	15.7	451
Second	(3.0)	39	18.7	233	16.5	272
Middle	(1.3)	51	15.1	209	12.4	260
Fourth	(6.8)	49	17.1	180	14.9	229
Richest	(*)	31	15.4	148	12.7	179
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	(*)	10	37.8	54	33.4	64
Maroon	1.2	137	14.3	418	11.1	555
Creole	(*)	35	21.0	143	17.2	178
Hindustani	(4.0)	49	21.9	237	18.8	287
Javanese	(*)	28	20.0	121	18.0	149
Mixed	(*)	24	8.8	113	7.3	137
Others	(*)	3	(*)	17	(*)	20
<b>Total</b>	<b>2.8</b>	<b>286</b>	<b>17.8</b>	<b>1,104</b>	<b>14.7</b>	<b>1,390</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 2.6<sup>2</sup> MICS indicator 2.14

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

Percentage of infants age 6-8 months who received solid, semi-solid or soft foods during the previous day, Suriname, 2010

	<b>Currently breastfeeding</b>		<b>Currently not breastfeeding</b>		<b>All</b>	
	Percent receiving solid, semi-solid or soft foods	Number of children age 6-8 months	Percent receiving solid, semi-solid or soft foods	Number of children age 6-8 months	Percent receiving solid, semi-solid or soft foods <sup>1</sup>	Number of children age 6-8 months
<b>Sex</b>						
Male	(44.8)	48	(49.2)	51	47.1	99
Female	37.9	47	(57.9)	39	46.9	85
<b>Area</b>						
Urban	(*)	48	(53.1)	64	50.0	113
Rural Coastal	(*)	15	(59.0)	19	62.5	33
Rural interior	22.6	32	(*)	6	24.4	38
Total Rural	36.7	46	(52.7)	25	42.3	71
<b>Total</b>	<b>41.4</b>	<b>95</b>	<b>53.0</b>	<b>89</b>	<b>47.0</b>	<b>184</b>

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 2.12

**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, Suriname, 2010

	Currently breastfeeding		Currently not breastfeeding			All	
	Percent receiving solid, semi-solid and soft foods the minimum number of times	Number of children age 6-23 months	Percent receiving at least 2 milk feeds <sup>1</sup>	Percent receiving solid, semi-solid and soft foods or milk feeds 4 times or more	Number of children age 6-23 months	Percent with minimum meal frequency <sup>2</sup>	Number of children age 6-23 months
<b>Sex*</b>							
Male	15.3	142	81.8	83.6	433	66.8	575
Female	17.0	162	79.2	81.1	366	61.5	528
<b>Age</b>							
6-8 months	16.8	95	94.7	88.2	89	51.5	184
9-11 months	16.3	79	94.5	92.9	97	58.3	176
12-17 months	10.9	66	89.1	85.8	221	68.6	287
18-23 months	20.8	64	69.2	76.7	393	69.0	456
<b>District</b>							
Paramaribo	17.6	103	88.8	87.6	340	71.4	442
Wanica	(11.1)	55	89.0	89.0	148	68.0	203
Nickerie	(*)	24	85.5	88.7	41	67.3	64
Coronie	(*)	2	(*)	(*)	3	(*)	5
Saramacca	(*)	5	(90.0)	(90.0)	26	(79.2)	31
Commewijne	(*)	10	(78.9)	(86.0)	38	(70.8)	48
Marowijne	(20.0)	18	82.9	85.5	46	67.0	64
Para	(*)	8	(79.1)	(83.7)	30	72.2	38
Brokopondo	(0.0)	17	62.9	69.4	31	44.8	48
Sipaliwini	13.1	62	40.8	50.8	98	36.1	160
<b>Area</b>							
Urban	16.1	175	88.0	87.7	522	69.7	697
Rural Coastal	26.5	49	84.4	87.9	150	72.8	198
Rural interior	10.3	80	46.2	55.3	129	38.1	208
Total Rural	16.5	128	66.7	72.8	278	55.0	407
<b>Mother's education</b>							
None	11.1	38	51.5	60.6	96	46.6	134
Primary	18.2	114	76.4	79.0	217	58.1	330
Secondary +	15.8	150	88.7	88.8	468	71.1	618
Non-standard/ Missing/DK	(*)	2	(*)	(*)	19	(*)	22
<b>Wealth index quintile</b>							
Poorest	19.5	115	59.2	65.4	219	49.6	335
Second	3.9	69	85.7	89.7	164	64.4	233
Middle	(26.2)	43	92.4	88.8	165	75.8	209
Fourth	(18.5)	43	90.7	88.2	136	71.4	180
Richest	(*)	33	85.4	88.9	115	72.4	148
<b>Ethnicity of household head*</b>							
Indigenous/Amerindian	(8.0)	29	(77.2)	(71.8)	25	37.5	54
Maroon	13.0	120	67.4	73.3	298	56.1	418
Creole	(19.5)	41	90.2	86.9	102	67.8	143
Hindustani	(22.9)	61	89.4	89.0	177	72.1	237
Javanese	(*)	30	83.0	85.2	91	69.5	121
Mixed	(*)	21	91.5	94.3	92	79.1	113
Others	(*)	2	(*)	(*)	15	(*)	17
<b>Total</b>	<b>16.2</b>	<b>303</b>	<b>80.6</b>	<b>82.5</b>	<b>800</b>	<b>64.3</b>	<b>1,104</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases; (\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 2.15

<sup>2</sup> MICS indicator 2.13

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.

**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, Suriname, 2010

	Percentage of children age 0-23 months fed with a bottle with a nipple <sup>1</sup>	Number of children age 0-23 months
<b>Sex*</b>		
Male	73.7	724
Female	69.8	665
<b>Age</b>		
0-5 months	76.5	286
6-11 months	78.2	360
12-23 months	67.0	744
<b>District</b>		
Paramaribo	80.1	555
Wanica	76.7	244
Nickerie	67.8	79
Coronie	(*)	5
Saramacca	63.9	40
Commewijne	66.3	55
Marowijne	81.1	89
Para	70.6	48
Brokopondo	63.6	70
Sipaliwini	48.1	204
<b>Area</b>		
Urban	78.1	856
Rural Coastal	72.1	259
Rural interior	52.1	274
Total Rural	61.8	534
<b>Mother's education</b>		
None	58.3	173
Primary	69.2	407
Secondary +	76.3	782
Non-standard/ Missing/DK	(*)	27
<b>Wealth index quintile</b>		
Poorest	61.8	451
Second	74.1	272
Middle	77.2	260
Fourth	81.7	229
Richest	73.4	179
<b>Ethnicity of household head*</b>		
Indigenous/Amerindian	67.8	64
Maroon	66.3	555
Creole	80.9	178
Hindustani	77.0	287
Javanese	69.0	149
Mixed	72.9	137
Others	(*)	20
<b>Total</b>	<b>71.9</b>	<b>1,390</b>
* 'Missing/DK' categories not shown due to low number of observations		
(*) Figures that are based on less than 25 unweighted cases		
<sup>1</sup> MICS indicator 2.11		



## Low Birth Weight

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

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

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

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

Because many infants are not weighed at birth and those who are weighed may be a biased sample of all births, the reported birth weights usually cannot be used to estimate the prevalence of low birth weight among all children. Therefore, the percentage of births weighing below 2500 grams is estimated from two items in the questionnaire: the mother's assessment of the child's size at birth (i.e., very small, smaller than average, average, larger than average, very large) and the mother's recall of the child's weight or the weight as recorded on a health card if the child was weighed at birth.<sup>9</sup>

Overall, Table NU.9 (page 37) shows that about 81 percent of births were weighed at birth and approximately 14 percent of infants are estimated to weigh less than 2,500 grams at birth. On birth weight there are just slight and inconclusive variations across background characteristics. However, some differences can be seen among districts and elsewhere when looking at percentage weighed at birth.

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<sup>9</sup> For a detailed description of the methodology, see *Boerma, J. T., Weinstein, K. I., Rutstein, S.O., and Sommerfelt, A. E., 1996. Data on Birth Weight in Developing Countries: Can Surveys Help? Bulletin of the World Health Organization, 74(2), 209-16.*

**Table NU.9: 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, Suriname, 2010

	<b>Percent of live births:</b>		Number of last-born children in the two years preceding the survey
	Below 2500 grams <sup>1</sup>	Weighed at birth <sup>2</sup>	
<b>District</b>			
Paramaribo	14.5	82.3	430
Wanica	15.6	86.0	191
Nickerie	14.2	86.0	61
Coronie	(*)	(*)	4
Saramacca	10.7	87.7	30
Commewijne	(12.1)	(83.7)	44
Marowijne	12.2	81.1	65
Para	9.5	80.3	38
Brokopondo	12.4	71.4	53
Sipaliwini	13.0	67.2	146
<b>Area</b>			
Urban	14.9	83.4	668
Rural Coastal	11.4	83.2	193
Rural interior	12.8	68.3	199
Total Rural	12.1	75.7	392
<b>Mother's education</b>			
None	13.3	64.7	125
Primary	15.2	76.9	305
Secondary +	13.3	85.4	609
Non-standard/ Missing/DK	(*)	(*)	21
<b>Wealth index quintile</b>			
Poorest	14.2	69.4	341
Second	13.7	81.4	212
Middle	13.4	86.0	200
Fourth	13.9	92.4	167
Richest	13.9	84.4	141
<b>Ethnicity of household head*</b>			
Indigenous/Amerindian	11.0	67.6	50
Maroon	13.4	74.4	429
Creole	14.7	78.6	131
Hindustani	16.0	92.4	216
Javanese	12.3	82.6	111
Mixed	12.7	89.4	104
Others	(*)	(*)	20
<b>Total</b>	<b>13.9</b>	<b>80.5</b>	<b>1,060</b>
* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations			
( ) Figures that are based on 25-49 unweighted cases			
(*) Figures that are based on less than 25 unweighted cases			
<sup>1</sup> MICS indicator 2.18			
<sup>2</sup> MICS indicator 2.19			

## 5. Child Health



## Immunization

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

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

According to the national vaccination schedule, a child should receive one dose of hepatitis vaccine at birth, three doses of Pentavalent to protect against diphtheria, pertussis, tetanus, haemophilias influenza type b, and hepatitis b, and three doses of polio vaccine by six months. After their first birthday, children should receive a dose of MMR to protect against Measles, Mumps and Rubella, and a Yellow Fever vaccination for children living in the interior. By the age of 18 months a child should receive a fourth dose of DPT and polio vaccine.

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

In the case of Suriname, the Pentavalent vaccine is given together with DPT and HepB. However, during the customisation of the standard MICS questionnaires, the introduction of the Pentavalent vaccine was not added into the final questionnaires used in the survey. This, due to restrictions pertaining to the uniformity of the questionnaire formats. This resulted in underestimation of children receiving the DPT and HepB vaccines now no longer given separately, but as part of the Pentavalent vaccine. The coverage of DPT and HepB are therefore omitted from this report as the results would be misleading. The coverage of HepB given at birth is still valid, as well as the results for Polio and Measles (MMR). With regards to Yellow Fever, the results are presented for Brokopondo and Sipaliwini districts.

The percentage of children age 18 to 29 months who have received each of the specific vaccinations by source of information (vaccination card and mother's recall) is shown in Table CH.1 (page 40). The denominator for the table is comprised of children age 18-29 months so that only children who are old enough to be fully vaccinated are counted. In the first three columns of the table, the numerator includes all children who were vaccinated at any time before the survey according to the vaccination card or the mother's report. In the last column, only those children who were vaccinated before their first birthday 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.

In Suriname, the MICS4 data reveal that about 83 percent of children age 18-29 months received three doses of the polio vaccine at any time before the survey. As much as 91 percent had received at least a first dose of the polio vaccine. HepB at birth, the only HepB vaccine that can be tabulated due to the mentioned design issue, shows a prevalence of 39 percent of children age 18-29 months vaccinated at any time before the survey. Figure CH.1 (page 42) presents coverage of each vaccine on the children who were vaccinated at any time before the survey.

With respect to the vaccine against measles (MMR), MICS4 data indicate that approximately 78 percent of children age 18-29 months were estimated to have received the measles vaccine. Nonetheless, national estimates by the Ministry of Health for 2010 and 2011 reveal that Suriname has attained an immunization profile above the international threshold of 85% for vaccinations against measles (MMR). This discrepancy should be investigated further. There are a number of possible reasons for the difference. In the MICS, issues could be related to data quality, but certainly also to imprecise vaccination cards that have omitted vaccines.

Discrepancy is also found on the coverage of Yellow fever vaccination. According to MICS, in Brokopondo and Sipaliwini 64 percent of children age 18-29 were immunized at any time before the survey, but only 15 percent were vaccinated by 12 months of age. It should be noted that national immunization estimates from the Ministry of Health for children age 12-23 months in these parts of the country and a part of Para, are 79 percent in 2009, 80 percent in 2010, and 77 percent in 2011. While the numbers are not strictly comparable, the large discrepancy is evident and further investigation is necessary to understand and learn for future data collection activities.

**Table CH.1: Vaccinations in first year of life**

Percentage of children age 18-29 months immunized against childhood diseases at any time before the survey and before the first birthday (by 18 months of age against measles-MMR), Suriname, 2010

	Vaccinated at any time before the survey according to:			Vaccinated by 12 months of age
	Vaccination card	Mother's report	Either	
<b>Polio</b>				
1	80.1	10.3	90.5	89.9
2	80.0	8.4	88.5	86.5
3 <sup>1</sup>	77.1	6.1	83.2	79.0
<b>Measles (MMR)<sup>2</sup></b>	70.5	7.4	77.9	73.9
<b>HepB</b>				
At birth	32.8	5.7	38.5	38.0
Number of children age 18-29 months	746	746	746	746
<b>Yellow fever<sup>3</sup></b> (Brokopondo and Sipaliwini )	59.3	4.7	64.0	15.1
Number of children age 18-29 months (Brokopondo and Sipaliwini )	154	154	154	154
<sup>1</sup> MICS indicator 3.2;				
<sup>2</sup> MICS indicator 3.4; MDG indicator 4.3				
<sup>3</sup> MICS indicator 3.6				

Table CH.2 (page 41) presents vaccination coverage estimates among children 18-29 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' (or caretakers') reports. Vaccination cards have been seen by the interviewer for 82 percent of children. This total hides that while most district values center around this total, the interviewers in Marowijne only managed to see the card of every second child (54%). The table does not reveal any obvious patterns without background characteristics, although precisely Marowijne have significantly lower vaccination rates across the board.

**Table CH.2: Vaccinations by background characteristics**

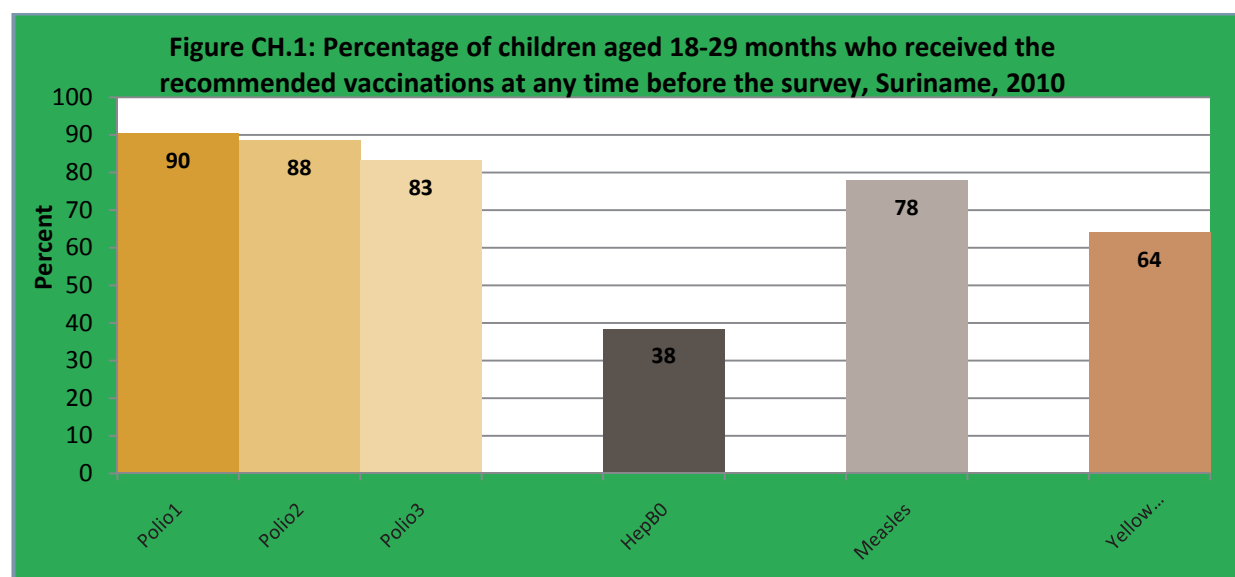
Percentage of children age 18-29 months currently vaccinated against childhood diseases, Suriname, 2010

	Percentage of children who received:						Number of children age 18-29 months	Brokopondo and Sipaliwini:	
	Polio			Measles (MMR)	HepB at birth	Percentage with vaccination card seen		Percentage of children who received yellow fever	Number of children age 18-29 months
	1	2	3						
<b>Sex*</b>									
Male	90.7	89.6	85.3	78.0	37.5	81.5	385	62.8	88
Female	90.1	87.5	81.0	77.9	39.5	81.9	361	65.8	66
<b>Region</b>									
Paramaribo	91.4	90.7	85.7	78.1	34.3	83.6	281	na	na
Wanica	88.7	87.3	83.1	79.7	39.1	80.3	144	na	na
Nickerie	97.1	97.1	91.3	75.0	52.2	94.2	45	na	na
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	2	na	na
Saramacca	(96.8)	(96.8)	(96.8)	(90.3)	(45.2)	(93.5)	20	na	na
Commewijne	(97.6)	(85.4)	(85.4)	(89.5)	(56.1)	(85.4)	27	na	na
Marowijne	69.0	62.9	52.9	47.1	20.0	53.5	43	na	na
Para	(97.6)	(97.5)	(95.0)	(87.2)	(48.7)	(90.2)	29	na	na
Brokopondo	95.1	90.0	81.7	70.9	41.7	77.0	31	52.7	31
Sipaliwini	89.7	88.2	80.6	82.9	40.0	81.0	124	66.8	124
<b>Area</b>									
Urban	91.2	89.9	85.1	78.4	38.2	83.3	459	na	na
Rural Coastal	87.5	83.5	79.3	73.4	37.4	77.4	133	na	na
Rural interior	90.7	88.5	80.8	80.6	40.3	80.2	154	64.0	154
Total Rural	89.2	86.2	80.1	77.2	39.0	78.9	287	na	na
<b>Mother's education*</b>									
None	87.2	86.4	77.4	79.6	37.2	77.9	110	61.2	77
Primary	89.3	87.3	81.4	78.5	39.7	78.3	210	70.6	60
Secondary +	92.0	89.6	85.6	76.5	38.6	84.2	409	(50.1)	16
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)	14	(*)	1
<b>Wealth index quintile</b>									
Poorest	87.3	84.6	76.6	76.7	37.6	75.7	236	65.1	142
Second	91.8	90.2	87.7	78.7	39.3	86.5	153	(*)	11
Middle	94.2	94.2	91.1	77.4	40.6	86.2	148	(*)	1
Fourth	89.2	85.2	78.5	74.0	33.5	76.9	130	(*)	1
Richest	(92.3)	(91.6)	(86.6)	(87.3)	(43.1)	(89.0)	79	-	0
<b>Ethnicity of household head</b>									
Indigenous/Amerindian	91.3	91.6	83.4	81.5	31.9	87.1	42	(71.4)	11
Maroon	88.4	86.1	79.3	76.1	40.1	76.1	319	63.5	142
Creole	94.0	92.3	89.7	81.8	37.0	89.7	77	-	0
Hindustani	92.3	91.8	89.1	80.5	33.0	90.5	148	-	0
Javanese	90.0	84.3	76.8	78.2	47.9	74.4	81	-	0
Mixed	(91.0)	(91.0)	(91.0)	(72.5)	(36.2)	(87.3)	74	(*)	1
Others	(*)	(*)	(*)	(*)	(*)	(*)	6	-	0
<b>Total</b>	<b>90.5</b>	<b>88.5</b>	<b>83.2</b>	<b>77.9</b>	<b>38.5</b>	<b>81.6</b>	<b>746</b>	<b>64.0</b>	<b>154</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases



### Neonatal Tetanus Protection

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

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

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

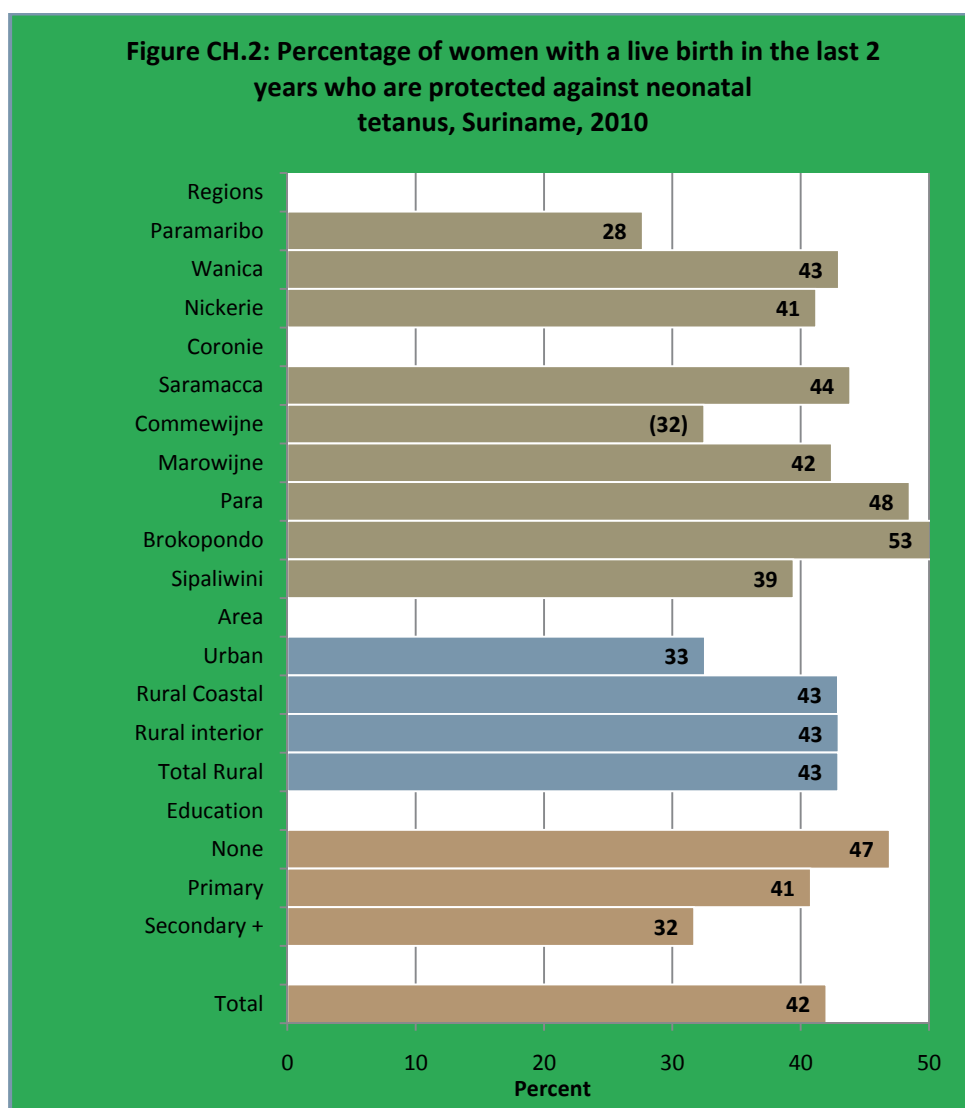
To assess the status of tetanus vaccination coverage, women who gave birth during the two years before the survey were asked if they had received tetanus toxoid injections during the pregnancy for their most recent birth, and if so, how many. Women who did not receive two or more tetanus toxoid vaccinations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

Table CH.3 (page 43) shows the protection status from tetanus of women who have had a live birth within the last 2 years. Figure CH.2 (page 44) shows the protection of women against neonatal tetanus by major background characteristics. Among women with a live birth in the last years in the different districts of Suriname, the largest proportion to have been protected against neonatal tetanus was in Brokopondo (53%) and Para (49%). The smallest proportions were observed in Paramaribo (28%). Given the small proportion that was observed in Paramaribo, it is not surprising that notably smaller proportions of women in urban areas have been protected against neonatal tetanus when compared to those in rural areas. In fact, similar proportions have been observed in rural areas whether in coastal domains or in the interior. There is an inverse relationship between the mother's education and the proportion protected against neonatal tetanus as those with higher levels of education appearing to have lower likelihoods of being

protected against neonatal tetanus. In Suriname as a whole, 36 percent of women with a live birth in the last years were estimated to have been protected against neonatal tetanus.

<b>Table CH.3: Neonatal tetanus protection</b>							
Percentage of women age 15-49 years with a live birth in the last 2 years protected against neonatal tetanus, Suriname, 2010							
	Percentage of women who received at least 2 doses during last pregnancy	Percentage of women who did not receive two or more doses during last pregnancy but received:				Protected against tetanus <sup>1</sup>	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		
<b>Area</b>							
Urban	23.6	8.4	0.5	0.0	0.0	32.5	668
Rural Coastal	32.3	10.0	0.3	0.0	0.3	42.9	193
Rural interior	32.2	10.4	0.4	0.0	0.0	43.0	199
Total Rural	32.3	10.2	0.4	0.0	0.1	42.9	392
<b>District</b>							
Paramaribo	20.4	7.3	0.0	0.0	0.0	27.7	430
Wanica	30.7	10.5	1.8	0.0	0.0	43.0	191
Nickerie	25.4	15.8	0.0	0.0	0.0	41.2	61
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	4
Saramacca	33.3	10.5	0.0	0.0	0.0	43.9	30
Commewijne	(30.0)	(2.5)	(0.0)	(0.0)	(0.0)	(32.5)	44
Marowijne	31.8	9.8	0.0	0.0	0.8	42.4	65
Para	37.9	9.1	1.5	0.0	0.0	48.5	38
Brokopondo	45.9	6.0	0.8	0.0	0.0	52.6	53
Sipaliwini	27.2	11.9	0.3	0.0	0.0	39.4	146
<b>Education*</b>							
None	34.8	11.5	0.6	0.0	0.0	46.9	125
Primary	31.7	8.8	0.2	0.0	0.2	40.8	305
Secondary +	22.1	9.0	0.5	0.0	0.0	31.7	609
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)	16
<b>Wealth index quintile</b>							
Poorest	30.6	9.2	0.4	0.0	0.1	40.3	341
Second	26.3	9.2	0.0	0.0	0.0	35.5	212
Middle	24.8	8.0	0.8	0.0	0.0	33.6	200
Fourth	24.4	7.8	0.0	0.0	0.0	32.2	167
Richest	24.2	11.7	1.2	0.0	0.0	37.0	141
<b>Ethnicity of household head</b>							
Indigenous/Amerindian	25.2	10.2	0.0	0.0	1.0	36.3	50
Maroon	29.9	8.0	0.3	0.0	0.0	38.2	429
Creole	22.5	14.3	0.0	0.0	0.0	36.7	131
Hindustani	24.3	9.9	0.0	0.0	0.0	34.2	216
Javanese	25.7	8.9	3.0	0.0	0.0	37.6	111
Mixed	24.4	5.3	0.0	0.0	0.0	29.7	104
Others	(*)	(*)	(*)	(*)	(*)	(*)	20
<b>Total</b>	<b>26.8</b>	<b>9.1</b>	<b>0.4</b>	<b>0.0</b>	<b>0.0</b>	<b>36.4</b>	<b>1,060</b>
* 'Missing/DK' category of education not shown due to low number of observations							
( ) Figures that are based on 25-49 unweighted cases							
(*) Figures that are based on less than 25 unweighted cases							
<sup>1</sup> MICS indicator 3.7							





### Oral Rehydration Treatment

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

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

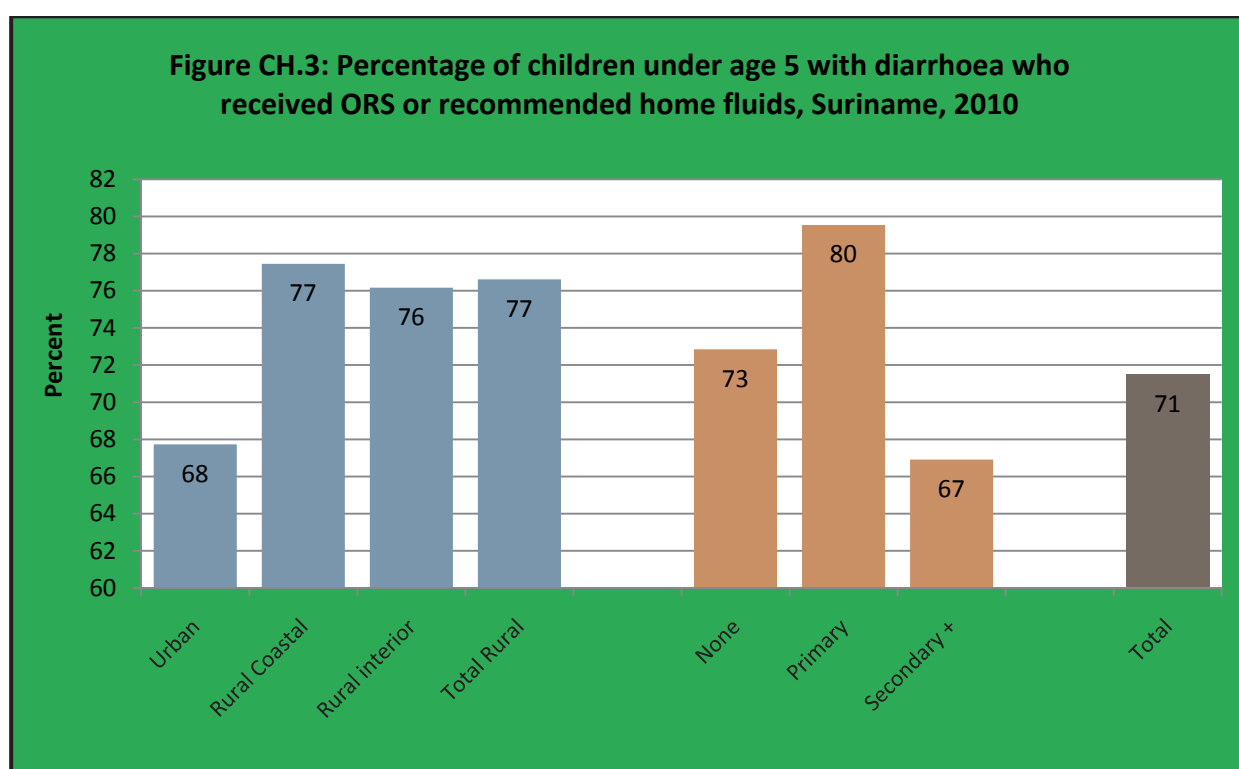
In the MICS, prevalence of diarrhoea was estimated by asking mothers or caretakers whether their child under age five years had an episode of diarrhoea in the two weeks prior to the survey. In cases where mothers reported that the child had diarrhoea, a series of questions were asked about the treatment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

Overall, approximately 10 percent of under five children had diarrhoea in the two weeks preceding the survey (Table CH.4, page 47). Diarrhoea prevalence rates were highest in Sipaliwini (13%), Brokopondo

(13%) and Wanica (11%) and lowest in Saramacca (6%). Similar rates ranging between 8 percent and 10 percent were observed in the remaining districts. One year old children were more likely to have had diarrhoea in the last two weeks preceding the survey (14%) when compared to children less than 1 year old (13%), 2 year olds (9%), 3 year olds (7%), and 4 year olds (6%). Diarrhoea prevalence is higher for children of mothers with no or only primary (both 13%) than for those with secondary or higher education (8%).

Table CH.4 also shows the percentage of children receiving various types of recommended liquids during the episode of diarrhoea. Since children may have been given more than one type of liquid, the percentages do not necessarily add to 100. About 42 percent received fluids from ORS packets or pre-packaged ORS fluids and 52 percent received recommended homemade fluids. Tea is as commonly used as ORS fluids and is also the most common homemade remedy (42%), whereas rice water and extract of guava leaves were given in 12 and 16 percent of cases, respectively. Approximately 72 percent of children with diarrhoea received one or more of the recommended treatments (i.e., were treated with ORS or RHF), while 28 percent received no treatment.

Figure CH.3 reveals that children of mothers with secondary education and those residing in urban areas were less likely to have received oral rehydration treatment than other children.

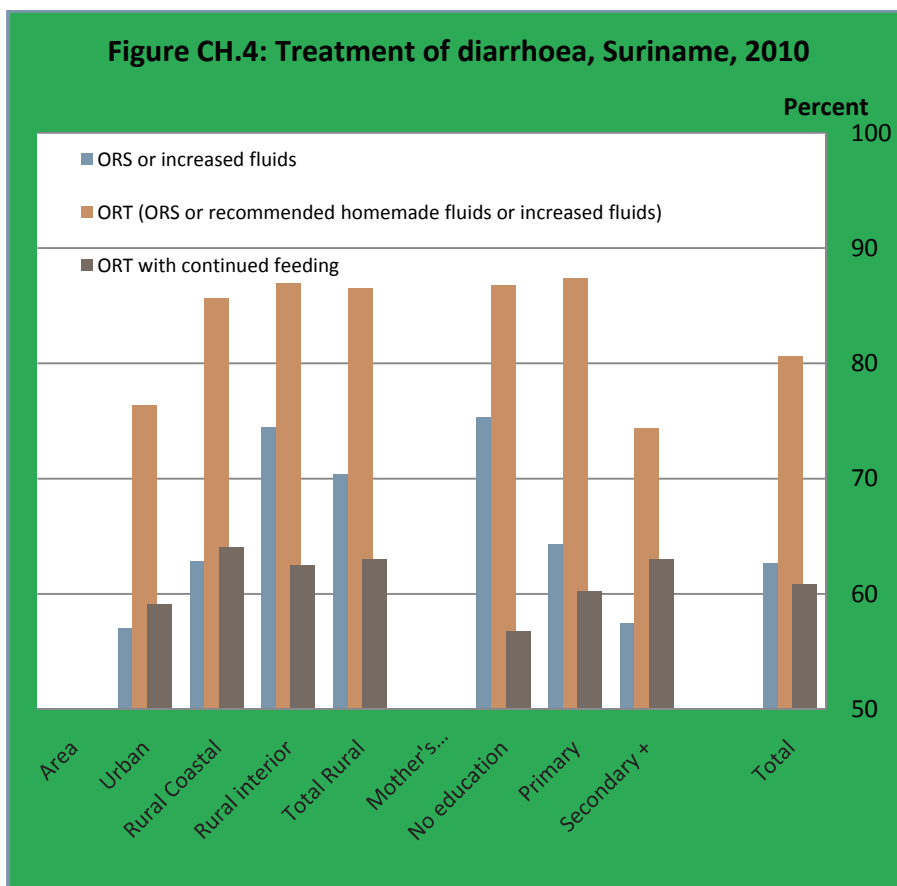


Just 39 percent of under five children with diarrhoea were given more to drink than usual (Table CH.5, page 49). More than one fifth (22%) ate much less, stopped eating, or had never been given food.

Table CH.6 (page 51) provides the proportion of children age 0-59 months with diarrhoea in the last two weeks who received oral rehydration therapy with continued feeding, and percentage of children with diarrhoea who received other treatments. Overall, 63 percent of children with diarrhoea received ORS or increased fluids, 81 percent received ORT (ORS or recommended homemade fluids or increased fluids), and 61 percent of children received ORT and continued feeding, as is the recommendation.

There are significant differences in the home management of diarrhoea by background characteristics. According to Figure CH.4 (below), the proportion of children to have received ORT with continued feeding is fairly constant around the national average across the groups. However, the use of ORS or increased

fluids is highest with mothers in the rural interior and those with no education and lowest among mothers in urban areas and with secondary or higher education. This observation is similar to use of ORT.



**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, Suriname, 2010

	Children with diarrhoea who received:										Number of children age 0-59 months with diarrhoea in last two weeks
	Had diarrhoea in last two weeks	Number of children age 0-59 months	ORS (Fluid from ORS packet or pre-packaged ORS fluid)	Recommended homemade fluids				Any recommended homemade fluid	ORS or any recommended homemade fluid		
				Rice water	Extract guava leaves	Tea					
<b>Sex*</b>											
Male	11.1	1,659	43.4	13.4	14.5	44.7	54.6	75.3	185		
Female	8.6	1,649	41.2	9.2	17.0	39.0	48.1	66.5	141		
Missing	(*)	1	-	-	-	-	-	-	0		
<b>District</b>											
Paramaribo	8.4	1,274	30.2	9.4	13.2	52.8	58.5	66.0	107		
Wanica	11.2	599	(33.3)	(15.2)	(9.1)	(36.4)	(45.5)	(69.7)	67		
Nickerie	7.7	188	(*)	(*)	(*)	(*)	(*)	(*)	14		
Coronie	(*)	14	(*)	(*)	(*)	(*)	(*)	(*)	2		
Saramacca	6.4	91	(*)	(*)	(*)	(*)	(*)	(*)	6		
Commewijne	8.7	122	(*)	(*)	(*)	(*)	(*)	(*)	11		
Marowijne	9.4	192	(53.3)	(23.3)	(26.7)	(40.0)	(50.0)	(76.7)	18		
Para	9.2	122	(*)	(*)	(*)	(*)	(*)	(*)	11		
Brokopondo	12.6	167	(47.6)	(7.1)	(19.0)	(26.2)	(42.9)	(69.0)	21		
Sipaliwini	12.8	537	61.2	14.2	24.6	32.1	50.0	78.4	69		
<b>Area</b>											
Urban	9.4	2,001	33.3	10.8	10.8	46.2	52.7	67.7	187		
Rural Coastal	8.0	603	49.1	12.9	19.9	48.3	54.9	77.5	48		
Rural interior	12.7	705	58.0	12.5	23.3	30.7	48.3	76.2	90		
Total Rural	10.6	1,307	54.9	12.7	22.1	36.9	50.6	76.6	138		
<b>Age</b>											
0-11 months	12.5	646	35.5	10.9	19.2	31.7	45.8	68.9	81		
12-23 months	14.2	744	47.9	15.5	14.3	39.6	51.0	71.4	106		
24-35 months	8.7	640	43.9	2.0	11.6	53.2	56.9	78.7	56		
36-47 months	6.7	694	(34.7)	(10.4)	(12.2)	(47.9)	(55.8)	(70.4)	46		
48-59 months	6.3	584	(49.6)	(17.8)	(21.5)	(49.1)	(54.6)	(67.9)	37		

Children with diarrhoea who received:										
	Had diarrhoea in last two weeks	Number of children age 0-59 months	ORS (Fluid from packet or packaged fluid)	ORS pre-ORS	Recommended homemade fluids				ORS or any recommended homemade fluid	Number of children age 0-59 months with diarrhoea in last two weeks
					Rice water	Extract guava leaves	Tea	Any recommended homemade fluid		
<b>Mother's education*</b>										
None	12.1	454	57.6	11.6	23.6	25.5	45.0	72.8	55	
Primary	11.6	967	49.9	16.1	23.5	49.5	58.7	79.5	112	
Secondary +	8.4	1,824	32.5	8.4	7.2	44.2	50.6	66.9	153	
Other/Non-standard	(12.2)	48	(*)	(*)	(*)	(*)	(*)	(*)	6	
<b>Wealth index quintile</b>										
Poorest	12.5	1,139	56.9	17.7	19.6	36.6	48.4	72.9	142	
Second	11.1	675	32.0	11.4	18.0	57.5	68.5	80.9	75	
Middle	6.4	563	(*)	(*)	(*)	(*)	(*)	(*)	36	
Fourth	10.3	501	(45.4)	(7.9)	(6.5)	(28.5)	(40.3)	(70.2)	51	
Richest	5.0	429	(*)	(*)	(*)	(*)	(*)	(*)	21	
<b>Ethnicity of household head</b>										
Indigenous/Amerindian	18.0	153	(58.4)	(8.8)	(16.9)	(52.4)	(60.1)	(80.9)	28	
Maroon	10.8	1,389	53.3	17.2	21.7	40.1	54.4	79.1	150	
Creole	8.3	428	(*)	(*)	(*)	(*)	(*)	(*)	36	
Hindustani	9.6	644	(34.7)	(4.4)	(7.6)	(31.4)	(34.7)	(56.5)	62	
Javanese	3.5	346	(*)	(*)	(*)	(*)	(*)	(*)	12	
Mixed	11.9	308	(34.5)	(7.4)	(5.5)	(45.8)	(51.3)	(67.6)	37	
Others	(*)	38	(*)	(*)	(*)	(*)	(*)	(*)	2	
<b>Total</b>	<b>9.8</b>	<b>3,308</b>	<b>42.4</b>	<b>11.6</b>	<b>15.6</b>	<b>42.2</b>	<b>51.8</b>	<b>71.5</b>	<b>325</b>	

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

**Table CH.5: Feeding practices during diarrhoea**

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

	Had diarrhoea in last two weeks	Number of children age 0-59 months	Drinking practices during diarrhoea:					Eating practices during diarrhoea:					Number of children age 0-59 months with diarrhoea in last two weeks					
			Given much less to drink	Given somewhat less to drink	Given about the same to drink	Given more to drink	Given nothing to drink	Missing/DK	Total	Given much less to eat	Given somewhat less to eat	Given about the same to eat		Given more to eat	Stopped food	Missing/DK	Total	
<b>Sex*</b>																		
Male	11.1	1,659	7.7	14.6	30.4	41.3	0.0	5.9	100.0	18.4	29.4	33.3	14.5	0.0	1.7	2.7	100.0	185
Female	8.6	1,649	9.7	19.2	32.4	36.4	1.1	1.1	100.0	20.6	27.8	39.7	8.5	0.5	2.5	0.4	100.0	141
<b>District</b>																		
Paramaribo	8.4	1,274	5.7	18.9	30.2	39.6	0.0	5.7	100.0	13.2	28.3	41.5	15.1	0.0	0.0	1.9	100.0	107
Wanica	11.2	599	(3.0)	(12.1)	(36.4)	(45.5)	(0.0)	(3.0)	100.0	(24.2)	(33.3)	(27.3)	(12.1)	(0.0)	(3.0)	(0.0)	100.0	67
Nickerie	7.7	188	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	14
Coronie	(*)	14	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	2
Saramacca	6.4	91	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	6
Commewijne	8.7	122	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	11
Marowijne	9.4	192	(10.0)	(13.3)	(40.0)	(26.7)	(3.3)	(6.7)	100.0	(13.3)	(20.0)	(40.0)	(16.7)	(0.0)	(3.3)	(6.7)	100.0	18
Para	9.2	122	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	11
Brokopondo	12.6	167	(9.5)	(11.9)	(28.6)	(47.6)	(2.4)	(0.0)	100.0	(23.8)	(31.0)	(35.7)	(9.5)	(0.0)	(0.0)	(0.0)	100.0	21
Sipaliwini	12.8	537	12.7	24.6	26.1	32.1	0.7	3.7	100.0	23.1	28.4	35.1	9.0	0.0	3.0	1.5	100.0	69
<b>Area</b>																		
Urban	9.4	2,001	6.4	15.1	33.3	40.9	0.0	4.3	100.0	17.2	31.2	35.5	12.9	0.0	2.1	1.1	100.0	187
Rural Coastal	8.0	603	10.9	13.3	31.7	38.9	1.2	3.8	100.0	20.3	18.7	40.0	13.2	1.4	1.2	5.2	100.0	48
Rural interior	12.7	705	11.9	21.6	26.7	35.7	1.1	2.9	100.0	23.3	29.0	35.2	9.1	0.0	2.3	1.1	100.0	90
Total Rural	10.6	1,307	11.6	18.7	28.5	36.9	1.2	3.2	100.0	22.2	25.4	36.9	10.5	0.5	1.9	2.6	100.0	138
<b>Age</b>																		
0-11 months	12.5	646	4.5	25.9	39.4	26.4	0.6	3.3	100.0	13.8	30.2	38.5	13.4	0.0	0.0	4.0	100.0	81
12-23 months	14.2	744	10.5	16.3	24.3	44.2	0.0	4.8	100.0	21.8	31.8	31.9	9.2	0.0	4.8	0.5	100.0	106
24-35 months	8.7	640	9.7	16.7	19.6	48.1	2.0	3.9	100.0	25.9	29.8	32.1	8.2	1.2	0.9	2.0	100.0	56
36-47 months	6.7	694	(9.0)	(4.6)	(42.2)	(39.8)	(0.0)	(4.3)	100.0	(17.8)	(24.2)	(42.1)	(14.8)	(0.0)	(1.1)	(0.0)	100.0	46
48-59 months	6.3	584	(10.0)	(12.3)	(37.3)	(38.6)	(0.0)	(1.8)	100.0	(16.7)	(20.5)	(41.4)	(18.2)	(0.0)	(1.4)	(1.8)	100.0	37

**Table CH.5: Feeding practices during diarrhea (continued)**

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

	Drinking practices during diarrhoea:					Eating practices during diarrhoea:					Number of children age 0-59 months with diarrhoea in last two weeks							
	Had diarrhoea in last two weeks	Number of children age 0-59 months	Given much less to drink	Given somewhat less to drink	Given about the same to drink	Given more to drink	Given nothing to drink	Missing/DK	Total	Given much less to eat		Given somewhat less to eat	Given about the same to eat	Given more to eat	Stopped food	Had never been given food	Missing/DK	Total
<b>Mother's education*</b>																		
None	12.1	454	14.3	17.7	30.3	33.1	0.0	4.7	100.0	31.1	19.5	33.9	12.7	0.0	0.9	1.9	100.0	55
Primary	11.6	967	8.9	24.5	23.2	37.8	1.4	4.1	100.0	23.4	29.1	30.3	10.6	0.6	5.5	0.5	100.0	112
Secondary +	8.4	1,824	6.3	10.7	38.1	42.7	0.0	2.2	100.0	12.6	32.6	41.8	10.5	0.0	0.0	2.6	100.0	153
Other/Non-standard (12.2)		48	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	6
<b>Wealth index quintile</b>																		
Poorest	12.5	1,139	11.0	18.0	30.8	36.5	1.1	2.7	100.0	22.7	27.9	32.4	10.8	0.0	3.3	3.0	100.0	142
Second	11.1	675	14.0	21.1	29.5	32.6	0.0	2.7	100.0	26.0	23.8	37.9	9.7	0.0	2.7	0.0	100.0	75
Middle	6.4	563	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	36
Fourth	10.3	501	(3.8)	(15.7)	(34.9)	(45.5)	(0.0)	(0.0)	100.0	(13.0)	(45.5)	(25.8)	(13.1)	(1.3)	(0.0)	(1.3)	100.0	51
Richest	5.0	429	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	21
<b>Ethnicity of household head*</b>																		
Indigenous/Amerindian	18.0	153	(30.1)	(35.4)	(10.0)	(20.5)	(1.9)	(2.2)	100.0	(39.8)	(20.7)	(19.6)	(10.0)	(0.0)	(7.8)	(2.2)	100.0	28
Maroon	10.8	1,389	10.5	16.1	33.4	35.8	0.7	3.5	100.0	24.4	24.5	35.1	13.3	0.0	0.3	2.4	100.0	150
Creole	8.3	428	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	36
Hindustani	9.6	644	0.0	14.2	52.1	33.7	0.0	0.0	100.0	12.0	31.6	40.1	7.7	1.1	6.5	1.1	100.0	62
Javanese	3.5	346	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	12
Mixed	11.9	308	(5.4)	(7.3)	(12.8)	(61.7)	(0.0)	(12.8)	100.0	(9.1)	(29.0)	(40.0)	(20.2)	(0.0)	(0.0)	(1.8)	100.0	37
Others	(*)	38	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	2
<b>Total</b>	<b>9.8</b>	<b>3,308</b>	<b>8.6</b>	<b>16.6</b>	<b>31.3</b>	<b>39.2</b>	<b>0.5</b>	<b>3.8</b>	<b>100.0</b>	<b>19.4</b>	<b>28.7</b>	<b>36.1</b>	<b>11.9</b>	<b>0.2</b>	<b>2.0</b>	<b>1.7</b>	<b>100.0</b>	<b>325</b>

\* 'Missing/DK' categories not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

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

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

	Children with diarrhoea who received:			Other treatments:				Number of children age 0-59 months with diarrhoea in last two weeks	
	ORS or increased fluids	ORT (ORS or recommended homemade fluids or increased fluids)	ORT with continued feeding <sup>1</sup>	Pill or syrup	Injection	Home remedy, herbal medicine	Other		Not given any treatment or drug
<b>Sex</b>									
Male	62.5	82.8	64.1	83.1	0.0	7.3	21.3	11.5	185
Female	62.9	77.7	56.4	78.6	0.5	9.6	13.9	17.0	141
<b>District</b>									
Paramaribo	54.7	77.4	66.0	77.4	0.0	13.2	22.6	15.1	107
Wanica	(57.6)	(75.8)	(51.5)	(75.8)	(0.0)	(3.0)	(15.2)	(21.2)	67
Nickerie	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	2
Saramacca	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	6
Commewijne	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	11
Marowijne	(56.7)	(80.0)	(66.7)	(86.7)	(0.0)	(6.7)	(13.3)	(6.7)	18
Para	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	11
Brokopondo	(73.8)	(88.1)	(64.3)	(88.1)	(0.0)	(7.1)	(7.1)	(9.5)	21
Sipaliwini	74.6	86.6	61.9	87.3	0.0	9.0	16.4	7.5	69
<b>Area</b>									
Urban	57.0	76.3	59.1	76.3	0.0	8.6	19.3	18.3	187
Rural Coastal	62.8	85.7	64.0	88.2	1.3	6.5	20.3	7.9	48
Rural interior	74.4	86.9	62.5	87.5	0.0	8.5	14.2	7.9	90
Total Rural	70.4	86.5	63.0	87.7	0.5	7.8	16.4	7.9	138
<b>Age</b>									
0-11 months	47.6	74.8	61.0	75.5	0.0	3.7	14.9	23.2	81
12-23 months	69.8	85.4	60.7	85.4	0.6	11.4	16.2	10.5	106
24-35 months	74.7	92.3	65.4	93.4	0.0	10.2	20.6	3.8	56
36-47 months	(60.2)	(71.5)	(59.2)	(72.6)	(0.0)	(5.6)	(23.4)	(13.1)	46
48-59 months	(60.1)	(73.7)	(55.7)	(73.7)	(0.0)	(9.6)	(19.9)	(19.4)	37
<b>Mother's education*</b>									
None	75.3	86.8	56.7	88.8	0.0	6.8	17.1	6.5	55
Primary	64.3	87.4	60.2	87.4	0.6	12.4	14.3	10.1	112
Secondary +	57.5	74.3	63.0	74.7	0.0	6.1	18.9	19.6	153
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	6
<b>Wealth index quintile</b>									
Poorest	70.7	84.2	58.0	85.4	0.0	12.6	16.1	8.4	142
Second	51.9	85.0	59.0	85.0	0.9	4.9	19.7	11.6	75
Middle	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	36
Fourth	(66.3)	(78.1)	(67.7)	(78.1)	(0.0)	(9.1)	(19.5)	(18.0)	51
Richest	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	21
<b>Ethnicity of household head*</b>									
Indigenous/Amerindian	(62.1)	(82.7)	(44.7)	(84.9)	(2.4)	(0.0)	(9.6)	(11.3)	28
Maroon	67.1	88.4	64.3	89.2	0.0	13.1	13.8	7.5	150
Creole	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	36
Hindustani	(55.4)	(60.8)	(44.6)	(60.8)	(0.0)	(4.3)	(20.7)	(29.4)	62
Javanese	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12
Mixed	(72.6)	(87.2)	(78.1)	(87.2)	(0.0)	(1.8)	(23.7)	(7.3)	37
Others	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	2
<b>Total</b>	<b>62.6</b>	<b>80.6</b>	<b>60.8</b>	<b>81.2</b>	<b>0.2</b>	<b>8.3</b>	<b>18.1</b>	<b>13.9</b>	<b>325</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 3.8



## Care Seeking and Antibiotic Treatment of Pneumonia

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

Children with suspected pneumonia are those who had an illness with a cough accompanied by rapid or difficult breathing and whose symptoms were NOT due to a problem in the chest and a blocked nose. The indicators are:

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

Table CH.7 (page 53) presents the prevalence of suspected pneumonia and, if care was sought outside the home, the site of care. Specifically, 2 percent of children aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey. Of these children, a little more than three quarters (76%) were taken to an appropriate provider. Just over a half of the children (51%) of the children with suspected pneumonia were cared for in a public sector government health centre. Table CH.7 shows that 13 percent were cared for by a private physician. Public sector government hospitals and private hospitals/clinics provided care for 5 percent and 8 percent, respectively, of all children with suspected pneumonia.

Table CH.7 also presents the use of antibiotics for the treatment of suspected pneumonia in under-5s by sex, age, district, area, age, and socioeconomic factors. In Suriname, 71 percent of under-5 children with suspected pneumonia had received an antibiotic during the two weeks prior to the survey.

Issues related to knowledge of danger signs of pneumonia are presented in Table CH.8 (page 55). Obviously, mothers' knowledge of the danger signs is an important determinant of care-seeking behaviour. Overall, just 10 percent of women know of the two danger signs of pneumonia – fast and difficult breathing. Such knowledge was relatively more frequent among mother's who had secondary education (12%) than among those with lower levels of education (8% for primary education and 8% for no education). Compared to urban and rural interior areas, rural coastal areas have higher proportions of mothers who had known the two danger signs of pneumonia, the respective proportions being 10 percent, 8 percent, and 14 percent. The most commonly identified symptom for taking a child to a health facility is if the child develops a fever (72%). Nonetheless, 12 percent of mothers identified fast breathing and 17 percent of mothers identified difficulty breathing as symptoms for taking children immediately to a health care provider. 63 percent of mothers identified other symptoms not specifically mentioned in the questionnaire, which should inform future data collection activities.

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

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

Sex*	Had suspected pneumonia in the last two weeks	Number of children age 0-59 months	Children with suspected pneumonia who were taken to:										Percentage of children with suspected pneumonia who received antibiotics in the last two weeks <sup>2</sup>	Number of children age 0-59 months with suspected pneumonia in the last two weeks				
			Public sources					Private sources										
			Govt. hospital	Govt. health centre	Govt. health post	Village health worker	Mobile/outreach clinic	Other public	Private hospital / clinic	Private physician	Other private medical	Relative or friend			Trad. Practitioner	Other	Any approp. provider <sup>1</sup>	
Male	2.9	1,659	(4.6)	(52.5)	(0.0)	(2.2)	(1.1)	(0.0)	(1.4)	(8.5)	(14.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(73.1)	47
Female	1.5	1,649	(6.7)	(48.2)	(4.0)	(0.0)	(4.0)	(0.0)	(0.0)	(7.9)	(11.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(67.7)	25
<b>District</b>																		
Paramaribo	2.1	1,274	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	26
Wanica	1.4	599	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	8
Nickerie	3.1	188	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	6
Coronie	4.5	14	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	1
Saramacca	0.7	91	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	1
Commewijne	3.3	122	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	4
Marowijne	0.9	192	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	2
Para	1.7	122	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	2
Brokopondo	2.7	167	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	5
Sipaliwini	3.5	537	(10.8)	(56.8)	(5.4)	(10.8)	(2.7)	(0.0)	(0.0)	(0.0)	(2.7)	(0.0)	(0.0)	(0.0)	(0.0)	(86.5)	(45.9)	19
<b>Area</b>																		
Urban	2.1	2,001	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	42
Rural Coastal	1.2	603	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	7
Rural interior	3.3	705	(10.9)	(50.1)	(4.4)	(8.7)	(2.2)	(0.0)	(0.0)	(0.0)	(4.3)	(0.0)	(0.0)	(0.0)	(0.0)	(78.4)	(41.4)	23
Total Rural	2.3	1,307	12.7	49.3	3.3	6.7	1.7	2.1	2.1	0.0	5.6	0.0	0.0	0.0	0.0	75.4	51.2	31
<b>Age</b>																		
0-11 months	2.3	646	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	15
12-23 months	4.0	744	(7.4)	(46.3)	(3.5)	(1.7)	(0.0)	(2.2)	(2.2)	(6.9)	(15.3)	(0.0)	(0.0)	(15.8)	(0.0)	(81.0)	(82.6)	30
24-35 months	1.4	640	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	9
36-47 months	1.8	694	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	13
48-59 months	1.2	584	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	7
<b>Mother's education*</b>																		
None	3.9	454	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
Primary	2.4	967	(4.3)	(71.3)	(0.0)	(2.2)	(0.0)	(0.0)	(0.0)	(8.5)	(8.5)	(0.0)	(0.0)	(0.0)	(0.0)	(77.8)	(58.7)	24
Secondary +	1.7	1,824	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	31
Other/Non-standard	(0.0)	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
<b>Wealth index quintile</b>																		
Poorest	2.6	1,139	(9.2)	(55.9)	(3.4)	(6.8)	(1.7)	(0.0)	(0.0)	(0.0)	(3.4)	(0.0)	(0.0)	(0.0)	(0.0)	(78.7)	(46.7)	30
Second	2.4	675	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	16
Middle	1.3	563	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	7
Fourth	2.3	501	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	11
Richest	1.9	429	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	8

**Table CH.7: Care seeking for suspected pneumonia and antibiotic use during suspected pneumonia (continued)**

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

Ethnicity of household head*	Had suspected pneumonia in the last two weeks	Number of children age 0-59 months	Children with suspected pneumonia who were taken to:											Percentage of children with suspected pneumonia who received antibiotics in the last two weeks <sup>2</sup>	Number of children age 0-59 months with suspected pneumonia in the last two weeks		
			Public sources					Private sources								Other source	
			Govt. hospital	Govt. health centre	Govt. health post	Village health worker	Mobile/outreach clinic	Other public	Private hospital / clinic	Private physician	Other private medical	Relative or friend	Trad. Practitioner				Other
Indigenous/Amerindian	6.8	153	(*) (16.0)	(*) (35.1)	(*) (5.0)	(*) (7.5)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (3.0)	(*) (0.0)	(*) (0.0)	(*) (68.7)	(*) (49.1)	10
Maroon	1.5	1,389	(*) (16.0)	(*) (35.1)	(*) (5.0)	(*) (7.5)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (3.0)	(*) (0.0)	(*) (0.0)	(*) (68.7)	(*) (49.1)	20
Creole	3.4	428	(*) (16.0)	(*) (35.1)	(*) (5.0)	(*) (7.5)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (3.0)	(*) (0.0)	(*) (0.0)	(*) (68.7)	(*) (49.1)	15
Hindustani	2.1	644	(*) (16.0)	(*) (35.1)	(*) (5.0)	(*) (7.5)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (3.0)	(*) (0.0)	(*) (0.0)	(*) (68.7)	(*) (49.1)	13
Javanese	1.5	346	(*) (16.0)	(*) (35.1)	(*) (5.0)	(*) (7.5)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (3.0)	(*) (0.0)	(*) (0.0)	(*) (68.7)	(*) (49.1)	5
Mixed	2.2	308	(*) (16.0)	(*) (35.1)	(*) (5.0)	(*) (7.5)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (3.0)	(*) (0.0)	(*) (0.0)	(*) (68.7)	(*) (49.1)	7
Others	(*) (16.0)	38	(*) (16.0)	(*) (35.1)	(*) (5.0)	(*) (7.5)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (0.0)	(*) (3.0)	(*) (0.0)	(*) (0.0)	(*) (68.7)	(*) (49.1)	2
<b>Total</b>	<b>2.2</b>	<b>3,308</b>	<b>5.4</b>	<b>51.0</b>	<b>1.4</b>	<b>2.8</b>	<b>0.7</b>	<b>0.9</b>	<b>8.3</b>	<b>13.4</b>	<b>0.0</b>	<b>0.8</b>	<b>9.2</b>	<b>0.0</b>	<b>75.8</b>	<b>71.2</b>	<b>73</b>

\* 'Missing/DK' categories not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 3.9<sup>2</sup> MICS indicator 3.10

**Table CH.8: Knowledge of the two danger signs of pneumonia**

Percentage of mothers and caretakers of children age 0-59 months by symptoms that would cause to take the child immediately to a health facility, and percentage of mothers who recognize fast and difficult breathing as signs for seeking care immediately, Suriname 2010

District	Percentage of mothers/caretakers of children age 0-59 months who think that a child should be taken immediately to a health facility if the child:										Mothers/caretakers who recognize the two danger signs of pneumonia	Number of mothers/caretakers of children age 0-59 months
	Is not able to drink or breastfeed	Becomes sicker	Develops a fever	Has fast breathing	Has difficulty breathing	Has blood in stool	Is drinking poorly	Has other symptoms				
Paramaribo	7.6	28.3	68.5	13.0	18.8	12.8	6.4	60.1	10.6		825	
Wanica	5.4	24.8	67.6	10.8	14.0	9.0	4.5	59.5	7.7		371	
Nickerie	2.7	25.4	66.6	16.1	18.7	14.3	2.2	68.4	14.3		119	
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)		9	
Saramacca	9.6	20.2	80.8	7.7	18.3	15.4	5.8	56.7	7.7		55	
Commewijne	6.2	25.0	82.0	9.7	15.3	9.0	7.0	67.4	9.0		78	
Marowijne	8.1	16.2	79.3	10.6	14.1	12.6	6.1	78.3	9.6		97	
Para	19.7	29.1	74.4	25.6	29.9	25.6	12.8	65.0	25.6		67	
Brokopondo	5.9	32.2	70.8	5.9	10.4	5.9	5.9	62.4	5.9		81	
Sipaliwini	6.0	21.3	83.7	9.8	15.5	9.4	6.7	71.6	8.6		265	
<b>Area</b>												
Urban	6.6	27.1	68.8	12.2	17.1	11.5	5.7	60.9	9.7		1,276	
Rural Coastal	9.5	22.1	74.6	14.9	19.7	15.9	6.6	66.7	13.8		345	
Rural interior	6.0	23.9	80.7	8.9	14.3	8.6	6.6	69.5	8.0		345	
Total Rural	7.7	23.0	77.7	11.9	17.0	12.2	6.6	68.1	10.9		690	
<b>Mother's education*</b>												
None	6.3	22.9	84.9	8.6	15.6	8.9	6.8	68.1	7.5		218	
Primary	6.2	23.1	75.1	9.8	13.6	8.1	6.2	63.3	7.5		523	
Secondary +	7.6	27.5	68.3	13.9	19.0	14.1	5.9	62.8	12.0		1,190	
Other/Non-standard	(3.8)	(19.9)	(62.5)	(7.7)	(16.6)	(5.2)	(3.8)	(60.5)	(2.0)		29	

**Table CH.8: Knowledge of the two danger signs of pneumonia (continued)**

Percentage of mothers and caretakers of children age 0-59 months by symptoms that would cause to take the child immediately to a health facility, and percentage of mothers who recognize fast and difficult breathing as signs for seeking care immediately, Suriname 2010

Percentage of mothers/caretakers of children age 0-59 months who think that a child should be taken immediately to a health facility if the child:										
	Is not able to drink or breastfeed	Becomes sicker	Develops a fever	Has fast breathing	Has difficulty breathing	Has blood in stool	Is drinking poorly	Has other symptoms	Mothers/caretakers who recognize the two danger signs of pneumonia	Number of mothers/caretakers of children age 0-59 months
<b>Wealth index quintile</b>										
Poorest	6.0	22.2	78.4	8.3	13.7	7.9	5.4	72.0	7.3	573
Second	6.3	27.7	72.0	9.5	15.7	10.6	6.2	58.5	7.9	413
Middle	7.5	30.7	66.6	17.0	22.6	17.3	9.1	56.8	14.0	352
Fourth	9.3	25.3	69.0	14.4	14.9	12.5	5.8	61.1	11.2	338
Richest	6.8	24.1	69.0	14.6	21.8	13.6	3.4	64.2	13.1	290
<b>Ethnicity of household head*</b>										
Indigenous/Amerindian	11.1	27.5	76.8	19.8	22.6	20.1	6.9	58.1	19.8	95
Maroon	7.9	25.2	78.7	9.7	15.4	9.6	6.3	68.2	7.9	722
Creole	6.0	24.9	59.7	13.5	18.2	13.9	6.9	65.3	10.4	266
Hindustani	5.3	26.5	71.2	11.9	15.3	9.7	5.7	64.6	9.7	430
Javanese	8.1	26.1	72.4	13.9	19.2	15.1	4.1	50.4	11.9	225
Mixed	6.1	25.2	62.7	14.2	21.6	13.6	6.1	60.5	13.1	198
Others	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	29
<b>Total</b>	<b>7.0</b>	<b>25.7</b>	<b>71.9</b>	<b>12.1</b>	<b>17.1</b>	<b>11.8</b>	<b>6.0</b>	<b>63.4</b>	<b>10.1</b>	<b>1,967</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

## Solid Fuel Use

More than 3 billion people around the world rely on solid fuels for their basic energy needs, including cooking and heating. Solid fuels include biomass fuels, such as wood, charcoal, crops or other agricultural waste, dung, shrubs and straw, and coal. Cooking and heating with solid fuels leads to high levels of indoor smoke which contains a complex mix of health-damaging pollutants. The main problem with the use of solid fuels is their incomplete combustion, which produces toxic elements such as carbon monoxide, polyaromatic hydrocarbons, and sulphur dioxide (SO<sub>2</sub>), among others. Use of solid fuels increases the risks of incurring acute respiratory illness, pneumonia, chronic obstructive lung disease, cancer, and possibly tuberculosis, asthma, or cataracts, and may contribute to low birth weight of babies born to pregnant women exposed to smoke. The primary indicator for monitoring use of solid fuels is the proportion of the population using solid fuels as the primary source of domestic energy for cooking, shown in Table CH.9 (page 58).

In Suriname, a little over one tenth (11%) of all household members live in households using solid fuels for cooking. Use of solid fuels is very low in urban areas (6%) but somewhat higher in rural areas where a quarter of the household members (25%) live in households using solid fuels. In the rural interior, the proportion is as high as 44 percent. There is a clear inverse relationship between the wealth status of households and the proportion of persons living in households that use solid fuels for cooking. In the poorest group, 37 percent of all household members are exposed to solid fuels for cooking as opposed to 2 percent in second wealthiest group and virtually nobody in the wealthiest group. The wealth status differentials are somewhat consistent with differences between household members predicated upon the education level of household heads. Accordingly, it is not surprising that in households where heads had no education, the proportion of persons exposed to the use of solid fuels for cooking was 33 percent as opposed 5 percent in cases where household heads had at least secondary level education. The findings show that exposure to use of solid fuels for cooking is very uncommon among household members in two districts – Paramaribo (3%) and Coronie (2%) with the former district containing the richest set of households. In Sipaliwini, however, it is common for the household members (52%) to use solid fuels for cooking.

The distribution of household members by type of cooking fuel used by households is depicted also in Table CH.9. Liquefied petroleum gas (LPG) is the cooking fuel most frequently used by members of households in Suriname (86%), this being the case irrespective of area and wealth status. The use of LPG is also predominant in every district of Suriname except Sipaliwini where 47 percent of household members were in households that use LPG and instead, a majority of approximately 51 percent of household members lived in households that use wood. Urban-rural differences in poverty status are reflected by the relatively low use of LPG in households occupied by poorest household members and their relatively high use of wood as a fuel for cooking. This observation is consistent with outcomes pertaining to the use of wood as a cooking fuel in rural areas which constitute the poorest areas in Suriname.

Solid fuel use by place of cooking is depicted in Table CH.10. The presence and extent of indoor pollution are dependent on cooking practices, places used for cooking, as well as types of fuel used. In Suriname, the majority of household members are from households that use solid fuels outdoors (40%). Close to one third of household members (29%) come from households that cook using solid fuels in a separate building. A notably smaller proportion amounting to 19 percent of household members come from households where solid fuels were used in kitchen located in separate room in the dwelling unit.

**Table CH.9: Solid fuel use**

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

District	Percentage of household members in households using:										Total	Solid fuels for cooking <sup>1</sup>	Number of household members	
	Electricity	Liquefied Petroleum Gas (LPG)	Natural Gas	Biogas	Kerosene	Char-coal	Wood	Straw, shrubs, grass	Other fuel	No food cooked in the household				Missing
Paramaribo	2.3	94.3	0.1	0.1	0.2	0.3	2.2	0.0	0.2	0.0	0.0	100.0	2.5	13,419
Wanica	1.0	85.2	0.0	0.0	0.1	0.8	12.5	0.0	0.1	0.2	0.0	100.0	13.3	5,217
Nickerie	0.7	88.8	0.0	0.3	0.0	0.4	9.7	0.0	0.0	0.2	0.0	100.0	10.1	2,081
Coronie	2.7	95.2	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	100.0	2.0	161
Saramacca	0.1	83.9	0.0	0.0	0.2	0.9	14.5	0.0	0.1	0.1	0.3	100.0	15.4	920
Commewijne	0.9	83.8	0.2	0.0	0.0	1.7	13.1	0.0	0.1	0.2	0.0	100.0	14.8	1,373
Marowijne	0.1	87.2	0.0	0.0	0.2	0.2	12.1	0.0	0.0	0.1	0.0	100.0	12.3	1,081
Para	0.9	82.6	0.0	0.0	0.5	0.3	15.6	0.0	0.0	0.1	0.0	100.0	15.9	1,054
Brokopondo	0.1	79.6	0.0	0.3	0.0	0.8	18.4	0.0	0.0	0.8	0.0	100.0	19.2	774
Sipaliwini	0.0	46.9	0.0	0.2	0.3	0.9	51.0	0.1	0.3	0.3	0.1	100.0	51.9	2,341
<b>Area</b>														
Urban	1.9	91.4	0.1	0.1	0.2	0.5	5.5	0.0	0.2	0.2	0.0	100.0	6.0	20,066
Rural Coastal	0.6	85.8	0.1	0.0	0.2	0.5	12.5	0.0	0.0	0.1	0.1	100.0	13.1	5,240
Rural Interior	0.0	55.0	0.0	0.2	0.2	0.8	42.9	0.1	0.2	0.4	0.1	100.0	43.8	3,114
Total Rural	0.4	74.3	0.1	0.1	0.2	0.7	23.9	0.0	0.1	0.2	0.1	100.0	24.5	8,355
<b>Education of household head</b>														
None	0.1	66.4	0.0	0.1	0.1	1.1	31.6	0.1	0.0	0.4	0.1	100.0	32.8	3,070
Primary	1.1	82.7	0.1	0.1	0.3	0.5	15.0	0.0	0.1	0.2	0.0	100.0	15.5	9,086
Secondary +	2.0	92.7	0.0	0.1	0.1	0.5	4.2	0.0	0.2	0.2	0.1	100.0	4.6	14,357
Other/Non-standard	0.8	90.6	0.0	0.0	0.0	1.2	7.4	0.0	0.0	0.0	0.0	100.0	8.6	408
Missing/DK	1.1	88.7	0.2	0.0	0.2	0.2	8.9	0.0	0.6	0.2	0.0	100.0	9.1	1,500

**Table CH.9: Solid fuel use (continued)**

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

	Percentage of household members in households using:											Number of household members		
	Solid fuels													
	Electricity	Liquefied Petroleum Gas (LPG)	Natural Gas	Biogas	Kerosene	Char-coal	Wood	Straw, shrubs, grass	Other fuel	No food cooked in the household	Missing		Total	
<b>Wealth index quintiles</b>														
Poorest	0.9	60.5	0.1	0.3	0.4	0.9	36.0	0.0	0.4	0.5	0.0	100.0	36.9	5,691
Second	2.3	83.6	0.2	0.1	0.3	0.8	12.1	0.0	0.1	0.4	0.1	100.0	12.9	5,679
Middle	1.8	92.3	0.0	0.0	0.0	0.4	5.2	0.0	0.1	0.1	0.0	100.0	5.7	5,683
Fourth	1.2	96.6	0.0	0.0	0.1	0.6	1.1	0.0	0.1	0.1	0.1	100.0	1.7	5,676
Richest	1.0	99.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	5,693
<b>Ethnicity of household head</b>														
Indigenous/Amerindian	0.2	71.3	0.0	0.0	0.3	0.1	27.4	0.0	0.5	0.1	0.0	100.0	27.6	1,248
Maroon	0.6	80.0	0.0	0.1	0.2	0.4	18.4	0.0	0.0	0.2	0.0	100.0	18.8	7,279
Creole	3.0	94.4	0.0	0.2	0.2	0.2	1.2	0.0	0.2	0.2	0.1	100.0	1.4	4,912
Hindustani	0.7	80.3	0.2	0.0	0.2	1.4	16.7	0.0	0.3	0.2	0.0	100.0	18.1	7,745
Javanese	0.8	98.6	0.0	0.1	0.0	0.1	0.5	0.0	0.0	0.0	0.0	100.0	0.6	3,997
Mixed	3.6	94.4	0.0	0.0	0.1	0.2	1.2	0.0	0.1	0.3	0.0	100.0	1.5	2,692
Others	6.1	93.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.6	0.0	100.0	0.2	523
Missing/DK	(0.0)	(79.2)	(0.0)	(0.0)	(0.0)	(0.0)	(20.8)	(0.0)	(0.0)	(0.0)	(0.0)	100.0	(20.8)	26
<b>Total</b>	<b>1.4</b>	<b>86.4</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.6</b>	<b>10.9</b>	<b>0.0</b>	<b>0.2</b>	<b>0.2</b>	<b>0.0</b>	<b>100.0</b>	<b>11.4</b>	<b>28,421</b>

( ) Figures that are based on 25-49 unweighted cases

<sup>1</sup> MICS indicator 3.11



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

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

	Place of cooking:							Number of household members in households using solid fuels for cooking
	In a separate room used as kitchen	Elsewhere in the house	In a separate building	Outdoors	At another place	Missing	Total	
<b>District</b>								
Paramaribo	32.3	0.0	5.0	51.2	0.0	11.4	100.0	335
Wanica	22.6	1.2	17.7	50.2	0.0	8.3	100.0	694
Nickerie	9.2	0.0	15.2	56.7	0.0	19.0	100.0	210
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	100.0	3
Saramacca	11.6	3.5	22.5	37.6	0.0	24.8	100.0	141
Commewijne	27.7	1.6	4.4	57.0	0.0	9.3	100.0	203
Marowijne	3.1	1.1	28.2	49.6	0.0	17.9	100.0	133
Para	8.1	2.1	19.4	45.9	0.0	24.4	100.0	167
Brokopondo	21.8	2.3	43.4	27.3	1.1	4.0	100.0	148
Sipaliwini	17.3	3.7	50.2	25.0	0.0	3.8	100.0	1,216
<b>Area</b>								
Urban	26.3	0.7	11.9	50.9	0.0	10.1	100.0	1,201
Rural Coastal	8.9	1.9	20.3	49.6	0.0	19.3	100.0	686
Rural interior	17.8	3.6	49.5	25.2	0.1	3.8	100.0	1,364
Total Rural	14.8	3.0	39.7	33.4	0.1	9.0	100.0	2,050
<b>Education of household head</b>								
None	18.2	4.6	45.2	25.5	0.2	6.3	100.0	1,007
Primary	20.3	0.7	26.6	42.4	0.0	10.0	100.0	1,406
Secondary +	20.9	1.9	12.8	54.7	0.0	9.6	100.0	667
Other/Non-standard	(14.3)	(0.0)	(26.0)	(35.6)	(0.0)	(24.0)	100.0	35
Missing/DK	5.0	0.9	24.7	47.6	0.0	21.8	100.0	136
<b>Wealth index quintiles</b>								
Poorest	17.7	2.7	37.8	32.9	0.1	8.9	100.0	2,102
Second	18.4	0.7	13.3	59.4	0.0	8.2	100.0	731
Middle	27.0	3.0	14.3	37.0	0.0	18.7	100.0	322
Fourth	26.9	0.0	20.6	52.5	0.0	0.0	100.0	97
Richest	-	-	-	-	-	-	-	0
<b>Ethnicity of household head*</b>								
Indigenous/Amerindian	16.2	2.6	36.4	36.0	0.0	8.8	100.0	344
Maroon	16.5	3.2	44.6	28.9	0.1	6.7	100.0	1,367
Creole	28.8	1.7	4.3	50.2	0.0	14.9	100.0	71
Hindustani	22.3	1.0	15.1	49.8	0.0	11.8	100.0	1,399
Javanese	14.2	0.0	13.9	58.0	0.0	13.9	100.0	24
Mixed	7.0	8.2	8.2	76.6	0.0	0.0	100.0	40
Others	(*)	(*)	(*)	(*)	(*)	(*)	100.0	1
<b>Total</b>	<b>19.1</b>	<b>2.2</b>	<b>29.4</b>	<b>39.9</b>	<b>0.1</b>	<b>9.4</b>	<b>100.0</b>	<b>3,251</b>

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

## Malaria

Malaria is a leading cause of death of children under age five in many developing countries. It also contributes to anaemia in children and is a common cause of school absenteeism. Preventive measures, especially the use of mosquito nets treated with insecticide (ITNs), can dramatically reduce malaria mortality rates among children. In areas where malaria is common, international recommendations suggest treating any fever in children as if it were malaria and immediately giving the child a full course of

recommended anti-malarial tablets. Children with severe malaria symptoms, such as fever or convulsions, should be taken to a health facility. Also, children recovering from malaria should be given extra liquids and food and, for younger children, should continue breastfeeding.

In Suriname malaria is endemic mainly in the rural interior and therefore the malaria related modules were only employed in Brokopondo and Sipaliwini. The modules incorporates questions on the availability and use of bed nets, both at household level and among children under five years of age and pregnant women. In addition, all households were asked whether the interior dwelling walls were sprayed with an insecticide to kill mosquitoes that spread malaria during the 12 months preceding the survey.

The survey results indicate that almost 61 percent of households have at least one insecticide treated net and/or received indoor residual spraying in the last 12 months preceding the survey (Table CH.11, page 62). A notably smaller proportion of households in which the head had no education (55%) had at least one insecticide treated net when compared to households in which the head had higher levels of educational attainment (68% for primary and 65 % for secondary or higher).

The survey results indicate that 54 percent of children under the age of five slept under any mosquito net the night prior to the survey and 43 percent slept under an insecticide treated net (Table CH.12, page 63). There was virtually no gender disparity in ITN use among children under five. In terms of age categories among children under five, those 0-11 months were more likely than those in older age groups to have slept under any mosquito net or under an insecticide treated net.

The survey also collected information on whether pregnant women were sleeping under ITNs (Table CH.13, page 65). Due to a low sample size of just 77 pregnant women living in households with at least one ITN (unweighted), the numbers should be used with caution. Overall, half of pregnant women slept under an ITN the night before the survey (51%), whereas about two-thirds slept under any mosquito net (65%).

Questions on the prevalence and treatment of fever were asked for all children under age five. Just under one fifth (17%) of under five children were ill with fever in the two weeks prior to the survey (Table CH.14, page 67). The mothers of children with fever were asked which drugs were used for treatment and somewhat surprisingly the respondents did not indicate use of anti-malarials at all. This may have to do with the period of survey fieldwork and of course with a generally low incidence of malaria. In about 50 percent of cases, the child was treated with paracetamol or similar and in about 20 percent of cases with an antibiotic drug.

Table CH.15 (page 69) provides the proportion of children age 0-59 months who had a fever in the last two weeks and who had a finger or heel stick for malaria testing. Overall, 15 percent of children with a fever in the last two weeks had a finger or heel stick. The low number of cases does not allow for observations on patterns in background characteristics.

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

Percentage of households with at least one mosquito net, percentage of households with at least one long-lasting treated net, percentage of households with at least one insecticide treated net (ITN) and percentage of households which either have at least one ITN or have received indoor residual spraying (IRS) in the last 12 months, rural interior area, Suriname, 2010

	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 <sup>1</sup>	Percentage of households with at least one ITN or received IRS during the last 12 months <sup>2</sup>	Number of households
<b>District</b>					
Brokopondo	73.7	56.8	61.3	61.8	186
Sipaliwini	70.4	58.7	60.2	60.7	619
<b>Education of household head</b>					
None	61.8	53.9	54.5	54.8	397
Primary	81.8	63.3	67.2	68.0	294
Secondary +	77.3	61.4	65.4	65.4	76
Missing/DK	75.4	57.3	59.9	61.2	33
<b>Wealth index quintiles</b>					
Poorest	70.7	58.4	60.4	60.9	717
Second	77.1	58.3	62.8	63.4	75
Middle	(71.9)	(60.0)	(60.0)	(60.0)	11
Fourth	(*)	(*)	(*)	(*)	2
Richest	-	-	-	-	0
<b>Ethnicity of household head*</b>					
Indigenous/Amerindian	91.1	65.1	68.6	69.2	73
Maroon	69.2	57.8	59.8	60.3	716
Creole	100.0	83.2	83.2	83.2	3
Hindustani	-	-	-	-	0
Javanese	-	-	-	-	0
Mixed	(*)	(*)	(*)	(*)	12
Others	(*)	(*)	(*)	(*)	1
<b>Total</b>	<b>71.2</b>	<b>58.3</b>	<b>60.5</b>	<b>60.9</b>	<b>806</b>

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 3.12

<sup>2</sup> MICS indicator 3.13

**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, rural interior area, Suriname, 2010

	Percentage of children age 0-59 who stayed in the household the previous night	Percentage of children who:				Number of children age 0-59 months who slept in the household in 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
		Number of children age 0-59 months	Slept under any mosquito net <sup>1</sup>	Slept under an insecticide treated net <sup>2</sup>	Number of children age 0-59 months who slept in the household the previous night			
<b>Sex</b>								
Male	94.7	354	52.7	43.2	335	64.1	226	
Female	93.2	351	54.5	43.5	327	62.6	227	
<b>District</b>								
Brokopondo	95.2	167	54.3	40.4	159	59.5	108	
Sipaliwini	93.5	537	53.4	44.3	502	64.5	345	
<b>Age</b>								
0-11 months	98.5	135	65.6	51.5	133	78.9	87	
12-23 months	95.2	139	52.3	41.1	132	64.5	85	
24-35 months	94.4	147	57.4	49.3	139	67.0	102	
36-47 months	90.9	151	47.4	37.4	138	53.5	96	
48-59 months	90.7	132	44.3	36.6	120	52.8	83	
<b>Mother's education*</b>								
None	93.3	321	44.9	37.9	299	58.2	195	
Primary	94.0	303	62.1	49.8	284	67.5	210	
Secondary +	96.6	74	57.1	40.9	72	66.0	45	
Other/Non-standard	(*)	5	(*)	(*)	4	(*)	2	
<b>Wealth index quintiles</b>								
Poorest	93.7	652	53.1	43.1	611	63.0	418	
Second	95.7	48	62.1	48.9	46	68.8	32	
Middle	(*)	4	(*)	(*)	4	(*)	2	
Fourth	(*)	2	(*)	(*)	2	-	0	
Richest	-	0	-	-	0	-	0	

**Table CH.12: Children sleeping under mosquito nets (continued)**

Percentage of children age 0-59 months who slept under a mosquito net during the previous night, by type of net, rural interior area, Suriname, 2010

Ethnicity of household head*	Percentage of children age 0-59 who stayed in the household the previous night	Percentage of children who:			Number of children age 0-59 months who slept in the household the previous night	Percentage of children who slept under an ITN living in households with at least one ITN	Number of children age 0-59 living in households with at least one ITN
		Slept under any mosquito net <sup>1</sup>	Slept under insecticide treated net <sup>2</sup>	Number of children age 0-59 months who slept in the household the previous night			
Indigenous/Amerindian	90.6	78.1	59.4	49	85.1	34	
Maroon	94.2	51.3	42.0	604	61.3	414	
Creole	100.0	100.0	100.0	1	100.0	1	
Hindustani	-	-	-	0	-	0	
Javanese	-	-	-	0	-	0	
Mixed	93.4	64.4	35.6	7	83.5	3	
Others	-	-	-	0	-	0	
<b>Total</b>	<b>93.9</b>	<b>53.6</b>	<b>43.4</b>	<b>705</b>	<b>63.3</b>	<b>453</b>	

\* 'Missing/DK' categories not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 3.14,<sup>2</sup> MICS indicator 3.15; MDG indicator 6.7

**Table CH.13: Pregnant women sleeping under mosquito nets**

Region	Percentage of pregnant women who slept under a mosquito net during the previous night, by type of net, rural interior area, Suriname, 2010										
	Percentage of pregnant women who:					Percentage of pregnant women who:					
	Percentage of pregnant women who stayed in the household the previous night	Number of pregnant women	Slept under any mosquito net	Slept under an insecticide treated net <sup>1</sup>	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 who slept in the household the previous night	Slept under any mosquito net	Slept under an insecticide treated net <sup>1</sup>	Number of pregnant women who stayed in the household the previous night	Number of pregnant women living in households with at least one ITN
Brokopondo	(*)	8	(*)	(*)	8	(*)	(*)	(*)	8	(*)	6
Sipaliwini	97.8	38	64.8	51.6	37	74.6			37		26
<b>Age</b>											
15-19	(*)	6	(*)	(*)	6	(*)	(*)	(*)	6	(*)	4
20-24	(100.0)	13	(84.4)	(62.5)	13	(*)	(*)	(*)	13	(*)	10
25-29	(100.0)	11	(55.6)	(44.5)	11	(*)	(*)	(*)	11	(*)	7
30-34	(*)	7	(*)	(*)	6	(*)	(*)	(*)	6	(*)	5
35-39	(*)	6	(*)	(*)	6	(*)	(*)	(*)	6	(*)	4
40-44	(*)	3	(*)	(*)	3	(*)	(*)	(*)	3	(*)	2
45-49	-	0	-	-	0	-	-	-	0	-	0
<b>Education*</b>											
None	(95.6)	19	(54.5)	(50.0)	18	(71.0)			18	(71.0)	13
Primary	98.3	23	76.8	57.1	23	(78.0)			23	(78.0)	17
Secondary +	(*)	4	(*)	(*)	4	(*)			4	(*)	2
<b>Wealth index quintiles</b>											
Poorest	97.2	43	65.4	53.9	42	74.7			42	74.7	30
Second	(*)	2	(*)	(*)	2	(*)			2	(*)	1
Middle	-	0	(*)	(*)	0	-			0	-	0
Fourth	-	0	-	-	0	-			0	-	0
Richest	-	0	-	-	0	-			0	-	0

**Table CH.13. Pregnant women sleeping under mosquito nets (continued)**

Percentage of pregnant women who slept under a mosquito net during the previous night, by type of net, rural interior area, Suriname, 2010

	Percentage of pregnant women who stayed in the household the previous night	Percentage of pregnant women who:				Number of pregnant women who slept in the household the previous night	Percentage of pregnant women who slept under an ITN, living in households with at least one ITN	Number of pregnant women living in households with at least one ITN
		Slept under any mosquito net	Slept under an insecticide treated net <sup>1</sup>	Number of pregnant women who slept in the household the previous night	Percentage of pregnant women who slept under one ITN			
<b>Ethnicity of household head*</b>								
Indigenous/Amerindian (*)	3	(*)	(*)	3	(*)	2		
Maroon	97.1	61.8	49.0	41	70.4	29		
Creole	-	-	-	0	-	0		
Hindustani	-	-	-	0	-	0		
Javanese	-	-	-	0	-	0		
Mixed (*)	0	(*)	(*)	0	(*)	0		
Others	-	-	-	0	-	0		
<b>Total</b>	<b>97.4</b>	<b>64.9</b>	<b>50.5</b>	<b>45</b>	<b>72.8</b>	<b>31</b>		

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> 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 a fever in the last two weeks who received anti-malarial drugs, rural interior area, Suriname, 2010

	Had fever in last two weeks	Number of children age 0-59 months	Any anti-malarial drug <sup>1</sup>	Other medications:							Number of children with fever in last two weeks									
				Antibiotic pill or syrup	Antibiotic injection	Paracetamol/ Panadol/ Acetaminophen		Aspirin	Ibuprofen	Other		Missing/DK	Percentage who took an anti-malarial drug same or next day <sup>2</sup>							
						Antibiotic pill or syrup	Antibiotic injection							Paracetamol/ Panadol/ Acetaminophen	Aspirin	Ibuprofen	Other	Missing/DK	Percentage who took an anti-malarial drug same or next day <sup>2</sup>	
<b>Sex</b>																				
Male	16.8	354	0.0	22.2	0.0	47.9	0.0	0.0	0.0	0.0	18.8	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60
Female	17.1	351	0.0	17.8	0.9	52.5	0.0	0.0	0.0	0.0	9.3	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60
<b>District</b>																				
Brokopondo	18.9	167	0.0	17.5	0.0	54.0	0.0	0.0	0.0	0.0	19.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32
Sipaliwini	16.4	537	0.0	20.9	0.6	48.8	0.0	0.0	0.0	0.0	12.2	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88
<b>Age</b>																				
0-11 months	15.0	135	(0.0)	(22.5)	(0.0)	(37.5)	(0.0)	(0.0)	(0.0)	(0.0)	(9.9)	(5.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	20
12-23 months	19.4	139	0.0	20.8	0.0	56.6	0.0	0.0	0.0	0.0	22.6	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27
24-35 months	18.1	147	0.0	11.5	1.9	48.1	0.0	0.0	0.0	0.0	7.7	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26
36-47 months	17.5	151	0.0	17.3	0.0	51.8	0.0	0.0	0.0	0.0	17.3	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26
48-59 months	14.7	132	(0.0)	(31.6)	(0.0)	(55.3)	(0.0)	(0.0)	(0.0)	(0.0)	(10.6)	(7.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	19
<b>Mother's education*</b>																				
None	17.5	321	0.0	20.9	0.9	41.8	0.0	0.0	0.0	0.0	11.8	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56
Primary	16.3	303	0.0	22.7	0.0	57.7	0.0	0.0	0.0	0.0	13.4	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49
Secondary +	15.0	74	(0.0)	(4.5)	(0.0)	(54.5)	(0.0)	(0.0)	(0.0)	(0.0)	(22.6)	(4.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	11
Other/Non-standard	(*)	5	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	3
<b>Wealth index quintiles</b>																				
Poorest	16.3	652	0.0	19.6	0.5	49.3	0.0	0.0	0.0	0.0	12.9	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	106
Second	27.7	48	(0.0)	(23.0)	(0.0)	(57.6)	(0.0)	(0.0)	(0.0)	(0.0)	(22.9)	(3.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	13
Middle	(*)	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Fourth	(*)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Richest	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0



**Table CH.14: Anti-malarial treatment of children with anti-malarial drugs (continued)**

Percentage of children age 0-59 months who had a fever in the last two weeks who received anti-malarial drugs, rural interior area, Suriname, 2010

	Had a fever in last two weeks	Number of children age 0-59 months	Children with a fever in the last two weeks who were treated with:										Number of children with fever in last two weeks
			Other medications:					Percentage who took an anti-malarial drug same or next day <sup>2</sup>					
			Any anti-malarial drug <sup>1</sup>	Antibiotic pill or syrup	Antibiotic injection	Paracetamol/ Panadol/ Acetaminophen	Aspirin	Ibuprofen	Other	Missing/DK			
<b>Ethnicity of household head*</b>													
Indigenous/Amerindian	24.5	54	(0.0)	(11.5)	(0.0)	(65.4)	(0.0)	(0.0)	(11.5)	(7.7)	(0.0)	13	
Maroon	16.5	641	0.0	21.2	0.5	48.1	0.0	0.0	14.4	6.3	0.0	106	
Creole	0.0	1	-	-	-	-	-	-	-	-	-	0	
Hindustani	-	0	-	-	-	-	-	-	-	-	-	0	
Javanese	-	0	-	-	-	-	-	-	-	-	-	0	
Mixed	(*)	8	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	1	
Others	-	0	-	-	-	-	-	-	-	-	-	0	
<b>Total</b>	<b>17.0</b>	<b>705</b>	<b>0.0</b>	<b>20.0</b>	<b>0.4</b>	<b>50.2</b>	<b>0.0</b>	<b>0.0</b>	<b>14.0</b>	<b>6.4</b>	<b>0.0</b>	<b>120</b>	

\* 'Missing/DK' categories not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 3.18; MDG indicator 6.8<sup>2</sup> MICS indicator 3.17

**Table CH.15: Malaria diagnostics usage**

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

	Had a finger or heel stick <sup>1</sup>	Number of children age 0-59 months with fever in the last two weeks
<b>Sex</b>		
Male	15.4	60
Female	14.4	60
<b>District</b>		
Brokopondo	11.1	32
Sipaliwini	16.3	88
<b>Age</b>		
0-11 months	(17.6)	20
12-23 months	17.0	27
24-35 months	11.5	26
36-47 months	9.7	26
48-59 months	(21.0)	19
<b>Mother's education*</b>		
None	15.4	56
Primary	16.5	49
Secondary +	(*)	11
Other/Non-standard	(*)	3
<b>Wealth index quintiles</b>		
Poorest	14.4	106
Second	(19.4)	13
Middle	-	0
Fourth	-	0
Richest	-	0
<b>Ethnicity of household head*</b>		
Indigenous/Amerindian	(42.3)	13
Maroon	11.5	106
Creole	-	0
Hindustani	-	0
Javanese	-	0
Mixed	(*)	1
Others	-	0
<b>Total</b>	<b>14.9</b>	<b>120</b>
* 'Missing/DK' categories not shown due to low number of observations		
( ) Figures that are based on 25-49 unweighted cases		
(*) Figures that are based on less than 25 unweighted cases		
<sup>1</sup> MICS indicator 3.16		

## 6. Water and Sanitation



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

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

The list of indicators used in MICS is as follows:

#### Water

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

#### Sanitation

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

For more details on water and sanitation and to access some reference documents, please visit the UNICEF childinfo website<sup>10</sup>.

MICS also collects additional information on the availability of facilities and conditions for handwashing. The following indicators are collected:

- Place for handwashing observed
- Availability of soap

### Use of Improved Water Sources

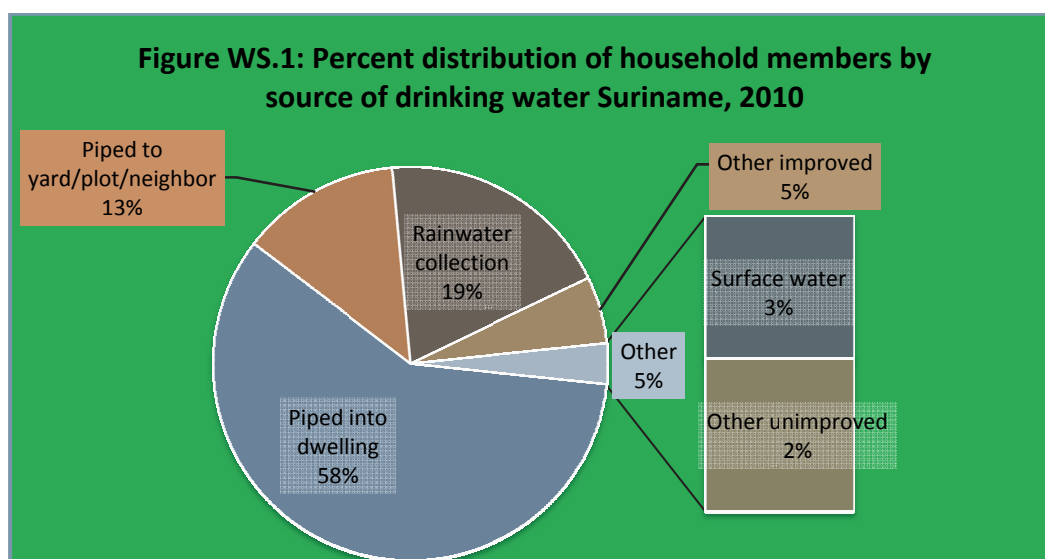
The distribution of the population by source of drinking water is shown in Table WS.1 (page 74) and Figure EN.1 below. The population using *improved sources* of drinking water are those using any of the following types of supply: piped water (into dwelling, yard or plot), public tap/standpipe, tube well/borehole, protected well, protected spring, and rainwater collection. Bottled water is considered as an improved water source only if the household is using an improved water source for other purposes, such as hand washing and cooking.

Overall, 95 percent of the population is using an improved source of drinking water – 99 percent in urban areas and 87 percent in rural areas. In the rural coastal areas and rural interior, corresponding proportions are 96 percent and 71 percent and indicative of more favourable access to improved sources of water in rural coastal areas. Compared to the other districts where there are negligible differences in the proportion of population with improved source of drinking water, markedly lower proportions are observed in Sipaliwini (65%).

<sup>10</sup> <http://www.childinfo.org/wes.html>

According to Table WS.1, the source of drinking water for the population of any given district is somewhat variable. In Paramaribo, Nickerie, and Coronie, the respective proportions of the population using drinking water that is piped into their dwelling or into their yard or plot was 88 percent, 88 percent and 98 percent, respectively. In contrast, the lowest proportions observed to have been relying upon such sources for its drinking water were in Commewijne (23%), Brokopondo (32%), and Sipaliwini (9%). In districts such as Saramacca (44%), Commewijne (67%), Brokopondo (45%) and Sipaliwini (48%), greater proportions of their respective populations relied upon rainwater as a principal source for drinking water when compared to corresponding proportions for the other districts.

With respect the use of drinking water that is piped into dwellings or yards, the striking differences that are evident between urban and rural areas, in particular, rural domains in the interior are worth noting. While approximately 80 percent of the population in urban areas claimed that they principally use water piped into their dwellings or yards for drinking purposes, corresponding proportions in rural areas and the rural interior in particular was approximately 45 percent and 15 percent, respectively. Compared to the population in urban areas, the population in rural areas was more than twice as likely to rely on rainwater as a principal source of drinking (33% as opposed to 13 %) while those in the rural interior were more than three times as likely (47% as opposed to 13%). In Suriname, thrusts towards more urban domains are associated with higher proportions of household heads with higher levels of education and a greater concentration of households in higher wealth index quintiles. Thus, when compared to the population from the households with heads having no education, it should not be surprising that those from households headed by someone with at least a secondary level education had a greater likelihood of using water piped into dwellings or yards as their main sources of drinking water. The situation was reversed with respect to the use of rainwater as the main source of drinking water.



Use of in-house water treatment is presented in Table WS.2 (page 76). Households were asked of ways they are 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 the percentages of household members using appropriate water treatment methods, separately for all households, for households using improved and unimproved drinking water sources. Table WS.2 indicates that in Suriname a substantial majority of household members, approximately 69 percent use drinking water that has not been treated. This is the case for water used for drinking purposes in every district of Suriname except Commewijne where about the same proportion of household members use drinking water that is boiled (45%) as opposed to the 44% who use drinking water that has not been treated. In

Suriname, especially in urban areas, there is no custom to boil water before drinking it because piped water is considered safe. In the rural interior, approximately 85 percent of household members live in households that apply no treatment to their drinking water supply with similarly high proportions in Brokopondo (84%) and Sipaliwini (85%). Urbanized districts such as Paramaribo and Wanica had markedly lower proportions in households that apply no treatment to their drinking water supply, the respective proportions approximating 67 percent and 69 percent, respectively. With respect to household members in households using an unimproved drinking water source, 10 percent used an appropriate water treatment method. Given the relatively large number of household members relying on drinking water from unimproved sources in Sipaliwini (35%), the relatively low proportion using an appropriate water treatment method is alarming (6%). The appropriate treatment of unimproved water increases with education of the household head.

**Table WS.1: Use of improved water sources**

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

District	Main source of drinking water													Percentage using improved sources of drinking water <sup>1</sup>	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 tank/drum				Surface water	Bottled water*	Other	Missing	
Into dwelling	Into yard/plot	To neighbour	Public tap/stand-pipe																	
Paramaribo	76.8	11.2	0.3	0.6	0.1	0.1	6.7	3.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.1	100.0	99.1	13,419	
Wanica	56.2	12.4	0.6	0.3	2.3	0.6	22.9	2.0	0.0	0.1	0.4	0.0	0.0	0.6	0.2	0.1	100.0	97.4	5,217	
Nickerie	79.9	8.1	0.6	0.4	0.1	0.0	3.6	5.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	100.0	97.9	2,081	
Coronie	77.9	19.7	1.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	161	
Saranacca	39.5	9.6	0.6	0.0	0.3	0.0	44.0	2.6	0.8	0.0	0.1	0.0	0.0	1.0	1.0	0.0	100.0	96.7	920	
Commewijne	17.7	5.7	0.2	0.0	4.1	0.5	66.7	1.9	0.8	0.0	0.0	0.0	0.5	0.6	0.8	0.0	100.0	96.7	1,373	
Marowijne	23.0	25.6	4.2	0.1	1.5	1.2	30.7	4.8	4.3	1.7	0.0	0.0	2.3	0.1	0.4	0.0	100.0	91.1	1,081	
Para	40.6	32.2	3.3	3.1	0.8	3.2	10.7	0.7	0.8	0.2	0.0	0.0	2.5	0.0	0.0	0.0	100.0	96.5	1,054	
Brokopondo	9.6	22.5	0.6	9.3	0.0	2.8	44.5	0.2	0.3	0.7	0.0	0.0	8.8	0.0	0.3	0.5	100.0	89.4	774	
Sipaliwini	1.5	7.5	0.0	3.0	0.1	4.5	47.7	0.0	0.1	0.2	0.1	0.1	33.0	0.0	1.6	0.3	100.0	64.5	2,341	
<b>Area</b>																				
Urban	69.4	11.0	0.4	0.5	1.0	0.2	13.0	3.1	0.2	0.2	0.1	0.1	0.0	0.4	0.4	0.1	100.0	98.6	20,066	
Rural Coastal	45.5	17.4	2.0	0.8	0.7	1.0	25.2	2.9	1.2	0.4	0.2	0.0	1.6	0.4	0.4	0.0	100.0	95.9	5,240	
Rural interior	3.5	11.2	0.1	4.5	0.1	4.1	46.9	0.1	0.2	0.3	0.1	0.1	27.0	0.0	1.2	0.4	100.0	70.7	3,114	
Total Rural	29.8	15.1	1.3	2.2	0.3	2.2	33.3	1.9	0.8	0.4	0.2	0.0	11.1	0.2	0.7	0.1	100.0	86.5	8,355	
<b>Education of household head</b>																				
None	23.7	15.8	0.6	2.7	0.2	2.7	33.6	1.2	0.1	0.3	0.0	0.0	17.3	0.2	1.2	0.2	100.0	80.7	3,070	
Primary	49.4	16.3	0.6	1.6	1.4	0.8	23.6	1.3	0.5	0.2	0.1	0.0	3.2	0.2	0.4	0.1	100.0	95.2	9,086	
Secondary +	70.0	9.0	0.5	0.2	0.6	0.4	13.2	4.0	0.4	0.2	0.1	0.1	0.3	0.5	0.4	0.1	100.0	97.9	14,357	
Other/Non-standard	67.5	6.0	1.4	0.9	0.0	0.1	13.9	8.0	0.0	0.0	0.0	0.0	1.2	0.8	0.3	0.0	100.0	97.7	408	
Missing/DK	59.0	13.6	1.4	0.9	0.0	0.6	17.3	1.8	0.0	0.5	0.2	0.0	4.2	0.4	0.2	0.0	100.0	94.5	1,500	
<b>Wealth index quintile</b>																				
Poorest	4.5	24.1	1.7	4.5	1.3	2.8	39.8	0.1	1.4	0.9	0.1	0.4	16.2	0.2	1.3	0.1	100.0	79.2	5,691	
Second	37.0	27.9	0.8	0.3	1.5	0.5	29.1	1.3	0.3	0.1	0.0	0.0	0.1	0.2	0.3	0.3	100.0	98.6	5,679	
Middle	72.7	6.8	0.7	0.1	0.9	0.3	14.5	3.0	0.1	0.0	0.2	0.0	0.0	0.6	0.2	0.0	100.0	98.9	5,683	
Fourth	81.4	2.2	0.0	0.0	0.3	0.2	9.9	4.6	0.0	0.0	0.1	0.0	0.0	0.8	0.3	0.1	100.0	98.7	5,676	
Richest	93.3	0.2	0.0	0.0	0.0	0.0	1.5	4.8	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	100.0	99.8	5,693	

**Table WS.1: Use of improved water sources (continued)**

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

	Main source of drinking water													Percentage using improved sources of drinking water <sup>1</sup>	Number of household members					
	Improved sources						Unimproved sources													
	Piped water						Unimproved sources													
Into dwelling	Into yard/plot	To neighbour	Public tap/stand-pipe	Tube-well/bore-hole	Protected well	Protected spring	Rain-water collection	Bottled water*	Unprotected well	Unprotected spring	Tanker truck	Cart with tank/drum	Surface water	Bottled water*	Other	Missing	Total			
<b>Ethnicity of household head</b>																				
Indigenous/Amerindian	40.9	17.5	0.6	0.2	1.5	2.9	5.3	16.6	2.0	3.6	0.9	0.0	0.0	7.4	0.0	0.4	0.3	100.0	87.4	1,248
Maroon	24.6	23.4	1.1	3.6	0.1	0.5	1.6	31.4	0.3	0.3	0.7	0.0	0.3	11.3	0.0	0.6	0.1	100.0	86.7	7,279
Creole	83.2	7.6	0.5	0.0	0.0	0.9	0.1	3.2	3.1	0.3	0.0	0.0	0.0	0.0	0.5	0.4	0.1	100.0	98.7	4,912
Hindustani	67.7	8.8	0.6	0.1	0.0	0.4	0.2	18.3	2.3	0.2	0.0	0.3	0.0	0.0	0.6	0.4	0.1	100.0	98.4	7,745
Javanese	57.9	6.4	0.2	0.0	0.0	1.8	0.3	27.6	4.9	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.0	100.0	99.2	3,997
Mixed	77.6	7.6	0.5	0.0	0.0	0.4	0.2	6.5	5.3	0.1	0.0	0.0	0.0	0.5	0.2	0.9	0.2	100.0	98.0	2,692
Others	73.2	5.2	0.0	0.0	0.0	0.0	0.9	8.1	11.2	0.0	0.0	0.0	0.1	0.2	0.7	0.3	0.0	100.0	98.6	523
Missing/DK	(4.6)	(23.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(15.6)	(32.6)	(0.0)	(0.0)	(0.0)	(0.0)	(13.6)	(8.7)	(0.0)	(1.7)	100.0	(76.0)	26
<b>Total</b>	<b>57.8</b>	<b>12.2</b>	<b>0.6</b>	<b>1.0</b>	<b>0.1</b>	<b>0.8</b>	<b>0.8</b>	<b>19.0</b>	<b>2.8</b>	<b>0.4</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>3.3</b>	<b>0.4</b>	<b>0.5</b>	<b>0.1</b>	<b>100.0</b>	<b>95.0</b>	<b>28,421</b>

() Figures that are based on 25-49 unweighted cases

<sup>1</sup> MICS indicator 4.1; MDG indicator 7.8

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



**Table WS.2: Household water treatment**

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

District	Water treatment method used in the household										Number of household members using unimproved drinking water sources and using an appropriate water treatment method <sup>1</sup>	Percentage of household members in households using unimproved drinking water sources	Number of household members in households using unimproved drinking water sources
	None	Boil	Add bleach/chlorine	Strain through a cloth	Use water filter	Solar disinfection	Let it stand and settle	Other	Number of household members				
Paramaribo	66.9	18.5	0.4	9.4	4.9	0.0	3.4	1.0	13,419	(21.7)	77		
Wanica	68.6	20.1	0.3	7.6	2.7	0.0	1.9	1.5	5,217	12.7	106		
Nickerie	72.2	22.1	0.6	1.7	0.8	0.0	4.1	0.2	2,081	16.9	42		
Coronie	77.2	19.7	0.0	4.8	0.0	0.0	0.3	0.0	161	-	0		
Saramacca	61.6	27.2	0.4	9.0	1.5	0.2	4.1	1.2	920	(43.6)	21		
Commewijne	43.8	44.6	0.3	6.5	3.1	0.0	4.0	2.0	1,373	(4.4)	38		
Marowijne	78.6	11.9	0.4	5.1	0.1	0.1	4.1	0.0	1,081	20.4	94		
Para	76.6	14.1	1.0	3.4	0.5	0.0	4.8	0.0	1,054	24.2	37		
Brokopondo	83.8	7.6	0.6	7.1	0.2	0.0	2.1	0.1	774	12.0	82		
Sipaliwini	85.0	4.8	1.0	7.4	0.1	0.0	1.9	0.2	2,341	5.8	830		
<b>Area</b>													
Urban	66.7	19.8	0.4	8.5	4.2	0.0	3.1	1.2	20,066	13.9	218		
Rural Coastal	68.8	22.6	0.5	4.9	0.7	0.1	3.8	0.3	5,240	23.4	197		
Rural interior	84.7	5.5	0.9	7.3	0.1	0.0	2.0	0.2	3,114	6.4	912		
Total Rural	74.7	16.2	0.6	5.8	0.5	0.0	3.1	0.3	8,355	9.4	1,110		
<b>Education of household head</b>													
None	81.0	10.7	0.6	5.0	0.1	0.0	3.5	0.1	3,070	6.5	587		
Primary	70.0	17.1	0.8	9.3	2.0	0.0	3.5	0.6	9,086	10.3	418		
Secondary +	65.9	21.3	0.3	7.6	4.6	0.0	2.6	1.2	14,357	18.4	236		
Other/Non-standard	65.8	19.3	0.3	8.8	1.2	0.0	10.8	4.1	408	(*)	9		
Missing/DK	70.5	20.5	0.0	5.0	1.7	0.1	3.5	1.0	1,500	12.7	77		
<b>Wealth index quintile</b>													
Poorest	77.8	9.4	1.1	8.0	0.3	0.1	4.4	0.4	5,691	9.9	1,173		
Second	68.4	19.8	0.3	8.0	1.3	0.0	3.6	1.8	5,679	17.3	66		
Middle	67.4	21.0	0.4	7.8	2.7	0.0	4.0	0.3	5,683	(8.6)	39		
Fourth	66.8	22.0	0.5	7.9	3.4	0.0	2.0	0.8	5,676	(8.1)	41		
Richest	65.1	21.5	0.1	6.9	7.7	0.0	1.6	1.2	5,693	(*)	8		

**Table WS.2: Household water treatment (continued)**

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

Ethnicity of household head	Water treatment method used in the household										Number of household members using unimproved drinking water sources
	None	Boil	Add bleach/chlorine	Strain through a cloth	Use water filter	Solar disinfection	Let it stand and settle	Other	Number of household members	Percentage of household members in households using unimproved drinking water sources and using an appropriate water treatment method <sup>1</sup>	
Indigenous/Amerindian	75.3	14.2	0.5	6.5	1.3	0.2	3.2	0.2	1,248	22.6	157
Maroon	82.8	6.9	0.7	6.2	1.0	0.0	3.6	0.5	7,279	7.1	969
Creole	68.8	16.2	0.1	9.7	3.2	0.0	4.2	1.6	4,912	(7.4)	45
Hindustani	70.3	17.3	0.7	6.6	4.1	0.0	3.0	0.6	7,745	11.6	86
Javanese	44.8	44.3	0.4	9.5	3.0	0.0	1.7	2.1	3,997	(*)	16
Mixed	64.9	21.1	0.1	9.4	5.7	0.0	2.5	0.4	2,692	24.1	47
Others	54.4	32.0	0.0	6.6	8.0	0.0	1.3	0.0	523	(*)	4
Missing/DK	(89.0)	(11.0)	(0.0)	(0.0)	(0.0)	(0.0)	(8.7)	(0.0)	26	(*)	4
<b>Total</b>	<b>69.1</b>	<b>18.7</b>	<b>0.5</b>	<b>7.7</b>	<b>3.1</b>	<b>0.0</b>	<b>3.1</b>	<b>0.9</b>	<b>28,421</b>	<b>10.1</b>	<b>1,327</b>

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 4.2

The amount of time it takes to obtain water is presented in Table WS.3 (page 79) and the person who usually collected the water in Table WS.4 (page 80). Note that these results refer to one roundtrip from home to drinking water source. Information on the number of trips made in one day was not collected. Table WS.3 shows that for 93 percent of all household members, an improved drinking water source is on the premises, while for another 2 percent of all household members a roundtrip to the improved source is estimated at less than 30 minutes. Two percent of all main water use is unimproved, while also taking for than 30 minutes to collect.

Within the districts of Suriname, Sipaliwini has the largest number of household members after Paramaribo and Wanica. However, just over a half of all household members in Sipaliwini (51%) had an improved water source on their premises, this being markedly lower than in the other districts including Brokopondo (80%). Moreover, approximately 11 percent of household members in Sipaliwini take less than 30 minutes to get to an improved drinking water source and bring water to the premises with another 1 percent taking at least 30 minutes. Almost one third of household members in Sipaliwini relied roundtrips to an unimproved source lasting more than 30 minutes.

Table WS.4 shows that for the majority of households without drinking water on premises, an adult female is usually the person collecting the water (74%). 14 percent of the households relied on adult males 15 years or older to collect drinking water and only 3 percent on children. While the low number of cases prevents detailed analysis, it can be noted that men become increasingly responsible for collecting water with increase in the education of the head of the household.

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

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

	Time to source of drinking water									Number of household members
	Users of improved drinking water sources				Users of unimproved drinking water sources				Total	
	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		
<b>District</b>										
Paramaribo	98.6	0.3	0.4	0.1	0.1	0.1	0.1	0.2	100.0	13,419
Wanica	97.4	0.5	0.0	0.1	1.5	0.0	0.2	0.3	100.0	5,217
Nickerie	97.8	0.1	0.1	0.0	0.2	1.5	0.1	0.2	100.0	2,081
Coronie	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	161
Saramacca	96.8	0.4	0.0	0.5	1.4	0.6	0.2	0.1	100.0	920
Commewijne	93.9	3.2	0.1	0.0	1.4	0.0	1.1	0.2	100.0	1,373
Marowijne	87.3	3.0	0.8	0.2	4.7	2.3	1.0	0.8	100.0	1,081
Para	92.8	2.5	1.2	0.1	0.7	1.9	0.3	0.6	100.0	1,054
Brokopondo	79.6	6.6	1.0	2.2	0.9	6.3	2.8	0.6	100.0	774
Sipaliwini	50.6	10.7	1.4	1.8	1.0	17.6	15.0	1.9	100.0	2,341
<b>Area</b>										
Urban	98.0	0.5	0.3	0.1	0.6	0.1	0.2	0.2	100.0	20,066
Rural Coastal	94.4	1.3	0.4	0.1	1.5	1.5	0.4	0.4	100.0	5,240
Rural interior	57.8	9.7	1.3	1.9	0.9	14.8	12.0	1.6	100.0	3,114
Total Rural	80.8	4.4	0.7	0.8	1.3	6.5	4.7	0.8	100.0	8,355
<b>Education of household head</b>										
None	73.0	5.8	0.9	1.1	0.5	8.7	8.6	1.3	100.0	3,070
Primary	92.3	2.1	0.7	0.3	0.7	2.2	1.2	0.5	100.0	9,086
Secondary +	97.4	0.6	0.2	0.2	0.8	0.3	0.3	0.2	100.0	14,357
Other/Non-standard	96.8	1.0	0.0	0.0	0.8	0.7	0.7	0.0	100.0	408
Missing/DK	93.1	1.4	0.2	0.2	0.7	3.1	1.1	0.2	100.0	1,500
<b>Wealth index quintile</b>										
Poorest	68.8	7.4	2.0	1.2	2.7	9.5	7.1	1.3	100.0	5,691
Second	98.1	0.6	0.1	0.1	0.5	0.2	0.1	0.4	100.0	5,679
Middle	98.8	0.3	0.0	0.2	0.4	0.1	0.2	0.0	100.0	5,683
Fourth	99.0	0.1	0.0	0.1	0.2	0.0	0.2	0.3	100.0	5,676
Richest	99.9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	100.0	5,693
<b>Ethnicity of household head</b>										
Indigenous/Amerindian	81.5	5.3	0.5	0.1	2.9	7.0	1.1	1.5	100.0	1,248
Maroon	79.6	4.8	1.4	0.8	1.5	6.0	5.2	0.6	100.0	7,279
Creole	98.3	0.4	0.1	0.2	0.4	0.1	0.3	0.1	100.0	4,912
Hindustani	98.4	0.4	0.0	0.1	0.5	0.0	0.2	0.4	100.0	7,745
Javanese	99.2	0.1	0.0	0.3	0.1	0.2	0.0	0.1	100.0	3,997
Mixed	98.1	0.2	0.0	0.0	0.1	0.7	0.5	0.4	100.0	2,692
Others	99.3	0.0	0.0	0.0	0.4	0.0	0.2	0.0	100.0	523
Missing/DK	(84.7)	(0.0)	(0.0)	(0.0)	(0.0)	(13.6)	(0.0)	(1.7)	100.0	26
<b>Total</b>	92.9	1.7	0.4	0.3	0.8	2.0	1.5	0.4	100.0	28,421

( ) Figures that are based on 25-49 unweighted cases

**Table WS.4: Person collecting water**

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

	Percentage of households without drinking water on premises	Number of households	Person usually collecting drinking water					Missing/DK	Total	Number of households without drinking water on premises
			Adult woman	Adult man	Female child under age 15	Male child under age 15				
<b>District</b>										
Paramaribo	1.0	3,640	(*)	(*)	(*)	(*)	(*)	100.0	37	
Wanica	1.3	1,275	(*)	(*)	(*)	(*)	(*)	100.0	17	
Nickerie	1.8	563	(*)	(*)	(*)	(*)	(*)	100.0	10	
Coronie	0.0	51	-	-	-	-	-	100.0	0	
Saramacca	2.0	244	(*)	(*)	(*)	(*)	(*)	100.0	5	
Commewijne	3.2	359	(*)	(*)	(*)	(*)	(*)	100.0	12	
Marowijne	8.1	226	(36.1)	(33.3)	(0.0)	(2.8)	(27.8)	100.0	18	
Para	5.8	243	(*)	(*)	(*)	(*)	(*)	100.0	14	
Brokopondo	19.9	186	74.7	17.2	0.0	1.1	6.9	100.0	37	
Sipaliwini	48.2	619	83.9	7.8	1.7	0.3	6.2	100.0	299	
<b>Area</b>										
Urban	1.2	5,301	(48.7)	(23.1)	(5.1)	(5.1)	(18.0)	100.0	65	
Rural Coastal	3.6	1,300	41.7	41.7	0.0	1.1	15.5	100.0	47	
Rural interior	41.7	806	82.9	8.9	1.6	0.4	6.3	100.0	336	
Total Rural	18.2	2,106	77.8	12.9	1.4	0.5	7.5	100.0	383	
<b>Education of household head</b>										
None	27.8	800	86.1	5.4	1.2	0.4	6.9	100.0	223	
Primary	6.1	2,281	66.1	20.6	2.7	0.7	10.0	100.0	140	
Secondary +	1.6	3,875	43.1	31.6	3.4	5.4	16.7	100.0	62	
Other/Non-standard	2.5	107	(*)	(*)	(*)	(*)	(*)	100.0	3	
Missing/DK	6.0	344	(82.1)	(15.2)	(0.0)	(0.0)	(2.6)	100.0	21	
<b>Wealth index quintile</b>										
Poorest	27.8	1,419	79.5	10.3	2.2	0.9	7.2	100.0	394	
Second	1.7	1,467	(29.4)	(33.9)	(0.0)	(6.7)	(30.0)	100.0	25	
Middle	0.7	1,520	(*)	(*)	(*)	(*)	(*)	100.0	11	
Fourth	1.1	1,496	(*)	(*)	(*)	(*)	(*)	100.0	16	
Richest	0.1	1,505	(*)	(*)	(*)	(*)	(*)	100.0	2	
<b>Ethnicity of household head</b>										
Indigenous/Amerindian	15.9	271	64.1	28.1	1.0	0.0	6.7	100.0	43	
Maroon	21.4	1,594	82.6	8.8	1.4	0.5	6.6	100.0	341	
Creole	1.2	1,447	(*)	(*)	(*)	(*)	(*)	100.0	17	
Hindustani	1.1	2,069	(*)	(*)	(*)	(*)	(*)	100.0	22	
Javanese	0.8	1,072	(*)	(*)	(*)	(*)	(*)	100.0	8	
Mixed	1.9	777	(*)	(*)	(*)	(*)	(*)	100.0	15	
Others	0.3	172	-	-	-	-	-	100.0	0	
Missing/DK	(*)	6	(*)	(*)	(*)	(*)	(*)	100.0	1	
<b>Total</b>	<b>6.0</b>	<b>7,407</b>	<b>73.5</b>	<b>14.4</b>	<b>1.9</b>	<b>1.1</b>	<b>9.0</b>	<b>100.0</b>	<b>448</b>	

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

## Use of Improved Sanitation Facilities

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrhoeal diseases and polio. An improved sanitation facility is defined as one that hygienically separates human excreta from human contact. Improved sanitation can reduce diarrheal disease by more than a third, and can significantly lessen the adverse health impacts of other disorders responsible for

death and disease among millions of children in developing countries. Improved sanitation facilities for excreta disposal include flush or pour flush to a piped sewer system, septic tank, or pit latrine; ventilated improved pit latrine, pit latrine with slab, and use of a composting toilet.

Ninety-one percent of the population of Suriname are living in households using improved sanitation facilities (Table WS.5, page 82). This percentage is 98 in urban areas and 75 percent in rural areas. For rural coastal and the rural interior, the respective percentages are 94 and 42. Residents of Brokopondo (56%) and Sipaliwini (37%) are less likely than residents in other districts to use improved facilities.

The table indicates that use of improved sanitation facilities is strongly correlated with wealth, where the poorest quintile records only 59 percent use of improved sanitation and the second quintile rises to 96 percent. Profound differences between urban and rural areas are evident as well. In rural areas and especially in the rural interior, Sipaliwini in particular, the population is more likely to be using pit latrines without slabs. Even more strikingly is the prevalence of no facilities in the rural interior at 35 and 54 percent in Brokopondo and Sipaliwini, respectively. In rural coastal areas and in urban areas, situations in which persons having no toilet facilities for use by household members are virtually non-existent. In contrast, the most common facilities in urban areas are flush toilets with septic tank which are used by approximately 89 percent of all household members in urban areas.

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

Thus, according to Table WS.6 (page 84), 11 percentage-points of the household population using improved facilities, but were sharing these, account for the difference from the prevalence of users of improved facilities to the value of the MDG indicator on sanitation, standing at just 80 percent for Suriname as a whole. The use of improved sanitation facilities not shared is strongly correlated to both education of the head of the household and the wealth of the household, with clear differences from the non-educated and the poorest to the highest educated and wealthiest household population.

Safe disposal of a child's faeces is disposing of the stool, by the child using a toilet or by rinsing the stool into a toilet or latrine. Disposal of faeces of children 0-2 years of age is presented in Table WS.7 (page 86). In Suriname, the faeces of a little more than one fifth of all children 0-2 years, is disposed of safely (22%). This is alarming especially since the disposal of faeces is safe for less than one third of virtually every sub-population of children 0-2 years. There does not appear to be any clear pattern of association linking wealth status or mother's education to the safe disposal of children's faeces. It should be noted that there are marked differences in how the disposal is done, with "thrown into garbage" being the main method in urban and rural coastal areas at 72 and 59 percent of cases. In rural interior an answer other than those precoded has been provided by the respondent in a third of cases. This finding should be taking into account in future data collection.

**Table WS.5: Types of sanitation facilities**

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

District	Type of toilet facility used by household											Number of household members				
	Improved sanitation facility					Unimproved sanitation facility										
	Piped sewer system	Septic tank	Pit latrine	Unknown place/not sure/DK where	Ventilated improved pit latrine	Pit latrine with slab	Composting toilet	Flush/pour flush to somewhere else	Pit latrine without slab/open pit	Bucket	Hanging toilet/hanging latrine		Other	Missing	Open defecation (no facility, bush, field)	Total
Paramaribo	2.2	90.4	0.5	0.1	0.2	4.5	0.0	0.0	1.7	0.0	0.0	0.2	0.1	0.1	100.0	13,419
Wanica	0.8	89.0	0.9	0.0	0.4	7.2	0.0	0.2	1.1	0.0	0.2	0.2	0.0	0.4	100.0	5,217
Nickerie	0.8	94.0	0.4	0.0	0.0	4.2	0.0	0.2	0.3	0.0	0.0	0.0	0.1	0.0	100.0	2,081
Coronie	1.4	79.3	0.0	0.0	0.0	17.3	0.0	0.3	0.0	1.7	0.0	0.0	0.0	0.0	100.0	161
Saramacca	1.8	79.7	1.7	0.0	0.2	10.9	0.0	0.2	5.2	0.0	0.2	0.0	0.2	0.0	100.0	920
Commewijne	0.7	72.5	1.5	0.1	3.4	16.0	0.0	0.0	5.2	0.0	0.0	0.2	0.0	0.2	100.0	1,373
Marowijne	1.7	35.7	10.4	0.0	0.0	40.5	0.1	0.0	9.7	0.0	0.0	1.2	0.0	0.7	100.0	1,081
Para	1.1	43.6	6.7	0.1	0.5	39.6	0.0	0.0	4.9	0.0	0.0	2.8	0.0	0.6	100.0	1,054
Brokopondo	0.0	17.4	0.9	0.0	4.8	32.4	0.0	0.0	8.2	0.1	0.0	0.9	0.1	35.2	100.0	774
Sipaliwini	0.4	7.9	1.4	0.1	0.6	26.3	0.3	0.0	5.4	0.1	0.3	3.3	0.4	53.7	100.0	2,341
<b>Area</b>																
Urban	1.7	89.4	0.6	0.1	0.4	5.6	0.0	0.0	1.7	0.0	0.0	0.2	0.0	0.2	100.0	20,066
Rural Coastal	1.3	66.5	4.3	0.0	0.2	21.8	0.0	0.1	4.4	0.1	0.0	0.9	0.1	0.3	100.0	5,240
Rural interior	0.3	10.2	1.3	0.1	1.6	27.8	0.2	0.0	6.1	0.1	0.2	2.7	0.3	49.1	100.0	3,114
Total Rural	0.9	45.5	3.2	0.0	0.7	24.0	0.1	0.1	5.0	0.1	0.1	1.6	0.2	18.5	100.0	8,355
<b>Education of household head</b>																
None	0.2	38.8	2.5	0.0	0.7	18.3	0.0	0.0	5.6	0.1	0.1	1.8	0.3	31.7	100.0	3,070
Primary	2.0	69.1	1.7	0.0	0.8	16.8	0.1	0.0	3.8	0.0	0.0	0.7	0.0	4.8	100.0	9,086
Secondary +	1.5	89.1	0.8	0.1	0.3	5.7	0.0	0.1	1.5	0.0	0.0	0.2	0.0	0.6	100.0	14,357
Other/Non-standard	1.2	89.5	0.8	0.0	0.0	4.8	0.0	0.0	0.4	0.0	0.0	0.0	0.8	2.3	100.0	408
Missing/DK	0.1	75.1	2.0	0.0	0.4	14.0	0.0	0.0	1.5	0.0	0.0	1.5	0.1	5.1	100.0	1,500
<b>Wealth index quintile</b>																
Poorest	0.7	12.7	4.1	0.1	1.6	39.8	0.1	0.0	10.4	0.1	0.1	2.6	0.1	27.6	100.0	5,691
Second	2.2	75.5	2.4	0.3	1.0	14.9	0.0	0.2	2.9	0.0	0.0	0.3	0.1	0.2	100.0	5,679
Middle	2.3	96.9	0.2	0.0	0.1	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	5,683
Fourth	1.6	98.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	100.0	5,676
Richest	0.5	99.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	5,693

**Table WS.5: Types of sanitation facilities (continued)**

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

	Type of toilet facility used by household											Number of household members				
	Improved sanitation facility						Unimproved sanitation facility									
	Flush/pour flush to:															
	Piped sewer system	Septic tank	Pit latrine	Unknown place/not sure/DK where	Ventilated improved pit latrine	Pit latrine with slab	Composting toilet	Flush/pour flush to somewhere else	Pit latrine without slab/open pit	Bucket	Hanging toilet/hanging latrine	Other	Missing	Open defecation (no facility, bush, field)	Total	
<b>Ethnicity of household head</b>																
Indigenous/Amerindian	0.2	43.5	5.3	0.1	1.8	35.9	0.7	0.0	5.3	0.0	0.2	0.7	0.0	6.4	100.0	1,248
Maroon	0.7	40.4	2.5	0.0	1.0	26.3	0.0	0.0	6.8	0.0	0.0	1.7	0.1	20.3	100.0	7,279
Creole	1.6	92.1	0.6	0.0	0.7	3.9	0.0	0.0	0.3	0.0	0.0	0.3	0.2	0.3	100.0	4,912
Hindustani	2.2	92.8	0.7	0.0	0.1	3.2	0.0	0.2	0.6	0.0	0.0	0.1	0.1	0.1	100.0	7,745
Javanese	1.4	90.8	0.9	0.0	0.4	4.8	0.0	0.1	1.4	0.0	0.0	0.3	0.0	0.0	100.0	3,997
Mixed	1.5	90.7	0.5	0.3	0.0	4.2	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	100.0	2,692
Others	3.2	90.9	0.6	1.0	0.0	3.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	100.0	523
Missing/DK	(0.0)	(37.3)	(20.8)	(0.0)	(0.0)	(38.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(1.7)	(1.7)	100.0	26
<b>Total</b>	<b>1.5</b>	<b>76.5</b>	<b>1.4</b>	<b>0.1</b>	<b>0.5</b>	<b>11.0</b>	<b>0.0</b>	<b>0.1</b>	<b>2.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.6</b>	<b>0.1</b>	<b>5.6</b>	<b>100.0</b>	<b>28,421</b>

( ) Figures that are based on 25-49 unweighted cases



**Table WS.6: Use and sharing of sanitation facilities**

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

	Users of improved sanitation facilities					Users of unimproved sanitation facilities					Open defecation facility, bush, field	Total	Number of household members	
	Shared by					Shared by								
	Not shared <sup>1</sup>	Public facility	5 households or less	More than 5 households	Missing/DK	Not shared	Public facility	5 households or less	More than 5 households	Missing/DK				
<b>District</b>														
Paramaribo	87.1	0.8	8.5	0.4	1.2	1.0	0.0	1.0	0.0	0.0	0.0	0.1	100.0	13,419
Wanica	87.8	0.4	8.0	0.8	1.1	1.3	0.0	0.2	0.0	0.0	0.0	0.4	100.0	5,217
Nickerie	95.3	0.2	3.2	0.4	0.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	100.0	2,081
Coronie	95.6	0.0	2.4	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	161
Saramacca	83.5	1.0	9.1	0.0	0.8	5.2	0.0	0.4	0.0	0.0	0.0	0.0	100.0	920
Commewijne	90.1	0.2	3.4	0.4	0.2	4.4	0.0	1.1	0.0	0.0	0.0	0.2	100.0	1,373
Marowijne	72.2	0.7	14.3	0.0	1.3	5.3	0.4	4.8	0.4	0.0	0.0	0.7	100.0	1,081
Para	74.6	1.9	10.1	3.9	1.2	3.8	1.7	2.0	0.0	0.2	0.2	0.6	100.0	1,054
Brokopondo	32.0	3.8	12.9	4.9	2.0	5.0	1.3	2.5	0.3	0.1	0.1	35.2	100.0	774
Sipaliwini	24.8	3.2	7.0	1.3	0.5	4.2	1.9	1.2	1.7	0.3	0.3	53.7	100.0	2,341
<b>Area</b>														
Urban	87.7	0.6	7.9	0.5	1.1	1.2	0.0	0.8	0.0	0.0	0.0	0.2	100.0	20,066
Rural Coastal	83.4	0.8	8.2	0.9	0.7	3.5	0.4	1.5	0.1	0.0	0.0	0.3	100.0	5,240
Rural interior	26.6	3.3	8.5	2.2	0.9	4.4	1.8	1.6	1.4	0.3	0.3	49.1	100.0	3,114
Total Rural	62.2	1.8	8.3	1.4	0.8	3.9	0.9	1.5	0.6	0.1	0.1	18.5	100.0	8,355
<b>Education of household head</b>														
None	47.4	1.9	9.7	1.1	0.4	4.4	1.0	1.5	0.8	0.1	0.1	31.7	100.0	3,070
Primary	76.9	1.2	10.2	1.3	1.0	2.4	0.4	1.7	0.2	0.1	0.1	4.8	100.0	9,086
Secondary +	89.1	0.6	6.5	0.3	1.0	1.2	0.0	0.5	0.0	0.0	0.0	0.6	100.0	14,357
Other/Non-standard	84.4	0.0	7.0	2.6	2.4	1.2	0.0	0.0	0.0	0.0	0.0	2.3	100.0	408
Missing/DK	82.0	1.1	6.3	0.8	1.4	1.5	0.5	0.7	0.3	0.2	0.2	5.1	100.0	1,500
<b>Wealth index quintile</b>														
Poorest	37.0	2.4	15.8	2.1	1.7	6.9	1.3	4.1	0.9	0.2	0.2	27.6	100.0	5,691
Second	82.2	0.8	11.5	0.5	1.3	2.7	0.1	0.8	0.0	0.0	0.0	0.2	100.0	5,679
Middle	91.7	0.4	6.1	0.9	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	5,683
Fourth	94.9	0.6	3.7	0.2	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	5,676
Richest	95.5	0.5	3.1	0.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	5,693

**Table WS.6: Use and sharing of sanitation facilities (continued)**

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

	Users of improved sanitation facilities					Users of unimproved sanitation facilities					Open defecation facility, bush, field)	Total	Number of household members	
	Shared by					Shared by								
	Not shared <sup>1</sup>	Public facility	5 households or less	More than 5 households	Missing/DK	Not shared	Public facility	5 households or less	More than 5 households	Missing/DK				
<b>Ethnicity of household head</b>														
Indigenous/Amerindian	73.5	1.2	11.9	0.4	0.5	4.9	0.4	0.9	0.0	0.0	6.4	100.0	1,248	
Maroon	52.4	1.8	13.5	1.8	1.4	3.9	1.0	3.0	0.6	0.1	20.3	100.0	7,279	
Creole	88.0	0.8	8.0	0.6	1.5	0.6	0.0	0.1	0.0	0.0	0.3	100.0	4,912	
Hindustani	93.2	0.4	4.5	0.3	0.5	0.8	0.0	0.2	0.0	0.0	0.1	100.0	7,745	
Javanese	89.5	0.8	6.4	0.4	1.2	1.2	0.0	0.5	0.0	0.0	0.0	100.0	3,997	
Mixed	90.5	0.9	4.9	0.4	0.5	2.4	0.0	0.4	0.0	0.0	0.0	100.0	2,692	
Others	95.2	0.0	4.1	0.0	0.0	0.4	0.0	0.0	0.0	0.2	0.0	100.0	523	
Missing/DK	(96.6)	(0.0)	(0.0)	(0.0)	(0.0)	(1.7)	(0.0)	(0.0)	(0.0)	(0.0)	(1.7)	100.0	26	
<b>Total</b>	<b>80.2</b>	<b>1.0</b>	<b>8.0</b>	<b>0.8</b>	<b>1.0</b>	<b>2.0</b>	<b>0.3</b>	<b>1.0</b>	<b>0.2</b>	<b>0.0</b>	<b>5.6</b>	<b>100.0</b>	<b>28,421</b>	

( ) Figures that are based on 25-49 unweighted cases

<sup>1</sup> MICS indicator 4.3; MDG indicator 7.9

**Table WS.7: Disposal of child's feces**

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

	Place of disposal of child's feces									Percentage of children whose last stools were disposed of safely <sup>1</sup>	Number of children age 0-2 years
	Child used toilet/latrine	Put/rinsed into toilet or latrine	Put/rinsed into drain or ditch	Thrown into garbage	Buried	Left in the open	Other	Missing/DK	Total		
<b>Type of sanitation facility in dwelling</b>											
Improved	8.1	17.0	1.7	65.4	3.0	0.0	3.0	1.8	100.0	25.0	1,670
Unimproved	6.6	11.7	5.4	53.5	8.8	0.0	11.9	2.1	100.0	18.3	115
Open defecation	0.6	1.9	10.9	12.6	28.6	1.1	41.7	2.5	100.0	2.5	243
<b>District</b>											
Paramaribo	7.4	13.3	1.0	75.7	0.5	0.0	0.5	1.5	100.0	20.7	786
Wanica	10.1	19.1	0.0	64.0	3.4	0.0	1.1	2.2	100.0	29.2	362
Nickerie	14.7	16.8	7.4	56.3	1.6	0.0	2.6	0.5	100.0	31.6	124
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	7
Saramacca	2.4	10.8	1.2	68.7	6.0	0.0	8.4	2.4	100.0	13.3	54
Commewijne	10.7	7.1	4.5	70.5	6.3	0.0	0.9	0.0	100.0	17.8	74
Marowijne	3.8	23.1	1.4	57.1	9.0	0.0	3.8	1.9	100.0	26.9	128
Para	4.9	21.6	3.9	59.8	1.0	0.0	5.9	2.9	100.0	26.5	72
Brokopondo	1.9	15.8	7.7	29.7	12.0	0.0	30.6	2.4	100.0	17.7	105
Sipaliwini	3.4	9.9	8.4	15.6	25.0	1.0	33.7	3.1	100.0	13.3	316
<b>Area</b>											
Urban	8.2	14.9	1.1	71.8	1.6	0.0	0.7	1.6	100.0	23.1	1,229
Rural Coastal	7.9	18.6	3.1	58.8	4.9	0.0	4.8	1.7	100.0	26.6	379
Rural interior	3.0	11.4	8.2	19.1	21.7	0.7	32.9	2.9	100.0	14.4	421
Total Rural	5.4	14.8	5.8	37.9	13.8	0.4	19.6	2.3	100.0	20.2	799
<b>Mother's education*</b>											
None	3.2	10.7	7.7	25.8	22.4	1.1	25.9	3.1	100.0	13.9	267
Primary	4.8	18.2	3.8	51.5	7.3	0.0	11.9	2.6	100.0	23.0	572
Secondary +	9.0	14.2	1.5	69.3	2.4	0.0	2.4	1.2	100.0	23.2	1,152
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	25
<b>Wealth index quintile</b>											
Poorest	3.5	16.3	6.3	33.8	16.1	0.5	21.4	2.2	100.0	19.8	669
Second	9.6	19.0	1.6	62.6	3.0	0.0	2.7	1.5	100.0	28.6	425
Middle	5.2	16.2	1.5	73.7	0.2	0.0	1.5	1.7	100.0	21.5	355
Fourth	10.4	9.6	2.0	73.0	2.2	0.0	1.6	1.2	100.0	19.9	329
Richest	10.7	9.1	0.0	76.2	0.7	0.0	0.0	3.2	100.0	19.8	250
<b>Ethnicity of household head</b>											
Indigenous/Amerindian	6.3	24.1	1.3	45.8	6.9	0.0	15.1	0.5	100.0	30.4	96
Maroon	4.1	15.4	5.2	44.2	12.6	0.4	16.1	2.2	100.0	19.5	841
Creole	11.5	18.2	1.3	67.6	0.3	0.0	0.3	0.8	100.0	29.7	250
Hindustani	9.4	14.1	2.0	70.0	1.0	0.0	2.1	1.3	100.0	23.5	402
Javanese	9.6	11.7	0.9	70.3	6.0	0.0	1.5	0.0	100.0	21.3	219
Mixed	7.0	10.5	1.3	75.3	0.0	0.0	1.4	4.4	100.0	17.5	196
Others	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	24
Total	7.1	14.9	3.0	58.4	6.4	0.2	8.1	1.9	100.0	22.0	2,028

\* 'Missing/DK' category of mother's education not shown due to low number of observations

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 4.4

In its 2008 report<sup>11</sup>, 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.

An overview of the percentage of household members using improved sources of drinking water and sanitary means of excreta disposal is presented in Table WS.8 (page 88). In Suriname, approximately 79 percent of all household members have improved water sources and improved sanitation. In urban areas, the proportion of the population that have improved water sources and improved sanitation is substantially higher than in rural areas (87 percent as opposed to 59 percent), though in the case of rural areas much higher proportions of the population in rural coastal areas have such facilities (81%) when compared to corresponding proportions in the rural interior (23%). In Brokopondo and Sipaliwini in the rural interior, the respective proportions are 31 percent and 21 percent. Though variable, much more favourable levels of access to improved drinking water and sanitation is evident in the other districts of Suriname especially in Coronie (96%) and Nickerie (94%).

## Handwashing

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

In Suriname, a specific place for handwashing was observed in approximately 74 percent of the households while 11 percent of all households could not indicate a specific place in their dwelling, yard, or plot where household members usually wash their hands and 10 percent of the households did not give permission for the interviewer to see the place used for handwashing (Table WS.9, page 90). Of those households where place for handwashing was observed, nearly 9 in every 10 (86%) had both water and soap present at the designated place. In 10 percent of the households only water was available at the designated place, while in 2 percent of the households the place only had soap but no water. The remaining percent of households had neither water nor soap available at the designated place for hand washing. Higher levels of status with respect to the education of head and wealth status in households are associated with a greater likelihood of having water and soap available or soap anywhere in the dwelling.

Only 4 percent of the households did not have any soap present in the household and in the remaining 96 percent either the soap was observed or shown to the interviewer (Table WS.10, page 92). A place for handwashing was more likely to be observed in households located in urban areas and in households located in rural coastal areas than in those located in the rural interior.

<sup>11</sup> WHO/UNICEF JMP (2008), MDG assessment report - [http://www.wssinfo.org/download?id\\_document=1279](http://www.wssinfo.org/download?id_document=1279)

**Table WS.8: Drinking water and sanitation ladders**

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

District	Percentage of household population using:										Number of household members
	Improved drinking water <sup>1</sup>					Unimproved sanitation					
	Improved drinking water <sup>1</sup>	Other improved	Unimproved drinking water	Total	Improved sanitation <sup>2</sup>	Shared improved facilities	Unimproved facilities	Open defecation	Total	Improved drinking water sources and improved sanitation	
Paramaribo	91.3	8.2	0.6	100.0	87.1	10.8	2.0	0.1	100.0	86.7	13,419
Wanica	70.5	27.5	2.0	100.0	87.8	10.3	1.5	0.4	100.0	86.7	5,217
Nickerie	93.2	4.8	2.0	100.0	95.3	4.1	0.6	0.0	100.0	93.6	2,081
Coronie	99.0	1.0	0.0	100.0	95.6	2.4	2.0	0.0	100.0	95.6	161
Saramacca	51.4	46.3	2.3	100.0	83.5	10.9	5.6	0.0	100.0	82.1	920
Commewijne	25.2	72.0	2.7	100.0	90.1	4.2	5.5	0.2	100.0	87.4	1,373
Marowijne	53.0	38.2	8.7	100.0	72.2	16.3	10.9	0.7	100.0	65.7	1,081
Para	73.5	23.0	3.5	100.0	74.6	17.1	7.7	0.6	100.0	72.1	1,054
Brokopondo	32.4	57.1	10.6	100.0	32.0	23.6	9.2	35.2	100.0	31.4	774
Sipaliwini	9.0	55.6	35.5	100.0	24.8	12.1	9.5	53.7	100.0	20.5	2,341
<b>Area</b>											
Urban	83.5	15.5	1.1	100.0	87.7	10.1	2.0	0.2	100.0	87.0	20,066
Rural Coastal	65.7	30.5	3.8	100.0	83.4	10.7	5.5	0.3	100.0	80.6	5,240
Rural interior	14.8	55.9	29.3	100.0	26.6	14.9	9.4	49.1	100.0	23.2	3,114
Total Rural	46.7	40.0	13.3	100.0	62.2	12.3	7.0	18.5	100.0	59.2	8,355
<b>Education of household head</b>											
None	40.6	40.2	19.1	100.0	47.4	13.0	7.9	31.7	100.0	45.8	3,070
Primary	66.9	28.5	4.6	100.0	76.9	13.7	4.7	4.8	100.0	75.2	9,086
Secondary +	82.7	15.6	1.6	100.0	89.1	8.5	1.8	0.6	100.0	88.0	14,357
Other/Non-standard	81.6	16.2	2.3	100.0	84.4	12.0	1.2	2.3	100.0	83.3	408
Missing/DK	74.3	20.5	5.1	100.0	82.0	9.7	3.2	5.1	100.0	79.9	1,500

**Table WS.8: Drinking water and sanitation ladders (continued)**

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

	Percentage of household population using:										Number of household members	
	Improved drinking water <sup>1</sup>					Unimproved sanitation						
	Piped into dwelling, plot or yard	Other improved	Unimproved drinking water	Total	Improved sanitation <sup>2</sup>	Shared improved facilities	Unimproved facilities	Open defecation	Total	Improved drinking water sources and improved sanitation		
<b>Wealth index quintile</b>												
Poorest	28.7	50.7	20.6	100.0	37.0	22.0	13.4	27.6	100.0	32.4	5,691	
Second	66.2	32.7	1.2	100.0	82.2	14.1	3.6	0.2	100.0	81.3	5,679	
Middle	82.4	16.9	0.7	100.0	91.7	8.2	0.1	0.0	100.0	91.0	5,683	
Fourth	87.9	11.4	0.7	100.0	94.9	5.0	0.1	0.0	100.0	94.2	5,676	
Richest	98.1	1.7	0.1	100.0	95.5	4.5	0.0	0.0	100.0	95.3	5,693	
<b>Ethnicity of household head</b>												
Indigenous/Amerindian	60.4	27.0	12.6	100.0	73.5	14.0	6.2	6.4	100.0	65.9	1,248	
Maroon	48.3	38.4	13.3	100.0	52.4	18.6	8.7	20.3	100.0	50.4	7,279	
Creole	94.0	5.1	0.9	100.0	88.0	10.9	0.8	0.3	100.0	87.6	4,912	
Hindustani	78.8	20.1	1.1	100.0	93.2	5.7	1.0	0.1	100.0	92.1	7,745	
Javanese	68.8	30.8	0.4	100.0	89.5	8.8	1.7	0.0	100.0	89.2	3,997	
Mixed	90.2	8.1	1.7	100.0	90.5	6.8	2.8	0.0	100.0	89.2	2,692	
Others	89.6	9.7	0.7	100.0	95.2	4.1	0.7	0.0	100.0	94.8	523	
Missing/DK	(60.4)	(24.3)	(15.3)	100.0	(96.6)	(0.0)	(1.7)	(1.7)	100.0	(83.0)	26	
<b>Total</b>	<b>72.7</b>	<b>22.7</b>	<b>4.7</b>	<b>100.0</b>	<b>80.2</b>	<b>10.8</b>	<b>3.4</b>	<b>5.6</b>	<b>100.0</b>	<b>78.9</b>	<b>28,421</b>	

( ) Figures that are based on 25-49 unweighted cases

<sup>1</sup> MICS indicator 4.1; MDG indicator 7.8<sup>2</sup> MICS indicator 4.3; MDG indicator 7.9

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

Percentage of households where place for handwashing was observed and percent distribution of households by availability of water and soap at place for handwashing, Suriname, 2010

District	Percentage of households where place for handwashing was observed	Percentage of households where place for handwashing was not observed				Percent distribution of households where place for handwashing was observed, and:						Number of households where place for handwashing was observed	
		Not in dwelling/plot/yard	No permission to see	Other reasons	Missing	Total	Water and soap are available <sup>1</sup>	Water is available, soap is not available	Water is available, soap is not available	Water and soap are available	Missing		Total
Paramaribo	76.3	7.3	11.9	4.3	0.1	100.0	89.1	7.9	2.1	0.5	0.4	100.0	2,778
Wanica	75.2	8.6	10.0	5.8	0.4	100.0	87.9	8.8	2.5	0.9	0.0	100.0	958
Nickerie	86.0	2.4	2.3	9.2	0.0	100.0	87.3	10.1	1.5	1.0	0.1	100.0	484
Coronie	77.4	6.5	10.8	5.4	0.0	100.0	66.7	27.8	4.2	1.4	0.0	100.0	39
Saramacca	67.0	14.2	14.8	3.6	0.4	100.0	88.6	7.7	2.3	1.0	0.3	100.0	163
Commewijne	66.5	10.0	13.4	10.0	0.0	100.0	87.0	7.9	3.7	1.4	0.0	100.0	239
Marowijne	76.2	14.8	4.9	3.8	0.2	100.0	75.6	18.2	4.1	1.8	0.3	100.0	172
Para	60.3	27.0	9.7	2.7	0.2	100.0	84.7	10.9	4.0	0.4	0.0	100.0	147
Brokopondo	61.1	29.7	2.1	7.1	0.0	100.0	59.6	33.0	3.0	2.2	2.2	100.0	114
Sipaliwini	56.5	33.7	1.0	8.8	0.1	100.0	73.9	17.4	2.4	5.5	0.9	100.0	350
<b>Area</b>													
Urban	76.0	7.4	11.2	5.2	0.2	100.0	88.8	8.3	2.1	0.6	0.2	100.0	4,029
Rural Coastal	73.3	13.1	7.9	5.5	0.2	100.0	83.8	11.4	3.5	1.1	0.2	100.0	953
Rural interior	57.5	32.8	1.2	8.4	0.1	100.0	70.4	21.2	2.5	4.7	1.2	100.0	464
Total Rural	67.3	20.6	5.4	6.6	0.1	100.0	79.4	14.6	3.1	2.3	0.5	100.0	1,417
<b>Education of household head</b>													
None	64.2	25.2	5.2	5.3	0.1	100.0	72.4	20.3	3.1	3.6	0.7	100.0	513
Primary	73.1	12.9	8.1	5.8	0.1	100.0	82.4	12.5	3.1	1.7	0.3	100.0	1,667
Secondary +	76.0	7.2	11.1	5.4	0.2	100.0	91.1	6.5	1.9	0.2	0.3	100.0	2,945
Other/Non-standard	84.7	4.4	7.8	3.1	0.0	100.0	82.7	13.7	3.1	0.6	0.0	100.0	91
Missing/DK	66.8	13.3	12.7	7.2	0.0	100.0	86.5	10.5	1.2	1.6	0.2	100.0	230

**Table WS.9: Water and soap at place for handwashing (continued)**

Percentage of households where place for handwashing was observed and percent distribution of households by availability of water and soap at place for handwashing, Suriname, 2010

	Percentage of households where place for handwashing was observed	Percentage of households where place for handwashing was not observed				Total	Number of households	Percent distribution of households where place for handwashing was observed, and:				Total	Number of households where place for handwashing was observed	
		Not in dwelling/plot/yard	No permission to see	Other reasons	Missing			Water and soap are available <sup>1</sup>	Water is available, soap is not available	Water is not available, soap is available	Water and soap are not available			Missing
<b>Wealth index quintiles</b>														
Poorest	60.2	29.2	3.7	6.9	0.0	100.0	1,419	66.7	24.5	4.2	3.7	0.9	100.0	855
Second	71.2	13.9	10.4	4.2	0.3	100.0	1,467	79.5	15.2	3.7	1.4	0.2	100.0	1,044
Middle	77.5	6.6	10.7	5.3	0.0	100.0	1,520	90.2	7.5	1.6	0.6	0.0	100.0	1,177
Fourth	77.9	4.5	11.5	5.9	0.3	100.0	1,496	93.6	3.6	2.1	0.3	0.3	100.0	1,165
Richest	80.0	2.7	11.4	5.8	0.1	100.0	1,505	95.4	3.5	0.8	0.0	0.3	100.0	1,204
<b>Ethnicity of household head*</b>														
Indigenous/Amerindian	69.2	18.3	5.3	7.3	0.0	100.0	271	79.1	16.0	2.0	2.2	0.7	100.0	187
Maroon	66.3	23.8	4.0	5.6	0.3	100.0	1,594	73.5	20.3	2.8	2.7	0.8	100.0	1,057
Creole	77.8	6.6	11.1	4.4	0.2	100.0	1,447	88.6	9.4	1.5	0.2	0.3	100.0	1,125
Hindustani	76.1	7.1	10.4	6.3	0.1	100.0	2,069	89.9	6.0	3.0	1.0	0.1	100.0	1,575
Javanese	73.5	9.2	11.2	6.1	0.1	100.0	1,072	89.2	7.4	2.7	0.5	0.3	100.0	788
Mixed	76.4	4.7	14.0	4.9	0.1	100.0	777	93.5	4.7	1.3	0.6	0.0	100.0	593
Others	68.0	11.9	14.9	5.2	0.0	100.0	172	89.1	9.0	1.9	0.0	0.0	100.0	117
<b>Total</b>	<b>73.5</b>	<b>11.2</b>	<b>9.6</b>	<b>5.6</b>	<b>0.1</b>	<b>100.0</b>	<b>7,407</b>	<b>86.3</b>	<b>9.9</b>	<b>2.4</b>	<b>1.1</b>	<b>0.3</b>	<b>100.0</b>	<b>5,445</b>

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

<sup>1</sup> MICS indicator 4.5



**Table WS.10: Availability of soap**

Percent distribution of households by availability of soap in the dwelling, Suriname, 2010

District	Place for handwashing observed				Place for handwashing not observed				Percentage of households with soap anywhere in the dwelling <sup>1</sup>	Number of households		
	Soap not observed at place for handwashing		Soap observed		Soap not observed at place for handwashing		Soap observed					
	No soap in household	Not able/Does not want to show soap	Missing	Soap shown	No soap in household	Not able/Does not want to show soap	Missing	Soap shown				
Paramaribo	0.9	0.2	0.3	5.3	69.6	21.0	1.7	1.0	0.0	100.0	95.9	3,640
Wanica	0.5	0.0	0.0	6.7	67.9	23.5	1.1	0.3	0.0	100.0	98.2	1,275
Nickerie	0.6	0.0	0.1	8.9	76.4	13.7	0.3	0.0	0.0	100.0	99.0	563
Coronie	2.2	0.0	0.0	20.4	54.8	22.6	0.0	0.0	0.0	100.0	97.8	51
Saramacca	0.4	0.4	0.2	4.9	60.9	29.2	2.2	1.6	0.0	100.0	95.1	244
Commewijne	0.2	0.0	0.0	6.0	60.4	29.2	2.2	2.2	0.0	100.0	95.5	359
Marowijne	1.6	0.0	0.2	13.7	60.8	20.9	1.8	1.1	0.0	100.0	95.3	226
Para	1.2	0.0	0.0	5.6	53.5	34.5	3.6	1.5	0.0	100.0	93.7	243
Brokopondo	1.4	0.0	1.6	19.9	38.2	32.5	6.2	0.2	0.0	100.0	90.6	186
Sipaliwini	0.9	0.0	0.5	12.0	43.1	40.3	3.2	0.1	0.0	100.0	95.4	619
<b>Area</b>												
Urban	0.7	0.2	0.2	5.9	69.0	21.6	1.5	0.8	0.0	100.0	96.6	5,301
Rural Coastal	1.0	0.1	0.1	8.2	64.0	24.0	1.9	0.8	0.0	100.0	96.1	1,300
Rural interior	1.0	0.0	0.7	13.8	42.0	38.5	3.9	0.1	0.0	100.0	94.3	806
Total Rural	1.0	0.1	0.4	10.3	55.5	29.5	2.6	0.6	0.0	100.0	95.4	2,106
<b>Education of household head</b>												
None	1.9	0.1	0.4	13.3	48.4	31.1	4.4	0.3	0.0	100.0	92.9	800
Primary	0.9	0.1	0.2	9.3	62.5	23.7	2.4	0.8	0.1	100.0	95.5	2,281
Secondary +	0.5	0.2	0.2	4.4	70.7	22.2	1.0	0.8	0.0	100.0	97.3	3,875
Other/Non-standard	0.5	0.0	0.0	11.6	72.6	14.9	0.4	0.0	0.0	100.0	99.1	107
Missing/DK	0.5	0.0	0.1	7.6	58.5	30.5	1.6	1.1	0.0	100.0	96.6	344

**Table WS.10: Availability of soap (continued)**

Percent distribution of households by availability of soap in the dwelling, Suriname, 2010

	Place for handwashing observed					Place for handwashing not observed					Percentage of households with soap anywhere in the dwelling <sup>1</sup>	Number of households
	Soap not observed at place for handwashing					Soap not observed at place for handwashing						
	Soap observed	Soap shown	No soap in household	Not able/Does not want to show soap	Missing	Soap shown	No soap in household	Not able/Does not want to show soap	Missing	Total		
<b>Wealth index quintile</b>												
Poorest	42.7	14.8	2.2	0.0	0.6	34.7	4.5	0.6	0.0	100.0	92.1	1,419
Second	59.3	10.2	1.3	0.3	0.2	25.5	2.6	0.7	0.0	100.0	95.0	1,467
Middle	71.1	5.9	0.4	0.0	0.0	20.6	0.9	1.1	0.0	100.0	97.6	1,520
Fourth	74.6	2.8	0.2	0.1	0.2	20.8	0.7	0.5	0.1	100.0	98.2	1,496
Richest	76.9	2.5	0.1	0.2	0.2	18.5	0.6	0.9	0.0	100.0	98.0	1,505
<b>Ethnicity of household head*</b>												
Indigenous/Amerindian	56.1	12.6	0.0	0.0	0.5	27.0	2.4	1.4	0.0	100.0	95.6	271
Maroon	50.5	13.4	1.8	0.0	0.5	29.1	4.3	0.3	0.0	100.0	93.1	1,594
Creole	70.1	6.5	0.7	0.3	0.2	19.7	1.6	0.9	0.0	100.0	96.3	1,447
Hindustani	70.7	4.7	0.4	0.2	0.1	21.9	0.8	1.1	0.0	100.0	97.4	2,069
Javanese	67.5	4.9	0.9	0.1	0.2	25.2	0.9	0.3	0.2	100.0	97.6	1,072
Mixed	72.4	3.4	0.3	0.2	0.1	22.8	0.6	0.2	0.0	100.0	98.6	777
Others	61.9	6.1	0.0	0.0	0.0	25.2	1.9	4.9	0.0	100.0	93.2	172
Total	65.2	7.1	0.8	0.1	0.2	23.9	1.8	0.8	0.0	100.0	96.2	7,407

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

<sup>1</sup> MICS indicator 4.6

## 7. Reproductive Health



## 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. A World Fit for Children goal is access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late, or too many.

Current use of contraception was reported by 48 percent of women currently married or in union (Table RH.1, page 97). The most prevalent method is the pill<sup>12</sup> which is used by one in four married women in Suriname, more than half of women using contraception. The second most prevalent method is female sterilization<sup>13</sup>, which accounts for 11 percent of married women. Variable proportions ranging between two and five percent of women reported use of the Intra-uterine devices (IUD)<sup>14</sup>, injectables<sup>15</sup>, and the male condom<sup>16</sup>. Less than one percent use periodic abstinence<sup>17</sup>, withdrawal<sup>18</sup>, male sterilization<sup>19</sup>, implants<sup>20</sup>, the female condom<sup>21</sup>, or any other method.

Contraceptive prevalence is highest in Commewijne at approximately 62 percent. Though lower than in Commewijne, a similar magnitude of contraceptive prevalence is observed in Wanica (52%), Nickerie (51%), and Saramacca (54%). The lowest contraceptive prevalence is in Brokopondo (26%) and Sipaliwini (25%). Having been married or in a union, women 15-24 years are less likely to use contraception than older women. Specifically, 42 percent of 15-19 year olds and 41 percent of 20-24 year olds reported that they were currently using contraception. Contraceptive prevalence is highest among women 35-39 years being approximately 56 percent.

Women's education level is strongly associated with contraceptive prevalence. The percentage of women using any method of contraception increases from 19 percent among those with no education to 42 percent among women with primary education, and to 52 percent among women with at least secondary education. With respect to the most popular methods of contraception, a similar pattern is observed and women with no education are less likely than those attaining primary or a minimum of a secondary

<sup>12</sup> Women can take a pill every day to avoid becoming pregnant.

<sup>13</sup> There are several types of operations a woman can have that will make her sterile, including a "tube tie" or the removal of the uterus (i.e., a hysterectomy) or ovaries.

<sup>14</sup> Women can have a plastic, T-shaped device placed inside them by a doctor or a nurse. There are two types of IUDs: hormone IUDs and copper IUDs. Both types are effective in preventing pregnancy. The IUD is a reversible form of contraception and can be used for up to 5-10 years (depending on type) before needing to be replaced.

<sup>15</sup> An injection of hormone that is released slowly into the bloodstream can be given regularly to women to prevent pregnancy. The most common type of injectable contraceptive is given every three months.

<sup>16</sup> Men can put a thin, rubber sheath on their penis before sexual intercourse.

<sup>17</sup> This is also called the safe period, the rhythm method, or the calendar method. This method is based on the principle that by not having sexual relations on certain days of her monthly cycle, a woman can avoid becoming pregnant.

<sup>18</sup> Men can withdraw from intercourse before climax.

<sup>19</sup> This is a comparatively minor operation done on men for contraceptive purposes. It is also called vasectomy.

<sup>20</sup> Also called Norplant, these are small rods surgically implanted in a woman's upper arm. They usually protect a woman against pregnancy for five or more years.

<sup>21</sup> A thin, transparent rubber can be placed in the vagina before sex to avoid pregnancy.

education to have used female sterilization, the pill, and male condoms. In the case of the pill, the respective rates of contraceptive prevalence are 12 percent, 19 percent, and 28 percent. With respect to male condoms, the corresponding rates are zero percent, two percent, and six percent. Accordingly, the principal choices of contraception seem to remain unchanged despite differences in women's level of education.

The wealth of the household is also strongly related to the level of contraceptive use, ranging from 32 percent among the poorest to 56 percent among the richest. Certain methods also have indicative patterns: Female sterilization ranges from a prevalence of 7 percent among women in the poorest households to 15 percent in the richest. Similarly, the use of the pill ranges from 17 percent to 25 percent.

**Table RH.1: 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, Suriname, 2010

Region	Percent of women (currently married or in union) who are using:													Number of women currently married or in union			
	Not using any method	Female sterilization	Male sterilization	IUD	Injectables	Implants	Pill	Male condom	Female condom	Periodic abstinence	Withdrawal	Other	Missing		Any modern method	Any traditional method	Any method <sup>1</sup>
Paramaribo	52.3	10.5	0.1	2.9	3.9	0.1	24.0	5.7	0.0	0.4	0.0	0.0	0.1	47.2	0.4	47.6	1,484
Wanica	48.4	15.7	0.0	1.8	4.5	0.2	25.0	4.1	0.0	0.0	0.2	0.0	0.0	51.4	0.2	51.6	735
Nickerie	49.5	7.0	0.2	0.7	4.7	0.2	32.5	5.1	0.0	0.0	0.0	0.2	0.0	50.3	0.2	50.5	326
Coronie	(54.3)	(11.4)	(0.0)	(0.0)	(11.4)	(0.0)	(17.1)	(5.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(45.7)	(0.0)	(45.7)	18
Saramacca	46.3	13.3	0.0	2.8	4.9	0.0	29.8	2.1	0.4	0.4	0.0	0.0	0.0	53.3	0.4	53.7	151
Commevijne	38.5	18.0	0.3	0.5	6.7	0.8	29.7	4.3	0.0	0.8	0.5	0.0	0.0	60.2	1.3	61.5	203
Marowijne	60.7	6.5	0.5	0.5	2.8	0.0	23.8	3.7	0.0	0.5	0.5	0.5	0.0	37.9	1.4	39.3	105
Para	57.6	6.3	0.0	0.5	3.1	0.0	26.2	6.3	0.0	0.0	0.0	0.0	0.0	42.4	0.0	42.4	109
Brokopondo	74.4	3.0	0.0	0.6	4.2	0.0	14.9	3.0	0.0	0.0	0.0	0.0	0.0	25.6	0.0	25.6	67
Sipaliwini	74.9	4.9	0.0	0.8	5.3	0.0	11.7	2.1	0.0	0.0	0.0	0.4	0.0	24.8	0.4	25.1	208
<b>Area</b>																	
Urban	50.7	12.5	0.1	2.3	4.2	0.2	24.2	5.3	0.0	0.3	0.1	0.0	0.1	48.9	0.4	49.3	2,430
Rural Coastal	49.4	8.9	0.2	1.2	4.8	0.1	31.2	3.7	0.1	0.1	0.2	0.1	0.0	50.1	0.5	50.6	701
Rural Interior	74.7	4.4	0.0	0.7	5.0	0.0	12.5	2.3	0.0	0.0	0.0	0.3	0.0	25.0	0.3	25.3	275
Total Rural	56.5	7.7	0.2	1.1	4.8	0.1	25.9	3.3	0.1	0.1	0.2	0.2	0.0	43.0	0.5	43.5	976
<b>Age</b>																	
15-19	57.9	0.4	0.0	0.0	2.8	0.0	29.2	9.4	0.4	0.0	0.0	0.0	0.0	42.1	0.0	42.1	128
20-24	59.4	0.4	0.4	0.3	3.7	0.0	29.0	6.2	0.0	0.4	0.1	0.0	0.0	40.1	0.6	40.6	386
25-29	56.3	0.9	0.1	1.2	4.2	0.3	32.4	4.2	0.0	0.3	0.0	0.0	0.0	43.4	0.3	43.7	585
30-34	50.1	6.7	0.0	2.4	5.4	0.4	29.9	4.6	0.0	0.4	0.1	0.1	0.0	49.4	0.5	49.9	566
35-39	44.2	14.1	0.0	3.0	5.8	0.0	26.4	6.4	0.0	0.1	0.0	0.1	0.0	55.7	0.2	55.8	628
40-44	50.4	19.9	0.1	2.4	3.9	0.3	18.6	4.4	0.0	0.0	0.0	0.1	0.0	49.5	0.1	49.6	608
45-49	56.0	24.4	0.1	2.3	3.3	0.0	10.9	1.6	0.0	0.7	0.4	0.1	0.3	42.5	1.2	43.7	506
<b>Education*</b>																	
None	80.8	4.1	0.0	1.2	2.2	0.0	11.5	0.0	0.0	0.0	0.0	0.2	0.0	18.9	0.2	19.2	174
Primary	57.6	14.4	0.1	1.1	4.7	0.2	19.4	2.3	0.0	0.1	0.1	0.1	0.0	42.2	0.2	42.4	859
Secondary +	47.9	10.4	0.1	2.4	4.5	0.2	27.8	5.9	0.0	0.4	0.1	0.0	0.1	51.5	0.5	52.0	2,294
Other/Non-standard	(57.2)	(7.2)	(0.0)	(0.0)	(3.6)	(0.0)	(23.7)	(8.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(42.8)	(0.0)	(42.8)	60

**Table RH.1: Use of contraception (continued)**

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

	Not using any method	Female sterilization	Male sterilization	IUD	Injectables	Implants	Pill	Male condom	Female condom	Periodic abstinence	Withdrawal	Other	Missing	Any modern method	Any traditional method	Any method <sup>1</sup>	Number of women currently married or in union
<b>Wealth index quintile</b>																	
Poorest	67.9	6.8	0.0	0.4	4.7	0.0	16.6	3.0	0.1	0.1	0.1	0.3	0.0	31.6	0.5	32.1	529
Second	52.2	11.0	0.1	0.9	5.0	0.5	26.5	3.7	0.0	0.0	0.2	0.0	0.0	47.7	0.2	47.8	685
Middle	51.6	10.7	0.3	1.8	5.5	0.0	26.5	3.4	0.0	0.0	0.0	0.0	0.2	48.2	0.0	48.2	712
Fourth	49.9	10.7	0.1	2.8	3.5	0.0	27.2	4.9	0.0	0.7	0.2	0.0	0.0	49.3	0.9	50.1	759
Richest	44.5	15.1	0.0	3.4	3.5	0.3	24.5	8.2	0.0	0.5	0.0	0.0	0.0	55.0	0.5	55.5	720
<b>Ethnicity of household head*</b>																	
Indigenous/Amerindian	55.6	7.6	0.0	1.6	8.3	0.0	23.0	3.4	0.0	0.0	0.0	0.6	0.0	43.8	0.6	44.4	159
Maroon	72.3	4.5	0.0	0.9	3.3	0.0	15.4	3.2	0.0	0.1	0.1	0.2	0.0	27.3	0.3	27.7	570
Creole	56.9	8.5	0.0	2.9	3.8	0.0	20.0	7.4	0.1	0.4	0.0	0.0	0.0	42.7	0.4	43.1	434
Hindustani	47.6	16.6	0.0	2.8	3.5	0.0	26.2	2.6	0.0	0.4	0.1	0.0	0.1	51.7	0.5	52.2	1,216
Javanese	40.7	10.7	0.4	0.4	6.3	0.8	33.5	6.9	0.0	0.1	0.3	0.0	0.0	58.9	0.4	59.3	601
Mixed	43.3	9.5	0.0	2.0	5.3	0.0	30.7	8.6	0.0	0.5	0.0	0.0	0.0	56.2	0.5	56.7	336
Others	73.9	6.9	0.6	3.8	3.8	0.0	7.4	3.8	0.0	0.0	0.0	0.0	0.0	26.1	0.0	26.1	88
<b>Total</b>	<b>52.3</b>	<b>11.1</b>	<b>0.1</b>	<b>2.0</b>	<b>4.4</b>	<b>0.2</b>	<b>24.7</b>	<b>4.7</b>	<b>0.0</b>	<b>0.3</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>47.2</b>	<b>0.4</b>	<b>47.6</b>	<b>3,406</b>

\* 'Missing/DK' categories not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

<sup>1</sup> MICS indicator 5.3; MDG indicator 5.3

## Unmet Need

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

Table RH.2 (page 101) shows the results of the survey on contraception, unmet need, and the demand for contraception satisfied.

Unmet need for spacing is defined as percentage of women who are not using a method of contraception AND are not pregnant and not postpartum amenorrheic<sup>22</sup> and are fecund<sup>23</sup> and say they want to wait two or more years for their next birth OR:

- are not pregnant and not postpartum amenorrheic and are fecund and unsure whether they want another child OR
- are pregnant and say that pregnancy was mistimed: would have wanted to wait OR
- are postpartum amenorrheic and say that the birth was mistimed: would have wanted to wait

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

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

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

In Suriname, Table RH.2 shows that unmet need for spacing is 8 percent and unmet need for limiting is 9 percent implying that total unmet need for contraception is 17 percent. Total unmet need for contraception is highest in the rural interior amounting to 34 percent. In Brokopondo and Sipaliwini, total unmet need for contraception is 33 percent and 34 percent respectively. Table RH.5 produce results that are indicative of declining total unmet need as women's wealth status and education levels increase.

Met need for limiting includes women who use a contraceptive method and who want no more children, those who use male or female sterilization or declare themselves as infecund. Met need for spacing

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<sup>22</sup> A women is postpartum amenorrheic if she had a birth in last two years and is not currently pregnant, and her menstrual period has not returned since the birth of the last child

<sup>23</sup> A women is considered in fecund if she is neither pregnant nor postpartum amenorrheic, and

(1a) has not had menstruation for at least six months, or (1b) never menstruated, or (1c) her last menstruation occurred before her last birth, or (1d) in menopause/has had hysterectomy OR

(2) She declares that she has had hysterectomy, or that she has never menstruated or that she is menopausal, or that she has been trying to get pregnant for 2 or more years without result in response to questions on why she thinks she is not physically able to get pregnant at the time of survey OR

(3) She declares she cannot get pregnant when asked about desire for future birth OR

(4) She has not had a birth in the preceding 5 years, is currently not using contraception and is currently married and was continuously married during the last 5 years preceding the survey



includes women who are using a contraceptive method and who want to have another child or undecided whether to have another child. The total of met need for spacing and limiting add up to the total met need for contraception. Table RH.2 shows that met need for spacing is 15 percent and met need for limiting is 33 percent implying that total met need for contraception is 48 percent. Total met need for contraception is highest in rural coastal areas amounting to 51 percent, while urban areas amount to 49 percent. In Brokopondo and Sipaliwini, total met need for contraception is 26 percent in both districts, exactly half of the highest met need recorded, in Commewijne at 62 percent. Table RH.2 produces results that are indicative of increasing total met need as women's wealth status and education levels increase.

Using information on contraception and unmet need, the percentage of demand for contraception satisfied is also estimated from the MICS data. Percentage of demand satisfied is defined as the proportion of women currently married or in a marital union who are currently using contraception, of the total demand for contraception. The total demand for contraception includes women who currently have an unmet need (for spacing or limiting), plus those who are currently using contraception. Table RH.2 shows the percentage of demand for contraception satisfied as amounting to 74 percent in Suriname. It is higher in urban areas (77%) than in rural areas (67%) being notably low in the rural interior (43%). Specifically, it is worth noting that Sipaliwini (43%), Brokopondo (43%) and Marowijne (60%) have the lowest percentage of demand for contraception satisfied. The demand for contraception varies positively with women's age, education, and wealth status. Women 15-19 years have the lowest level of satisfied demand that is estimated to be 53 percent, whereas for women 45-49 years the level of satisfaction increased to 85 percent. In terms of education, the satisfaction level among women with no education is 33 percent as opposed to 80 percent among women who at least attained secondary school. Satisfaction with demand for contraception is 51 percent among the women of the poorest households and 84 percent among those of the richest, varying in a manner that is consistent with the observed positive relationship between wealth status and unmet need, though there is a considerable gap between the poorest and the second wealth quintile.

**Table RH.2: Unmet need for contraception**

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

	Met need for contraception			Unmet need for contraception			Number of women currently married or in union	Percentage of demand for contraception satisfied	Number of women currently married or in union with need for contraception
	For spacing	For limiting	Total	For spacing	For limiting	Total <sup>1</sup>			
<b>District</b>									
Paramaribo	16.7	31.1	47.8	7.1	8.0	15.2	1,484	75.9	935
Wanica	15.0	36.6	51.6	6.1	10.2	16.4	735	75.9	500
Nickerie	11.8	38.7	50.5	3.8	6.9	10.6	326	82.6	199
Coronie	(17.1)	(28.6)	(45.7)	(5.7)	(5.7)	(11.4)	18	(*)	11
Saramacca	13.7	40.0	53.7	7.7	8.1	15.8	151	77.3	105
Commewijne	16.0	45.8	61.5	5.6	8.0	13.6	203	81.9	153
Marowijne	17.8	21.5	39.3	13.1	13.6	26.6	105	59.6	69
Para	15.2	27.2	42.4	5.8	13.1	18.8	109	69.2	67
Brokopondo	14.9	10.7	25.6	20.8	12.5	33.3	67	43.4	39
Sipaliwini	10.5	15.0	25.5	20.3	13.6	33.9	208	43.0	124
<b>Area</b>									
Urban	15.6	33.8	49.4	6.6	8.4	15.0	2,430	76.7	1,565
Rural Coastal	15.5	35.2	50.6	6.6	10.0	16.7	701	75.2	472
Rural interior	11.6	14.0	25.6	20.4	13.4	33.8	275	43.1	163
Total Rural	14.4	29.2	43.6	10.5	11.0	21.5	976	67.0	635
<b>Age</b>									
15-19	40.5	1.7	42.1	33.3	3.7	37.0	128	53.2	101
20-24	31.9	8.7	40.6	20.3	5.7	26.0	386	61.0	257
25-29	29.7	14.0	43.7	11.1	9.4	20.5	585	68.1	376
30-34	17.7	32.3	50.0	6.3	8.7	14.9	566	77.0	367
35-39	8.8	47.3	56.1	5.3	11.7	17.0	628	76.8	459
40-44	1.5	48.0	49.6	1.0	11.6	12.6	608	79.7	378
45-49	1.3	42.8	44.0	0.6	7.2	7.8	506	85.0	262
<b>Education*</b>									
None	5.8	13.6	19.4	20.7	17.9	38.6	174	33.4	101
Primary	8.5	34.0	42.4	8.5	13.3	21.8	859	66.0	552
Secondary +	18.4	33.6	52.1	6.3	7.0	13.3	2,294	79.7	1,499
Other/Non-standard	(22.8)	(22.8)	(45.6)	(10.0)	(5.5)	(15.5)	60	(74.6)	37
<b>Wealth index quintile</b>									
Poorest	11.3	21.0	32.3	17.6	13.4	31.0	529	51.0	335
Second	14.5	33.3	47.8	7.8	12.7	20.5	685	70.0	469
Middle	18.1	30.6	48.6	5.8	8.7	14.5	712	77.0	449
Fourth	16.4	33.7	50.1	5.4	6.3	11.7	759	81.1	469
Richest	14.8	40.7	55.5	4.8	6.0	10.9	720	83.6	478
<b>Ethnicity of household head*</b>									
Indigenous/Amerindian	20.4	24.1	44.4	10.7	11.6	22.4	159	66.5	106
Maroon	13.1	14.7	27.8	17.9	13.6	31.6	570	46.8	338
Creole	17.1	26.3	43.5	9.2	12.4	21.6	434	66.8	283
Hindustani	11.4	41.0	52.4	4.6	8.0	12.6	1,216	80.7	790
Javanese	18.6	40.7	59.3	3.5	5.7	9.3	601	86.5	412
Mixed	24.6	32.1	56.7	6.2	4.9	11.1	336	83.6	228
Others	6.8	19.3	26.1	6.8	14.8	21.7	88	(54.6)	42
<b>Total</b>	<b>15.3</b>	<b>32.5</b>	<b>47.7</b>	<b>7.7</b>	<b>9.1</b>	<b>16.9</b>	<b>3,406</b>	<b>73.9</b>	<b>2,200</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 5.4; MDG indicator 5.6

## Antenatal Care

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

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

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

The type of personnel providing antenatal care to women aged 15-49 years who gave birth in the two years preceding is presented in Table RH.3 (table 103), the vast majority of women obtained antenatal care from a doctor, a nurse/midwife, or a community health worker, the respective proportions being 71 percent, 19 percent and 4 percent. A small proportion of women amounting to 3 percent received no antenatal care whatsoever. The antenatal care received from any skilled personnel is 91 percent. It is worth noting that the pattern of variation reflecting personnel providing antenatal care remains unchanged for women irrespective of their characteristics predicated upon district, area, education, wealth status, and age at birth. However, in Sipaliwini and Brokopondo in the rural interior, relatively smaller proportions obtained care from doctors and relatively larger proportions obtained care from community health workers than are observed to be the case in any of the other districts. Such an observation is also evident among the poorest women and those with no education who make up relatively larger shares of eligible women in Sipaliwini and Brokopondo.

Table RH.4 (page 104) shows number of antenatal care visits during the last pregnancy during the two years preceding the survey, regardless of provider by selected characteristics. 67 percent received antenatal care at least four times. Mothers from the poorest households and those with primary education are less likely than more advantaged mothers to receive antenatal care four or more times. For example, 59 percent of the women living in poorest households reported four or more antenatal care visits compared with more than 70 percent among those living in the richest households. 52 percent of the women with no education received ANC at least 4 times as opposed to more than 70 percent among women with secondary or higher levels of education.

**Table RH.3: Antenatal care coverage**

Percent distribution of women age 15-49 who gave birth in the two years preceding the survey by type of personnel providing antenatal care during the pregnancy for the last birth, Suriname, 2010

District	Person providing antenatal care							Total	Any skilled personnel <sup>1</sup>	Number of women who gave birth in the preceding two years
	Medical doctor	Nurse/Midwife	Auxiliary midwife	Traditional birth attendant	Community health worker	Other/Missing	No antenatal care received			
Paramaribo	81.5	10.4	0.8	0.4	0.0	3.1	3.8	100.0	92.7	430
Wanica	74.6	21.9	0.0	0.9	0.9	0.0	1.8	100.0	96.5	191
Nickerie	52.6	45.7	0.0	0.0	0.0	0.0	1.7	100.0	98.3	61
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	4
Saramacca	75.4	14.0	3.5	0.0	0.0	3.5	3.5	100.0	93.0	30
Commewijne	(92.6)	(4.9)	(0.0)	(0.0)	(0.0)	(0.0)	(2.5)	100.0	(97.5)	44
Marowijne	61.4	32.6	0.0	0.0	0.0	1.5	4.5	100.0	93.9	65
Para	81.8	13.6	0.0	0.0	1.5	0.0	3.0	100.0	95.5	38
Brokopondo	42.1	23.3	0.8	0.0	30.1	0.8	3.0	100.0	66.2	53
Sipaliwini	47.8	30.6	0.6	0.3	16.4	1.4	3.1	100.0	78.9	146
<b>Area</b>										
Urban	79.2	14.6	0.5	0.5	0.3	2.0	3.0	100.0	94.3	668
Rural Coastal	68.7	25.6	0.5	0.0	0.3	1.1	3.8	100.0	94.9	193
Rural interior	46.3	28.6	0.6	0.2	20.0	1.2	3.0	100.0	75.5	199
Total Rural	57.3	27.2	0.6	0.1	10.3	1.1	3.4	100.0	85.0	392
<b>Mother's age at birth</b>										
Less than 20	64.8	27.1	1.3	1.0	2.8	0.3	2.8	100.0	93.2	160
20-34	72.3	17.9	0.4	0.3	4.2	2.0	3.0	100.0	90.6	710
35-49	72.4	17.6	0.3	0.0	4.0	1.8	3.8	100.0	90.3	160
Missing	(68.6)	(17.9)	(1.3)	(0.0)	(5.3)	(1.3)	(5.5)	100.0	(87.9)	30
<b>Education*</b>										
None	57.9	20.2	0.6	0.3	14.9	2.6	3.4	100.0	78.7	125
Primary	64.1	24.5	0.3	0.5	6.2	0.9	3.4	100.0	88.9	305
Secondary +	76.7	17.1	0.6	0.3	0.6	1.6	3.0	100.0	94.5	609
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	16
<b>Wealth index quintiles</b>										
Poorest	57.9	23.2	1.0	0.6	11.9	2.1	3.3	100.0	82.1	341
Second	73.3	20.4	0.2	0.8	0.8	1.0	3.4	100.0	94.0	212
Middle	74.5	19.7	0.8	0.0	0.0	1.7	3.3	100.0	95.1	200
Fourth	83.3	13.7	0.0	0.0	0.0	0.0	3.0	100.0	97.0	167
Richest	80.2	13.9	0.0	0.0	0.0	3.5	2.3	100.0	94.1	141
<b>Ethnicity of household head</b>										
Indigenous/Amerindian	65.8	22.5	0.0	3.3	4.4	0.0	4.0	100.0	88.3	50
Maroon	61.8	22.7	0.3	0.1	9.3	2.3	3.4	100.0	84.8	429
Creole	81.6	15.9	0.0	0.0	0.0	2.5	0.0	100.0	97.5	131
Hindustani	75.6	20.1	1.8	0.0	0.0	0.5	2.0	100.0	97.5	216
Javanese	73.4	19.7	0.5	0.0	0.0	1.5	5.0	100.0	93.5	111
Mixed	83.0	9.0	0.0	0.0	0.0	1.6	6.4	100.0	92.0	104
Others	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	20
<b>Total</b>	<b>71.1</b>	<b>19.3</b>	<b>0.5</b>	<b>0.4</b>	<b>4.0</b>	<b>1.7</b>	<b>3.1</b>	<b>100.0</b>	<b>94.9</b>	<b>1,060</b>

\* 'Missing/DK' category of education not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 5.5a; MDG indicator 5.5

**Table RH.4: Number of antenatal care visits**

Percent distribution of women who had a live birth during the two years preceding the survey by number of antenatal care visits by any provider, Suriname, 2010

	Percent distribution of women who had:						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 <sup>1</sup>	Missing/DK		
<b>District</b>								
Paramaribo	4.6	0.8	1.9	4.2	64.2	24.2	100.0	430
Wanica	1.8	0.9	0.9	6.1	74.6	15.8	100.0	191
Nickerie	1.7	0.9	1.7	5.3	78.1	12.3	100.0	61
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	100.0	4
Saramacca	3.5	1.8	0.0	3.5	77.2	14.0	100.0	30
Commewijne	(2.5)	(0.0)	(0.0)	(2.5)	(76.2)	(18.8)	100.0	44
Marowijne	4.5	2.3	0.8	1.5	62.1	28.8	100.0	65
Para	3.0	0.0	1.5	3.0	77.3	15.2	100.0	38
Brokopondo	3.0	1.5	1.5	2.3	58.6	33.1	100.0	53
Sipaliwini	3.1	2.8	1.7	1.4	57.5	33.6	100.0	146
<b>Area</b>								
Urban	3.5	0.7	1.5	4.7	68.0	21.6	100.0	668
Rural Coastal	3.8	1.3	1.4	3.0	71.9	18.6	100.0	193
Rural interior	3.0	2.4	1.6	1.6	57.8	33.5	100.0	199
Total Rural	3.4	1.9	1.5	2.3	64.7	26.2	100.0	392
<b>Mother's age at birth</b>								
Less than 20	2.8	1.1	2.6	7.8	68.1	17.5	100.0	160
20-34	3.4	0.7	1.4	3.2	66.7	24.6	100.0	710
35-49	3.8	3.4	0.3	3.4	65.2	23.8	100.0	160
Missing	(5.5)	(0.0)	(5.5)	(0.0)	(69.2)	(19.8)	100.0	30
<b>Education*</b>								
None	3.4	2.3	1.3	4.9	52.3	35.7	100.0	125
Primary	3.4	1.4	2.5	4.5	63.8	24.3	100.0	305
Secondary +	3.6	0.5	1.1	3.4	70.8	20.7	100.0	609
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)	100.0	16
<b>Wealth index quintiles</b>								
Poorest	3.3	1.8	2.2	3.8	59.4	29.5	100.0	341
Second	4.2	1.5	1.0	5.2	69.7	18.4	100.0	212
Middle	3.3	0.8	1.1	3.8	68.9	22.1	100.0	200
Fourth	4.0	1.0	1.3	4.0	72.8	16.9	100.0	167
Richest	2.3	0.0	1.2	1.6	70.3	24.7	100.0	141
<b>Ethnicity of household head</b>								
Indigenous/Amerindian	4.0	5.1	2.1	0.0	73.6	15.2	100.0	50
Maroon	3.4	1.7	1.9	3.4	58.7	30.9	100.0	429
Creole	0.0	0.0	2.9	4.6	69.0	23.5	100.0	131
Hindustani	2.8	0.8	1.3	5.3	80.7	9.1	100.0	216
Javanese	5.0	0.0	0.0	3.0	70.6	21.4	100.0	111
Mixed	8.0	0.5	0.0	1.6	66.5	23.4	100.0	104
Others	(*)	(*)	(*)	(*)	(*)	(*)	100.0	20
<b>Total</b>	<b>3.4</b>	<b>1.2</b>	<b>1.5</b>	<b>3.8</b>	<b>66.8</b>	<b>23.3</b>	<b>100.0</b>	<b>1,060</b>

\* 'Missing/DK' category of education not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 5.5b; MDG indicator 5.5

The types of services pregnant women received are shown in Table RH.5 (page 105). Among those women who have given birth to a child during the two years preceding the survey, 94 percent reported that a blood sample was taken during antenatal care visits, 97 percent reported that their blood pressure was checked, 95 percent that urine specimen was taken, and in 92 percent of cases all three services were received. No significant differences can be observed across the background characteristics.

<b>Table RH.5: Content of antenatal care</b>						
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, Suriname, 2010						
	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 <sup>1</sup>		
<b>District</b>						
Paramaribo	96.2	91.5	92.3	88.8	430	
Wanica	98.2	97.4	96.5	95.6	191	
Nickerie	98.3	97.4	94.8	94.8	61	
Coronie	(*)	(*)	(*)	(*)	4	
Saramacca	96.5	96.5	93.0	93.0	30	
Commewijne	(96.3)	(97.5)	(96.3)	(95.1)	44	
Marowijne	94.7	93.2	93.2	90.2	65	
Para	97.0	95.5	93.9	93.9	38	
Brokopondo	96.2	95.5	95.5	93.2	53	
Sipaliwini	96.7	96.9	96.1	95.8	146	
<b>Area</b>						
Urban	97.0	93.8	94.0	91.6	668	
Rural Coastal	95.7	94.9	93.0	91.7	193	
Rural interior	96.6	96.6	95.9	95.1	199	
Total Rural	96.1	95.7	94.5	93.4	392	
<b>Mother's age at birth</b>						
Less than 20	96.7	90.4	94.0	87.7	160	
20-34	97.0	95.8	94.6	93.7	710	
35-49	95.9	92.8	93.9	91.2	160	
Missing	(94.5)	(94.5)	(87.3)	(87.3)	30	
<b>Education*</b>						
None	96.6	95.2	95.9	94.6	125	
Primary	96.2	95.9	93.6	93.1	305	
Secondary +	96.9	93.5	93.9	91.1	609	
Other/Non-standard	(*)	(*)	(*)	(*)	16	
<b>Wealth index quintiles</b>						
Poorest	96.2	95.0	95.5	93.7	341	
Second	96.6	94.6	93.3	91.3	212	
Middle	96.7	94.0	92.3	90.6	200	
Fourth	97.0	93.4	93.1	90.8	167	
Richest	97.7	95.3	96.5	94.2	141	
<b>Ethnicity of household head</b>						
Indigenous/Amerindian	95.1	92.7	91.9	87.6	50	
Maroon	96.4	94.9	94.8	93.3	429	
Creole	99.6	96.2	97.5	93.3	131	
Hindustani	98.0	94.6	94.9	92.6	216	
Javanese	95.0	93.1	88.7	88.7	111	
Mixed	93.6	93.6	92.0	92.0	104	
Others	(*)	(*)	(*)	(*)	20	
<b>Total</b>	<b>96.7</b>	<b>94.5</b>	<b>94.2</b>	<b>92.3</b>	<b>1,060</b>	
* 'Missing/DK' category of education not shown due to low number of observations						
() Figures that are based on 25-49 unweighted cases						
(*) Figures that are based on less than 25 unweighted cases						
<sup>1</sup> MICS indicator 5.6						

## Assistance at Delivery

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

The MICS included a number of questions to assess the proportion of births attended by a skilled attendant. A *skilled attendant* includes a doctor, nurse, midwife or auxiliary midwife, or in the case of Suriname, community health care workers. About 93 percent of women 15-49 years who gave birth in the two years preceding the survey were assisted by skilled personnel (Table RH.6, page 107). This percentage is lowest in the rural interior at 77. The more educated a woman is, the more likely she is to have delivered with the assistance of a skilled attendant.

With respect to women giving birth in the two years prior to the MICS survey, as much as 54 percent claimed to have had such deliveries with assistance from a nurse/midwife while 36 percent claimed to have had such assistance from doctors. Of the remaining groups of personnel who assisted with the delivery of births, community health workers delivered births for the majority of women (3%). It is worth noting that the pattern of variation reflecting personnel providing assistance with delivery remains unchanged for women irrespective of their characteristics predicated upon district, area, education, wealth status, and age at birth. However, in Sipaliwini and Brokopondo in the rural interior, relatively small proportions of women claimed to have had births that were delivered by a doctor and relatively larger proportions claimed to have had births that were delivered by community health workers when compared to corresponding estimates in any of the other districts. This observation is similar for women of the poorest households and for those with no education.

Table RH.6 also presents the percent of children delivered by C-section totals at 19 percent for Suriname. This hides a relative wide range of prevalence within the background characteristics, notable that an urban birth is twice as likely as a rural interior birth to be delivered by C-section, that C-sections increase with age of the mother, that births in private sector facilities are more likely to deliver with C-section than public facilities, and that c-section prevalence increases with education of the mother and wealth of the household.

**Table RH.6: Assistance during delivery**

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

District	Person assisting at delivery										Delivery assisted by any skilled attendant <sup>1</sup>	Percent delivered by C-section <sup>2</sup>	Number of women who had a live birth in preceding two years
	Medical doctor	Nurse/Midwife	Auxiliary midwife	Midwife/Doctor in training	Traditional birth attendant	Community health worker	Relative/Friend	Other	No attendant	Total			
Paramaribo	38.8	54.6	0.8	1.9	1.2	0.4	0.4	1.9	0.0	100.0	96.2	23.8	430
Wanica	33.3	60.5	1.8	1.8	0.0	0.9	0.0	1.8	0.0	100.0	97.4	16.7	191
Nickerie	36.9	60.5	0.9	0.9	0.0	0.0	0.0	0.9	0.0	100.0	99.1	15.8	61
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	4
Saramacca	31.6	59.6	5.3	0.0	0.0	0.0	3.5	0.0	0.0	100.0	96.5	12.3	30
Commewijne	(37.5)	(48.7)	(3.8)	(3.8)	(0.0)	(0.0)	(1.2)	(5.0)	(0.0)	100.0	(93.8)	(33.7)	44
Marowijne	35.6	57.6	0.8	0.8	0.0	0.0	4.5	0.8	0.0	100.0	94.7	13.6	65
Para	39.4	51.5	1.5	0.0	0.0	1.5	3.0	3.0	0.0	100.0	92.4	18.2	38
Brokopondo	22.6	50.4	2.3	0.8	3.0	15.0	2.3	3.8	0.0	100.0	75.9	14.3	53
Sipaliwini	37.2	39.7	0.0	0.6	5.0	14.4	1.4	1.4	0.3	100.0	77.5	9.7	146
<b>Area</b>													
Urban	37.2	56.1	1.2	2.0	0.7	0.5	0.2	2.0	0.0	100.0	96.5	22.1	668
Rural Coastal	36.7	56.5	1.6	0.5	0.0	0.3	2.9	1.4	0.0	100.0	95.4	16.7	193
Rural interior	33.3	42.6	0.6	0.6	4.5	14.6	1.6	2.0	0.2	100.0	77.1	10.9	199
Total Rural	35.0	49.4	1.1	0.6	2.3	7.6	2.3	1.7	0.1	100.0	86.1	13.8	392
<b>Mother's age at birth</b>													
Less than 20	29.5	61.7	1.0	0.3	2.8	3.0	0.6	1.0	0.0	100.0	92.6	9.5	160
20-34	36.3	53.4	1.3	1.4	1.3	3.2	1.1	2.0	0.0	100.0	92.4	18.8	710
35-49	45.8	46.0	1.0	1.3	0.3	3.0	1.0	1.4	0.3	100.0	94.1	30.0	160
Missing	(23.8)	(56.7)	(0.0)	(11.0)	(0.0)	(1.3)	(0.0)	(7.2)	(0.0)	100.0	(91.4)	(16.4)	30
<b>Place of delivery</b>													
Public sector health facility	36.0	55.9	1.4	1.6	0.1	4.2	0.2	0.6	0.0	100.0	94.8	17.7	758
Private sector health facility	45.1	51.6	0.5	0.9	0.0	0.2	0.8	0.9	0.0	100.0	98.1	30.1	220
Home	5.3	48.7	2.2	3.2	24.7	1.0	11.0	2.9	1.0	100.0	59.4	0.0	41
Other	(28.9)	(40.8)	(0.0)	(0.0)	(10.8)	(1.5)	(9.5)	(8.4)	(0.0)	100.0	(69.8)	(0.0)	26



**Table RH.6: Assistance during delivery (continued)**

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

	Medical doctor		Nurse/ Midwife		Auxiliary midwife		Midwife/Doctor in training		Traditional birth attendant		Community health worker		Relative/Friend		Other			
<b>Education*</b>																		
None	36.8	43.2	0.3	0.3	0.3	0.3	0.3	10.1	5.5	10.1	1.3	2.1	0.3	100.0	80.7	11.4	125	
Primary	30.1	58.0	2.3	1.7	1.7	1.7	5.0	0.4	0.4	5.0	1.5	1.0	0.0	100.0	92.0	16.3	305	
Secondary +	38.9	54.2	0.9	1.4	1.4	1.4	0.7	0.9	0.9	0.7	0.6	2.3	0.0	100.0	95.4	21.6	609	
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	16	
<b>Wealth index quintiles</b>																		
Poorest	34.2	48.6	1.0	0.5	0.5	0.5	8.2	3.6	3.6	8.2	2.1	1.7	0.1	100.0	84.3	12.1	341	
Second	28.6	60.2	1.8	3.1	3.1	3.1	0.8	0.8	0.8	0.8	0.5	4.2	0.0	100.0	93.8	17.6	212	
Middle	40.0	56.7	0.3	1.1	1.1	1.1	0.8	0.0	0.0	0.8	0.3	0.8	0.0	100.0	98.1	18.2	200	
Fourth	43.6	51.1	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	100.0	98.7	30.6	167	
Richest	39.5	54.6	1.2	1.2	1.2	1.2	1.2	0.0	0.0	1.2	1.2	1.2	0.0	100.0	96.5	25.1	141	
<b>Ethnicity of household head</b>																		
Indigenous/Amerindian	38.5	49.3	2.1	1.0	1.0	1.0	4.4	0.8	0.8	4.4	3.9	0.0	0.0	100.0	90.9	11.6	50	
Maroon	31.7	54.3	1.1	1.1	1.1	1.1	6.8	2.4	2.4	6.8	1.0	1.7	0.1	100.0	88.1	13.2	429	
Creole	39.9	53.4	2.5	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.4	2.5	0.0	100.0	97.1	31.0	131	
Hindustani	40.2	55.8	0.2	1.5	1.5	1.5	0.0	0.8	0.8	0.0	0.2	1.3	0.0	100.0	97.7	25.7	216	
Javanese	29.7	57.8	2.4	3.0	3.0	3.0	1.5	0.0	0.0	1.5	2.5	3.0	0.0	100.0	93.0	14.3	111	
Mixed	42.2	51.4	0.5	2.1	2.1	2.1	0.0	0.0	0.0	0.0	0.6	3.2	0.0	100.0	96.2	22.8	104	
Others	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	20	
<b>Total</b>	<b>36.4</b>	<b>53.6</b>	<b>1.2</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>3.1</b>	<b>1.3</b>	<b>1.3</b>	<b>3.1</b>	<b>1.0</b>	<b>1.9</b>	<b>0.0</b>	<b>100.0</b>	<b>92.7</b>	<b>19.0</b>	<b>1,060</b>	

\* 'Missing/DK' category of education not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 5.7; MDG indicator 5.2<sup>2</sup> MICS indicator 5.9

## 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.7 (page 110) presents the percent distribution of women age 15-49 who had a live birth in the two years preceding the survey by place of delivery and the percentage of births delivered in a health facility, according to background characteristics.

In Suriname, 92 percent of women 15-49 with births in the two years preceding the survey delivered their babies in a health facility; 72 percent of women delivered in public sector facilities and 21 percent in private sector facilities. Only 4 percent of women delivered at home. Women in urban areas (95%) were somewhat more likely to deliver in a health facility than their rural counterparts (88%) and among the latter, women in the rural coastal areas were more likely than those in the rural interior to deliver in a health facility.

It is worth noting that as wealth status increases, women were more likely to deliver their babies in private sector facilities and less likely to do so in public sector facilities. In fact, in the wealthiest status group greater proportion of women delivered their babies in private facilities than in public facilities (52 percent as opposed to 46 percent). In remaining wealth status groups, the majority of women delivered in public facilities.

**Table RH.7: Place of delivery**

Percent distribution of women age 15-49 who had a live birth in two years preceding the survey by place of delivery, Suriname, 2010

	Place of delivery					Total	Delivered in health facility <sup>1</sup>	Number of women who had a live birth in preceding two years
	Public sector health facility	Private sector health facility	Home	Other	Missing/DK			
<b>District</b>								
Paramaribo	65.0	30.4	2.7	0.8	1.2	100.0	95.4	430
Wanica	78.1	15.8	2.6	1.8	1.8	100.0	93.9	191
Nickerie	85.0	5.3	8.8	0.0	0.9	100.0	90.3	61
Coronie	(*)	(*)	(*)	(*)	(*)	100.0	(*)	4
Saramacca	68.4	24.6	1.8	5.3	0.0	100.0	93.0	30
Commewijne	(69.9)	(25.1)	(0.0)	(5.0)	(0.0)	100.0	(95.0)	44
Marowijne	75.8	8.3	2.3	12.1	1.5	100.0	84.1	65
Para	80.3	13.6	3.0	1.5	1.5	100.0	93.9	38
Brokopondo	72.2	12.0	9.8	3.8	2.3	100.0	84.2	53
Sipaliwini	72.5	14.4	7.5	3.9	1.7	100.0	86.9	146
<b>Area</b>								
Urban	69.0	25.5	3.0	1.2	1.2	100.0	94.5	668
Rural Coastal	79.2	11.5	2.7	5.5	1.1	100.0	90.7	193
Rural interior	72.4	13.8	8.1	3.9	1.8	100.0	86.2	199
Total Rural	75.8	12.7	5.5	4.6	1.5	100.0	88.4	392
<b>Mother's age at birth</b>								
Less than 20	84.9	7.4	3.9	3.6	0.2	100.0	92.3	160
20-34	69.1	22.9	3.8	2.5	1.6	100.0	92.0	710
35-49	69.1	23.8	4.8	1.8	0.5	100.0	92.9	160
Missing	(68.8)	(25.8)	(0.0)	(0.0)	(5.5)	100.0	(94.5)	30
<b>Number of antenatal care visits</b>								
None	(46.6)	(13.5)	(11.6)	(1.3)	(27.0)	100.0	(60.1)	37
1-3 visits	73.4	14.6	8.4	3.6	0.0	100.0	88.0	69
4+ visits	74.9	20.6	2.8	1.4	0.3	100.0	95.5	708
Missing/DK	64.9	24.0	4.6	5.7	0.9	100.0	88.9	247
<b>Education*</b>								
None	71.2	14.9	7.4	5.3	1.2	100.0	86.1	125
Primary	79.2	10.9	6.2	2.5	1.1	100.0	90.1	305
Secondary +	67.6	26.9	2.1	1.9	1.5	100.0	94.5	609
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	100.0	(*)	16
<b>Wealth index quintiles</b>								
Poorest	75.0	9.9	8.3	5.3	1.5	100.0	84.9	341
Second	83.7	9.7	1.9	1.2	3.4	100.0	93.5	212
Middle	74.3	21.3	2.5	1.9	0.0	100.0	95.6	200
Fourth	67.1	29.6	2.0	1.3	0.0	100.0	96.7	167
Richest	46.0	52.4	0.4	0.0	1.2	100.0	98.4	141
<b>Ethnicity of household head</b>								
Indigenous/Amerindian	76.3	6.0	13.8	3.9	0.0	100.0	82.3	50
Maroon	77.7	11.7	4.9	3.7	2.0	100.0	89.4	429
Creole	66.4	30.7	1.3	1.7	0.0	100.0	97.1	131
Hindustani	74.1	22.4	3.0	0.2	0.2	100.0	96.5	216
Javanese	62.3	33.2	1.0	2.0	1.5	100.0	95.5	111
Mixed	58.9	32.5	3.7	1.6	3.2	100.0	91.4	104
Others	(*)	(*)	(*)	(*)	(*)	100.0	(*)	20
<b>Total</b>	<b>71.5</b>	<b>20.8</b>	<b>3.9</b>	<b>2.5</b>	<b>1.3</b>	<b>100.0</b>	<b>92.3</b>	<b>1,060</b>

\* 'Missing/DK' category of education not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 5.8

## 8. Child Development



## Early Childhood Education and Learning

Readiness of children for primary school can be improved through attendance to early childhood education programmes or through pre-school attendance. Early childhood education programmes include programmes for children that have organised learning components as opposed to baby-sitting and day-care which do not typically have organised educational and learning.

Only 34 percent of children aged 36-59 months are attending an organised early childhood education programme (Table CD.1, page 113). It is important to mention here that in Suriname the official (formal) pre-school starts at the age of four (48 months). This may be seen in the age data, where the attendance figure for three year olds is 25 percent and then substantially increases to 46 percent for the four year olds.

Urban-rural and district differentials are evident – the figure is as high as 44 percent in urban areas, compared to 20 percent in rural areas. Within rural areas, there is not much difference between rural coastal areas and the rural interior where respective proportions are 23 percent and 17 percent. Among children aged 36-59 months, attendance to early childhood education is most prevalent in Paramaribo (49%) and Wanica (37%) and lowest in Marowijne (7%). The gender differential is insignificant but differentials by socioeconomic status appear to be noteworthy and indicative of a positive association between socio-economic status and attendance. Sixty-three percent of children living in the wealthiest households attend pre-school while the figure drops to 16 percent in poorest households.

It is well recognized that a period of rapid brain development occurs in the first 3-4 years of life, and the quality of home care is the major determinant of the child's development during this period. In this context, engagement of adults in activities with children, presence of books in the home for the child, and the conditions of care are important indicators of quality of home care. Children should be physically healthy, mentally alert, emotionally secure, socially competent and ready to learn.

Information on a number of activities that support early learning was collected in the survey. These included the involvement of adults with children in the following activities: reading books or looking at picture books, telling stories, singing songs, taking children outside the home, compound or yard, playing with children, and spending time with children naming, counting, or drawing things.

For approximately 73 percent of children 36-59 months, an adult household member has been engaged in four or more activities that promote learning and school readiness during the 3 days preceding the survey (Table CD.2, page 114). The average number of activities that adult household members have engaged with children was 4.3. The table also indicates that the father's involvement in such activities has been somewhat limited. For a little more than a quarter (26%) of the children 36-59 months, fathers have been involved with one or more activities. A relatively high proportion, 39 percent, of children 36-59 months have not been living with their natural fathers.

**Table CD.1: Early childhood education**

Percentage of children age 36-59 months who are attending an organized early childhood education programme, Suriname, 2010

	Percentage of children age 36-59 months currently attending early childhood education <sup>1</sup>	Number of children age 36-59 months
<b>Sex</b>		
Male	33.0	596
Female	35.4	683
<b>District</b>		
Paramaribo	48.8	486
Wanica	36.8	238
Nickerie	17.5	64
Coronie	(*)	7
Saramacca	35.1	37
Commewijne	(33.8)	47
Marowijne	7.4	65
Para	34.7	51
Brokopondo	19.4	62
Sipaliwini	16.4	221
<b>Area</b>		
Urban	44.0	770
Rural Coastal	22.7	225
Rural interior	17.1	283
Total Rural	19.6	509
<b>Age of child</b>		
36-47 months	24.6	694
48-59 months	45.8	584
<b>Mother's education*</b>		
None	9.8	187
Primary	23.8	395
Secondary +	47.1	670
Other/Non-standard	(*)	23
<b>Wealth index quintile</b>		
Poorest	16.2	471
Second	35.2	250
Middle	34.7	208
Fourth	51.9	170
Richest	63.3	179
<b>Ethnicity of household head*</b>		
Indigenous/Amerindian	23.5	57
Maroon	22.4	547
Creole	50.7	178
Hindustani	37.1	242
Javanese	43.1	127
Mixed	50.8	112
Others	(*)	13
<b>Total</b>	<b>34.3</b>	<b>1,278</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 6.7

**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, Suriname, 2010

	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 <sup>1</sup>	With whom the father engaged in one or more activities <sup>2</sup>	Any household member engaged with the child	The father engaged with the child		
<b>Sex</b>						
Male	71.1	28.4	4.1	0.7	41.1	596
Female	74.5	23.8	4.4	0.7	37.3	683
<b>District</b>						
Paramaribo	80.2	29.8	4.6	0.9	38.8	486
Wanica	80.3	31.6	4.5	0.9	40.2	238
Nickerie	91.8	31.9	5.0	0.8	8.3	64
Coronie	(*)	(*)	(*)	(*)	(*)	7
Saramacca	77.2	49.1	4.6	1.6	14.0	37
Commewijne	(90.1)	(35.2)	(5.0)	(1.0)	(19.7)	47
Marowijne	72.2	23.1	4.3	0.4	35.2	65
Para	80.6	25.0	4.6	0.6	45.8	51
Brokopondo	47.6	9.7	3.0	0.1	48.4	62
Sipaliwini	44.7	9.7	3.1	0.2	53.0	221
<b>Area</b>						
Urban	80.9	29.6	4.6	0.9	38.5	770
Rural Coastal	80.3	33.9	4.6	0.9	24.8	225
Rural interior	45.3	9.7	3.0	0.2	52.0	283
Total Rural	60.8	20.4	3.7	0.5	40.0	509
<b>Age of child</b>						
36-47 months	74.6	28.6	4.3	0.8	38.2	694
48-59 months	70.9	22.8	4.2	0.6	40.2	584
<b>Mother's education*</b>						
None	40.2	7.7	2.9	0.2	57.9	187
Primary	70.1	15.6	4.0	0.4	40.6	395
Secondary +	83.1	36.9	4.8	1.1	33.1	670
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	23
<b>Father's education</b>						
None	47.0	9.8	3.3	0.2	na	67
Primary	68.6	26.9	4.0	0.6	na	209
Secondary +	86.9	51.3	4.9	1.5	na	441
Other/Non-standard	(*)	(*)	(*)	(*)	na	13
Father not in household	67.1	4.3	4.0	na	na	500
Missing/DK	55.3	31.9	3.4	0.6	na	49
<b>Wealth index quintiles</b>						
Poorest	55.7	13.3	3.5	0.3	51.2	471
Second	74.4	27.1	4.3	0.7	34.5	250
Middle	82.0	25.0	4.6	0.6	34.2	208
Fourth	88.6	44.0	4.9	1.4	26.3	170
Richest	90.6	41.5	5.3	1.2	31.5	179
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	77.4	27.6	4.5	0.6	13.3	57
Maroon	56.6	8.0	3.5	0.2	56.5	547
Creole	83.4	27.8	4.8	0.8	46.9	178
Hindustani	86.5	48.9	4.9	1.3	10.0	242
Javanese	83.2	42.9	4.8	1.3	21.1	127
Mixed	91.0	36.8	5.1	1.1	40.1	112
Others	(*)	(*)	(*)	(*)	(*)	13
<b>Total</b>	<b>72.9</b>	<b>25.9</b>	<b>4.3</b>	<b>0.7</b>	<b>39.1</b>	<b>1,278</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 6.1

<sup>2</sup> MICS Indicator 6.2

In urban areas when compared to rural areas, larger proportions of children have experienced adults who have facilitated learning and school readiness activities. As much as 81 percent of children in urban area compared to 61 percent in rural areas had such experiences. It is worth noting that there is negligible difference between urban and rural coastal areas where respective proportions amounting to 81 percent and 80 percent of children have had such experiences. However, marked differences between urban areas and the rural interior are evident, the latter having 45 percent of children with such experiences.

Strong differentials by district and socio-economic status have also been observed. Adult engagement in activities with children is lowest in Brokopondo (48%) and Sipaliwini (45%) and higher in the remaining districts being greatest in Nickerie (92%). There is a positive association between socio-economic status and adult engagement in activities with children with proportions among children increasing from 56 percent among children in the poorest quintile to 91 percent among children in the wealthiest quintile. While father's involvement showed a similar pattern with respect to urban-rural differences, it was less predictable in terms of its association with socio-economic status, but nevertheless clear in general. It is interesting to note that adult household members' engagement with children and fathers' involvement with children are positively associated with each of mother's education and father's education, each increasing with higher levels of educational attainment of children's mothers as well as their fathers.

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. 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 Suriname, 25 percent of children under 5 years are living in households where at least 3 children's books are present while 12 percent live in households with 10 or more children's books (Table CD.3, page 117). With respect to having at least three children's books, there are marked differences in the proportions of children across districts and area. In terms of the different districts, the lowest proportions among children are in Brokopondo (5%) and Sipaliwini (3%), slightly higher in Marowijne (11%) and Para (16%), and markedly higher in the remaining districts being greatest in Paramaribo (37%), the primate urban area in Suriname. In terms of areas, higher proportions among children are observed in urban areas (34%) than in rural areas (11%). Substantially low proportions of children are observed in the rural interior (4%) with evidence of notably higher proportions in rural coastal areas (19%). There is also a positive association between each of mother's education and the household socio-economic status, and the proportion of children living in households where there are at least 3 children's books.

Table CD.3 also shows that 59 percent of children aged 0-59 months had 2 or more playthings to play with in their homes. The playthings in MICS included household objects, 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 materials found outside the home (such as sticks, rocks, animal shells, or leaves). It is interesting to note that 88 percent of children play with toys that come from a store. In fact, this particular variable is the only that differ slightly across background characteristics, as children in the rural interior have slightly less store bought toys (75%) compared to urban children (92%). Somewhat expected, fewer younger children have two or more playthings than the older children, 46 percent against 68 percent, respectively.

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



Table CD.4 (page 118) shows that 3 percent of children aged 0-59 months were left alone in the past week and 6 percent in the care of another child. Combining the two, it is calculated that 7 percent of children were left with inadequate care during the week preceding the survey. No differences were observed by the sex of the child or between urban and rural areas. In the rural interior, however, somewhat higher proportions of children 0-59 months were left in inadequate care when compared to their counterparts in rural coastal areas or in urban areas. Relatively more children aged 24-59 months were left in inadequate care (8 percent) when compared to younger children aged 0-23 months (5 percent), but the difference may not be statistically significant. The children in Para seem worse off, with 14 percent left in inadequate care, mainly driven by a high proportion left in the care of other children under age 10.

**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, Suriname, 2010

	Household has for the child:		Child plays with:			Two or more types of playthings <sup>2</sup>	Number of children under age 5
	3 or more children's books <sup>1</sup>	10 or more children's books	Homemade toys	Toys from a shop/manufactured toys	Household objects/objects found outside		
<b>Sex*</b>							
Male	24.5	11.0	28.7	87.7	55.7	58.7	1,659
Female	25.5	13.0	30.4	88.2	56.8	59.0	1,649
<b>District</b>							
Paramaribo	36.9	18.6	26.0	93.5	54.1	57.7	1,274
Wanica	29.2	15.6	26.4	88.5	55.3	58.3	599
Nickerie	26.8	11.2	27.5	91.3	52.3	55.0	188
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	14
Saramacca	29.3	8.6	22.9	92.1	59.3	61.4	91
Commewijne	30.6	13.1	27.9	91.8	61.2	61.2	122
Marowijne	10.7	1.3	32.4	87.4	61.3	62.6	192
Para	15.5	7.5	28.7	89.7	54.0	52.9	122
Brokopondo	4.8	0.9	26.4	78.1	54.1	56.2	167
Sipaliwini	3.0	0.8	43.8	73.9	61.8	63.0	537
<b>Area</b>							
Urban	34.4	17.4	26.4	91.9	54.9	58.0	2,001
Rural Coastal	19.1	6.9	28.2	90.0	56.6	58.7	603
Rural interior	3.5	0.8	39.7	74.9	60.0	61.3	705
Total Rural	10.7	3.6	34.4	81.9	58.4	60.1	1,307
<b>Age</b>							
0-23 months	15.7	6.3	18.7	82.5	45.0	45.9	1,390
24-59 months	31.8	16.1	37.4	91.9	64.4	68.2	1,918
<b>Mother's education*</b>							
None	1.7	0.4	37.8	69.2	58.2	54.3	454
Primary	10.5	2.9	32.7	86.9	54.3	58.0	967
Secondary +	38.3	19.3	25.7	93.2	56.7	60.4	1,824
Other/Non-standard	(39.6)	(26.9)	(36.4)	(82.8)	(68.6)	(68.6)	48
<b>Wealth index quintile</b>							
Poorest	3.9	0.7	37.9	78.4	59.7	61.4	1,139
Second	17.1	6.5	25.4	92.8	54.1	57.9	675
Middle	30.9	15.5	26.2	91.6	53.5	55.0	563
Fourth	46.4	22.2	24.5	92.7	55.4	57.6	501
Richest	61.1	33.9	24.2	95.2	55.5	59.9	429
<b>Ethnicity of household head*</b>							
Indigenous/Amerindian	6.8	0.5	39.1	86.1	44.7	53.1	153
Maroon	9.3	2.4	33.4	82.9	58.8	60.3	1,389
Creole	40.2	20.9	26.9	93.9	50.3	55.5	428
Hindustani	33.7	17.2	22.2	89.1	59.4	60.3	644
Javanese	38.0	17.6	28.0	93.6	50.4	55.2	346
Mixed	49.4	30.7	29.2	93.7	60.0	60.9	308
Others	(*)	(*)	(*)	(*)	(*)	(*)	38
<b>Total</b>	<b>25.0</b>	<b>12.0</b>	<b>29.5</b>	<b>87.9</b>	<b>56.3</b>	<b>58.8</b>	<b>3,308</b>

\* 'Missing' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 6.3<sup>2</sup> MICS indicator 6.4

**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, Suriname, 2010

	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 <sup>1</sup>	
<b>Sex*</b>				
Male	2.3	6.3	7.1	1,659
Female	2.7	5.9	7.0	1,649
<b>District</b>				
Paramaribo	3.2	7.4	8.8	1,274
Wanica	0.7	3.7	3.7	599
Nickerie	0.0	1.4	1.4	188
Coronie	(*)	(*)	(*)	14
Saramacca	0.0	2.9	2.9	91
Commewijne	0.5	1.1	1.1	122
Marowijne	1.9	2.8	3.5	192
Para	2.9	13.2	14.4	122
Brokopondo	3.3	7.5	9.0	167
Sipaliwini	4.8	8.4	9.9	537
<b>Area</b>				
Urban	2.2	5.8	6.7	2,001
Rural Coastal	1.3	4.7	5.1	603
Rural interior	4.4	8.2	9.7	705
Total Rural	3.0	6.6	7.6	1,307
<b>Age</b>				
0-23 months	2.2	4.2	5.3	1,390
24-59 months	2.7	7.5	8.4	1,918
<b>Mother's education*</b>				
None	4.2	6.4	7.5	454
Primary	2.1	6.6	7.2	967
Secondary +	2.2	5.7	6.7	1,824
Other/Non-standard	(6.4)	(12.8)	(17.0)	48
<b>Wealth index quintile</b>				
Poorest	3.6	7.0	8.6	1,139
Second	2.1	6.9	7.7	675
Middle	2.4	6.6	6.9	563
Fourth	0.8	2.4	2.4	501
Richest	2.3	6.4	7.8	429
<b>Ethnicity of household head*</b>				
Indigenous/Amerindian	0.7	5.7	6.0	153
Maroon	3.8	7.8	9.3	1,389
Creole	0.9	6.4	7.4	428
Hindustani	1.0	2.9	2.9	644
Javanese	1.7	4.9	5.4	346
Mixed	3.9	6.2	7.5	308
Others	(*)	(*)	(*)	38
<b>Total</b>	<b>2.5</b>	<b>6.1</b>	<b>7.1</b>	<b>3,308</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

(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 Suriname.

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

- Literacy-numeracy: Children are identified as being developmentally on track based on whether they can identify/name at least ten letters of the alphabet, whether they can read at least four simple popular words, and whether they know the name and recognize the symbols of all numbers from 1 to 10. If at least two of these are true, then the child is considered developmentally on track.
- Physical: If the child can pick up a small object with two fingers, like a stick or a rock from the ground and/or the mother/caretaker does not indicate that the child is sometimes too sick to play, then the child is regarded as being developmentally on track in the physical domain.
- Social-emotional: Children are considered to be developmentally on track if two of the following are 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 this 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 (page 120). In Suriname, 71 percent of children aged 36-59 months are developmentally on track. ECDI is lower among boys (65%) than girls (76%). As expected, the ECDI is higher in the older age group, at 73 percent among 48-59 months old children compared to 69 percent among 36-47 months old children, since children mature more skills with increasing age. Higher ECDI is seen in children attending early childhood education, at 78 percent against 67 percent for those who are not attending. Children living in the poorest households have a lower ECDI (60%) when compared to children living in households belonging to the other wealth quintiles. The analysis of four domains of child development shows that 97 percent of the children are on track in the learning domain and 98 percent in the physical domain, but much less on track in literacy-numeracy (21%) and social-emotional (67%) domains. For each individual domain, the ECDI score is lowest among children living in poorest households, those of mothers with no education, and among children not attending early childhood education.

**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, Suriname, 2010

	Percentage of children age 36-59 months who are developmentally on track for indicated domains				Early child development index score <sup>1</sup>	Number of children age 36-59 months
	Literacy-numeracy	Physical	Social-Emotional	Learning		
<b>Sex</b>						
Male	14.6	97.8	62.5	97.1	65.4	596
Female	26.0	97.9	71.7	97.1	75.7	683
<b>District</b>						
Paramaribo	28.1	97.9	69.0	97.1	76.0	486
Wanica	23.1	100.0	73.5	99.1	78.6	238
Nickerie	27.8	97.9	78.4	99.0	84.5	64
Coronie	(*)	(*)	(*)	(*)	(*)	7
Saramacca	15.8	98.2	57.9	98.2	64.9	37
Commewijne	(25.4)	(100.0)	(87.3)	(91.5)	(80.3)	47
Marowijne	10.2	91.7	62.0	95.4	58.3	65
Para	13.9	97.2	70.8	100.0	70.8	51
Brokopondo	9.7	94.4	60.5	95.2	60.5	62
Sipaliwini	6.7	97.7	53.7	95.8	52.5	221
<b>Area</b>						
Urban	26.7	98.7	71.7	97.4	77.5	770
Rural Coastal	16.8	96.1	67.9	98.1	69.5	225
Rural interior	7.4	97.0	55.2	95.7	54.3	283
Total Rural	11.6	96.6	60.8	96.7	61.0	509
<b>Age</b>						
36-47 months	15.9	97.7	67.2	97.0	69.2	694
48-59 months	26.4	98.0	67.6	97.3	73.0	584
<b>Attendance to early childhood education</b>						
Attending	32.2	98.4	69.7	97.9	77.7	438
Not attending	14.6	97.6	66.2	96.7	67.4	840
<b>Mother's education*</b>						
None	6.1	95.2	59.4	94.2	56.6	187
Primary	15.5	98.1	64.9	97.5	68.3	395
Secondary +	27.8	98.4	71.6	97.6	77.1	670
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	23
<b>Wealth index quintile</b>						
Poorest	8.5	96.8	59.1	95.9	59.5	471
Second	21.3	98.5	73.1	98.9	75.1	250
Middle	26.5	98.7	75.6	97.1	81.3	208
Fourth	29.4	97.6	74.1	97.6	80.1	170
Richest	36.7	98.9	65.1	97.4	74.5	179
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	11.1	97.1	64.9	98.2	66.7	57
Maroon	11.5	97.2	62.7	96.3	63.4	547
Creole	31.0	98.9	72.8	98.9	78.0	178
Hindustani	26.8	97.5	64.6	97.8	73.5	242
Javanese	26.8	98.4	72.8	95.3	75.5	127
Mixed	29.4	100.0	79.4	100.0	85.4	112
Others	(*)	(*)	(*)	(*)	(*)	13
<b>Total</b>	<b>20.7</b>	<b>97.8</b>	<b>67.4</b>	<b>97.1</b>	<b>70.9</b>	<b>1,278</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 6.6

## 9. Literacy and Education



## Literacy among Young Women

One of the World Fit for Children goals is to assure adult literacy. Adult literacy is also an MDG indicator, relating to both men and women. In MICS, since only a women's questionnaire was administered, the results are based only on females age 15-24. Literacy is assessed on the ability of the respondent to read a short simple statement or based on school attendance. For women 15-24 years, the percent literate is presented in Table ED.1 (page 123). Thus, it is estimated that 92 percent of women 15-24 years are literate. Literacy rates in urban areas are higher than those in rural areas being 96 percent and 80 percent respectively and have been observed to be substantially lower in the rural interior (54%) than in the rural coastal areas (93%), the latter having rates that closely approximate those in urban areas. Not surprisingly, there is a positive association between socio-economic status of females 15-24 years and literacy rates with just 73 percent of women in the poorest households being literate.

## 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 (page 124) shows the proportion of children in the first grade of primary school who attended pre-school the previous year. Overall, 76 percent of children attending the first grade of primary school were attending pre-school the previous year. In rural coastal areas, the proportion (78%) was virtually consistent with that in urban areas (79%), but a notably lower proportion is observed in the rural interior (67%). Socioeconomic status appears to be positively associated with school readiness – while the indicator is only 71 percent among the poorest households, it increases to 91 percent among those children living in the richest households.

<b>Table ED.1: Literacy among young women</b>			
Percentage of women age 15-24 years who are literate, Suriname, 2010			
	Percentage literate <sup>1</sup>	Percentage not known	Number of women age 15-24 years
<b>Region</b>			
Paramaribo	96.5	2.1	1,034
Wanica	96.6	0.9	389
Nickerie	92.0	3.5	153
Coronie	(*)	(*)	7
Saramacca	97.2	0.9	58
Commewijne	95.6	2.7	98
Marowijne	93.1	2.9	86
Para	92.5	3.3	68
Brokopondo	78.3	7.0	46
Sipaliwini	46.3	4.2	137
<b>Area</b>			
Urban	96.3	1.8	1,539
Rural Coastal	93.3	3.0	354
Rural interior	54.3	4.9	183
Total Rural	80.0	3.6	537
<b>Education*</b>			
None	1.6	2.4	50
Primary	69.1	10.4	318
Secondary +	100.0	0.0	1,687
Other/Non-standard	(*)	(*)	19
<b>Age</b>			
15-19	92.8	1.8	1,085
20-24	91.4	2.8	991
<b>Wealth index quintile</b>			
Poorest	73.3	5.2	388
Second	94.0	1.4	433
Middle	96.3	2.5	398
Fourth	97.4	1.2	414
Richest	98.1	1.5	443
<b>Ethnicity of household head*</b>			
Indigenous/Amerindian	87.8	4.6	84
Maroon	81.3	3.2	579
Creole	95.9	4.1	358
Hindustani	96.5	1.0	560
Javanese	99.3	0.2	285
Mixed	96.8	2.3	180
Others	(*)	(*)	29
<b>Total</b>	<b>92.1</b>	<b>2.3</b>	<b>2,076</b>
* 'Missing/DK' categories not shown due to low number of observations			
(*) Figures that are based on less than 25 unweighted cases			
<sup>1</sup> MICS indicator 7.1; MDG indicator 2.3			



**Table ED.2: School readiness**

Percentage of children attending first grade of primary school who attended pre-school the previous year, Suriname, 2010

	Percentage of children attending first grade who attended preschool in previous year <sup>1</sup>	Number of children attending first grade of primary school
<b>Sex</b>		
Male	74.4	385
Female	77.3	350
<b>Region</b>		
Paramaribo	74.1	270
Wanica	83.5	133
Nickerie	(97.0)	37
Coronie	(*)	1
Saramacca	(81.8)	18
Commewijne	(90.6)	29
Marowijne	64.3	43
Para	78.5	38
Brokopondo	77.0	37
Sipaliwini	63.4	128
<b>Area</b>		
Urban	78.6	438
Rural Coastal	78.1	132
Rural interior	66.5	165
Total Rural	71.6	297
<b>Mother's education*</b>		
None	62.3	124
Primary	72.6	242
Secondary +	82.8	349
Other/Non-standard	(*)	9
<b>Wealth index quintile</b>		
Poorest	71.3	287
Second	71.2	163
Middle	77.6	120
Fourth	83.3	86
Richest	90.7	78
<b>Ethnicity of household head*</b>		
Indigenous/Amerindian	74.3	41
Maroon	68.7	354
Creole	81.0	93
Hindustani	86.0	127
Javanese	85.6	62
Mixed	(78.1)	48
Others	(*)	6
<b>Total</b>	<b>75.8</b>	<b>735</b>
* 'Missing/DK' categories not shown due to low number of observations		
( ) Figures that are based on 25-49 unweighted cases		
(*) Figures that are based on less than 25 unweighted cases		
<sup>1</sup> MICS indicator 7.2		

## Primary and Secondary School Participation

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

The indicators for primary and secondary school attendance include:

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

The indicators of school progression include:

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

Of children who are of primary school entry age (age 6) in Suriname, 87 percent are attending the first grade of primary school (ED.3, page 126). There does not appear to be much if any differences across sex; however, noteworthy differentials are present by urban-rural areas. Ninety percent of the children of primary school entrance age in urban areas are estimated to be attending the first grade of primary school as opposed to 82 percent in rural areas. While the proportion observed in rural coastal areas (87%) is almost as high as that observed for urban areas, the proportion observed in the rural interior is noticeably lower being estimated at 78 percent. While there does not appear to be any clear association between socio-economic status and the proportion of children of primary school age attending the first grade of primary school, there does appear to be a positive association between mother's education and the latter. For children age 6 whose mothers have at least secondary school education, 91 percent were attending the first grade while for those with mothers having no education; the corresponding proportion is 74 percent.

Table ED.4<sup>24</sup> (page 127) provides the percentage of children of primary school age attending primary or secondary school. The majority of children of primary school age are attending school (95%). Among children of primary school age, the estimates are also consistent with marginally higher levels of school attendance among girls (96%) than among boys (95%). In general, this pattern across the sexes persists irrespective of children's background characteristics. Except in Sipaliwini where school attendance among children of primary school age is estimated to be 89 percent, similar but higher levels of school attendance are evident in all of the other districts of Suriname. In urban areas, 97 percent of the children of primary school age are attending primary or secondary school as opposed to 94 percent in rural areas. While the proportion observed in rural coastal areas (97%) is estimated to be just as high as that observed for urban areas, the proportion observed in the rural interior is noticeably lower being estimated to be 90 percent. School attendance among primary school age children is positively associated with mother's education and is estimated to be 86 percent for children whose mothers had no education and 98 percent for those whose mother had at least secondary education. The primary school age children of the poorest

<sup>24</sup> Ratios presented in this table are "adjusted" since they include not only primary school attendance, but also secondary school attendance in the numerator.

households are estimated to have the lowest school attendance rates (92%) when compared to children in each of the other wealth status groups.

<b>Table ED.3: Primary school entry</b>		
Percentage of children of primary school entry age entering grade 1 (net intake rate), Suriname, 2010		
	Percentage of children of primary school entry age entering grade 1 <sup>1</sup>	Number of children of primary school entry age
<b>Sex</b>		
Male	86.2	316
Female	88.2	302
<b>Region</b>		
Paramaribo	92.8	232
Wanica	87.3	120
Nickerie	88.2	42
Coronie	(*)	2
Saramacca	(80.0)	16
Commewijne	(83.6)	30
Marowijne	80.7	29
Para	89.8	35
Brokopondo	84.4	27
Sipaliwini	75.3	84
<b>Area</b>		
Urban	89.8	394
Rural Coastal	87.4	112
Rural interior	77.5	112
Total Rural	82.4	223
<b>Mother's education*</b>		
None	74.5	84
Primary	85.0	183
Secondary +	91.0	337
Other/Non-standard	(*)	9
<b>Wealth index quintile</b>		
Poorest	82.4	201
Second	86.8	136
Middle	95.7	104
Fourth	88.3	85
Richest	87.3	92
<b>Ethnicity of household head*</b>		
Indigenous/Amerindian	(86.5)	25
Maroon	85.2	255
Creole	91.2	100
Hindustani	91.0	129
Javanese	86.7	58
Mixed	(77.2)	43
Others	(*)	4
<b>Total</b>	<b>87.2</b>	<b>617</b>
* 'Missing/DK' categories not shown due to low number of observations		
( ) Figures that are based on 25-49 unweighted cases		
(*) Figures that are based on less than 25 unweighted cases		
<sup>1</sup> MICS indicator 7.3		

**Table ED.4: Primary school attendance**

Percentage of children of primary school age attending primary or secondary school (adjusted net attendance ratio), Suriname, 2010

	Male		Female		Total	
	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted) <sup>1</sup>	Number of children
<b>Region</b>						
Paramaribo	97.0	788	97.9	637	97.4	1,425
Wanica	92.5	335	96.5	288	94.3	623
Nickerie	98.3	127	97.0	91	97.8	219
Coronie	(*)	12	(*)	11	(*)	23
Saramacca	94.4	59	98.0	56	96.2	115
Commewijne	92.2	57	98.1	89	95.8	146
Marowijne	95.0	101	96.3	83	95.6	184
Para	95.2	87	97.9	85	96.6	172
Brokopondo	93.5	79	95.9	62	94.6	142
Sipaliwini	87.4	224	90.1	227	88.7	451
<b>Area</b>						
Urban	95.6	1,217	97.5	1,005	96.5	2,222
Rural Coastal	96.0	350	97.4	334	96.7	684
Rural interior	89.0	304	91.3	289	90.1	593
Total Rural	92.7	654	94.6	623	93.6	1,277
<b>Age at beginning of school year</b>						
6	87.9	316	92.2	302	90.0	617
7	95.9	312	96.7	270	96.3	582
8	95.1	305	98.1	306	96.6	611
9	96.4	320	97.5	236	96.9	556
10	95.7	298	96.3	255	96.0	553
11	96.6	320	97.9	260	97.1	580
<b>Mother's education</b>						
None	83.7	251	89.5	205	86.3	456
Primary	94.4	616	96.3	525	95.3	1,142
Secondary +	97.3	949	98.0	859	97.6	1,808
Other/Non-standard	(*)	25	(*)	25	(98.0)	51
Missing/DK	(100.0)	29	(*)	14	100.0	43
<b>Wealth index quintile</b>						
Poorest	89.7	546	93.5	483	91.5	1,029
Second	94.7	448	97.0	347	95.7	795
Middle	98.1	324	98.0	310	98.1	635
Fourth	98.1	264	99.4	260	98.7	524
Richest	96.5	289	95.9	228	96.2	517
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	95.1	117	95.3	94	95.2	211
Maroon	92.0	707	94.6	633	93.3	1,340
Creole	96.8	282	98.9	246	97.8	528
Hindustani	96.4	393	97.0	350	96.7	743
Javanese	97.0	187	98.0	163	97.5	350
Mixed	94.5	158	98.2	123	96.1	280
Others	(*)	27	(*)	18	(92.6)	45
<b>Total</b>	<b>94.6</b>	<b>1,871</b>	<b>96.4</b>	<b>1,629</b>	<b>95.4</b>	<b>3,499</b>

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases; (\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 7.4; MDG indicator 2.1

The secondary school net attendance ratio is presented in Table ED.5<sup>25</sup> (page 129). More dramatic than in primary school where 4 percent of the children are not attending school at all, is the fact that only 59 percent is attending secondary school or pursuing tertiary education. Of the remaining 41% some of them are either out of school (15%) or attending primary school (26%). Among children of secondary school age, the estimates are also consistent with markedly higher levels of school attendance among girls (66%) than among boys (53%). In general, this pattern persists across the sexes irrespective of children's background characteristics though, in the case of children in Sipaliwini and by extension, the rural interior, higher levels of attendance (at secondary or higher levels) among secondary school age children are evident for boys than for girls. In this relation, it is worth noting that secondary education is only provided in some parts of Sipaliwini. The low school attendance on secondary level is to be explained by this fact, and higher levels of school attendance are evident in all of the other districts of Suriname.

In urban areas, 66 percent of the children of secondary school age are attending secondary or tertiary education institutions as opposed to 44 percent in rural areas. While the proportion observed in rural coastal areas (56%) is somewhat below that observed for urban areas, the proportion observed in the rural interior is substantially lower being estimated to be 21 percent. School attendance at secondary or higher levels among secondary school age children is positively associated with the household's socio-economic status. The children of the poorest households are estimated to have the lowest school attendance rates (29%) at secondary or higher levels while the wealthiest set of children have school attendance rates estimated to be 83 percent. For children whose mothers had no education, 23 percent are estimated to be attending a secondary or tertiary education institution as opposed to 73 percent among those whose mother had at least secondary education

The primary school net attendance ratio of children of secondary school age is also presented in Table ED.5. Twenty six percent of the children of secondary school age are attending primary school when they should be attending secondary school. Among children of secondary school age, the proportion attending primary school is markedly higher among boys (31%) than among girls (20%). This pattern persists across the sexes irrespective of children's background characteristics. In Sipaliwini, Brokopondo, Para and Marowijne, primary school attendance among children of secondary school age is observed to be substantially greater than that in all of the other districts of Suriname and is estimated to be 46 percent, 37 percent, 39 percent and 41 percent respectively. Paramaribo, on the other hand, has the lowest primary school attendance among children of secondary school age, this being estimated to be 19 percent. In urban areas, 22 percent of the children of secondary school age are attending primary school opposed to 35 percent in rural areas. While the proportion observed in rural coastal areas (29%) is somewhat higher than that observed for urban areas, the proportion observed in the rural interior has more than doubled being estimated to be 43 percent. Primary school attendance among secondary school age children is inversely associated with children's socio-economic status and mother's education. The poorest set of secondary school age children are estimated to have the highest primary school attendance rates (42%) while the wealthiest set of children have primary school attendance rates estimated to be 11 percent.

<sup>25</sup> 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, Suriname, 2010

Region	Male			Female			Total		
	Net attendance ratio (adjusted) <sup>1</sup>	Percent attending primary school	Number of children	Net attendance ratio (adjusted) <sup>1</sup>	Percent attending primary school	Number of children	Net attendance ratio (adjusted) <sup>1</sup>	Percent attending primary school	Number of children
Paramaribo	59.7	27.1	658	76.2	13.5	702	68.3	20.1	1,360
Wanica	58.0	27.1	317	67.0	22.9	301	62.4	25.1	618
Nickerie	54.4	28.5	125	75.5	15.9	120	64.8	22.3	245
Coronie	(*)	(*)	7	(*)	(*)	11	(69.7)	(24.2)	18
Saramacca	56.0	24.2	50	72.5	17.5	44	63.7	21.1	94
Commewijne	60.0	25.0	78	73.5	14.5	65	66.1	20.2	142
Marowijne	33.8	46.6	67	50.7	35.0	71	42.5	40.7	138
Para	41.8	42.6	83	55.8	34.6	61	47.8	39.2	145
Brokopondo	31.0	44.0	49	45.2	29.8	44	37.7	37.3	94
Sipallwini	16.8	52.9	103	12.7	39.9	137	14.4	45.5	240
<b>Area</b>									
Urban	58.5	27.5	1,062	73.6	16.5	1,095	66.2	21.9	2,157
Rural Coastal	49.4	33.7	323	64.3	24.1	280	56.3	29.2	603
Rural interior	21.4	50.0	153	20.6	37.4	182	21.0	43.2	334
Total Rural	40.4	38.9	476	47.1	29.3	462	43.7	34.2	938
<b>Age at beginning of school year</b>									
12	28.5	66.5	322	42.9	54.0	278	35.2	60.7	599
13	36.9	55.1	283	58.7	39.3	248	47.1	47.7	532
14	62.0	24.5	235	69.5	18.9	224	65.6	21.8	459
15	63.6	16.6	214	77.0	7.5	243	70.7	11.8	458
16	75.4	3.7	241	75.1	1.9	254	75.2	2.8	495
17	63.4	2.1	242	72.7	1.0	311	68.6	1.5	552

**Table ED.5: Secondary school attendance (continued)**

	Male			Female			Total		
	Net attendance ratio (adjusted) <sup>1</sup>	Percent attending primary school	Number of children	Net attendance ratio (adjusted) <sup>1</sup>	Percent attending primary school	Number of children	Net attendance ratio (adjusted) <sup>1</sup>	Percent attending primary school	Number of children
<b>Mother's education</b>									
None	16.0	55.5	110	30.7	40.1	113	23.4	47.8	223
Primary	36.5	47.4	391	51.7	40.8	364	43.8	44.2	755
Secondary +	65.0	28.9	663	81.1	16.3	640	72.9	22.7	1,303
Other/Non-standard	(*)	(*)	23	(*)	(*)	15	(52.6)	(36.3)	38
Not in the household	60.2	16.5	132	55.6	3.6	166	57.6	9.3	298
Missing/DK/Cannot be determined	59.5	3.9	219	70.4	2.5	259	65.4	3.1	478
<b>Wealth index quintile</b>									
Poorest	25.3	46.3	331	31.6	37.3	336	28.5	41.8	668
Second	46.6	34.1	339	65.3	22.6	340	56.0	28.3	679
Middle	56.9	30.4	287	69.3	19.3	263	62.8	25.1	550
Fourth	63.7	24.9	317	79.8	13.6	290	71.4	19.5	607
Richest	78.2	16.1	264	86.1	7.1	328	82.6	11.1	591
<b>Ethnicity of household head*</b>									
Indigenous/Amerindian	45.4	34.6	84	46.5	32.7	74	45.9	33.7	158
Maroon	33.5	45.8	450	48.3	29.0	482	41.1	37.1	932
Creole	63.9	28.8	246	75.1	20.9	237	69.4	25.0	484
Hindustani	62.4	21.6	415	71.1	15.5	410	66.7	18.5	824
Javanese	65.1	21.7	193	77.6	12.8	187	71.3	17.4	379
Mixed	54.7	31.5	121	84.4	10.3	138	70.6	20.2	259
Others	(*)	(*)	29	(*)	(*)	27	(74.5)	(3.9)	57
<b>Total</b>	<b>52.9</b>	<b>31.0</b>	<b>1,538</b>	<b>65.8</b>	<b>20.3</b>	<b>1,557</b>	<b>59.4</b>	<b>25.6</b>	<b>3,095</b>

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 7.5

The percentage of children entering first grade who eventually reach grade 6 is presented in Table ED.6 (page 132). Of all children starting grade one, the majority of them (96 percent) will eventually reach grade six. Notice that this number includes children that repeat grades and that eventually move up to reach grade six. A greater proportion of girls (97%) than boys (95%) will eventually reach grade 6 having entered first grade. Across urban and rural areas, the MICS data suggest that there has not been much variation in the proportion of children reaching grade 6 having entered first grade though somewhat lower proportions are observed in the cases of Brokopondo (89%) among the districts and the rural interior (91%) among the areas. The proportion reaching grade 6 having entered grade 1 is positively associated with mother's education and is estimated to be 88 percent for children whose mothers had no education and 100 percent for those whose mother had at least secondary education.

The primary school completion rate and transition rate to secondary education are presented in Table ED.7 (page 133). 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 moment of the survey, the primary school completion rate was 90 percent.

Unfortunately, only 79 percent of the children that completed successfully the last grade of primary school were found at the moment the survey to be attending the first grade of secondary school.

Substantially higher primary school completion rates are observed for girls (100%) than for boys (81%). It is worth noting that the primary school completion rate is positively associated with children's socio-economic status and mother's education.

With respect to transition to secondary school, there does not appear to be difference in the rates of boys (80%) and girls (79%) and this is also true with respect to differences between urban and rural areas (80% and 78%, respectively). Compared to other wealth status groups, the lowest rate of transition to secondary school is among children from the poorest households, the respective rate being 74 percent against 87 percent for children in the richest households.

The ratio of girls to boys attending primary and secondary education is provided in Table ED.8 (page 134). 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 close to 1.00 (1.02), indicating no difference in the attendance of girls and boys to primary school. This outcome holds true despite differences in background characteristics predicated on district, area, mother's education, and wealth of household. However, the GPI is observed to be 1.24 for secondary education and is indicative of higher school attendance at the secondary level among girls than among boys. The lower school attendance of boys relative to girls is evident in every district of Suriname except Sipaliwini where there is higher school attendance among boys than among girls. The higher secondary school attendance among girls than among boys persists irrespective of differences in background characteristics linked to area, children's mothers' education and wealth status of household.



**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), Suriname, 2010

	Percent attending grade 1 last school year who are in grade 2 this school year	Percent attending grade 2 last school year who are attending grade 3 this school year	Percent attending grade 3 last school year who are attending grade 4 this school year	Percent attending grade 4 last school year who are attending grade 5 this school year	Percent attending grade 5 last school year who are attending grade 6 this school year	Percent who reach grade 6 of those who enter grade 1 <sup>1</sup>
<b>Sex</b>						
Male	98.4	99.8	98.6	99.1	98.8	94.8
Female	99.7	99.0	99.6	100.0	98.8	97.1
<b>Region</b>						
Paramaribo	100.0	99.4	99.2	100.0	99.2	97.8
Wanica	96.7	98.6	100.0	98.4	100.0	93.8
Nickerie	100.0	100.0	(93.0)	100.0	97.5	(90.6)
Coronie	(*)	(*)	(*)	(*)	(*)	(*)
Saramacca	(100.0)	(100.0)	100.0	(96.8)	(100.0)	(96.8)
Commewijne	(100.0)	(100.0)	(100.0)	(100.0)	(*)	(*)
Marowijne	96.8	100.0	100.0	98.6	(100.0)	(95.5)
Para	100.0	100.0	100.0	(100.0)	(97.9)	(97.9)
Brokopondo	98.4	98.5	98.1	97.4	(95.7)	(88.7)
Sipaliwini	98.3	99.4	98.6	100.0	94.8	91.3
<b>Area</b>						
Urban	99.1	99.2	99.0	99.6	99.5	96.5
Rural Coastal	99.2	100.0	99.6	99.2	98.4	96.4
Rural interior	98.3	99.2	98.4	99.4	95.2	90.7
Total Rural	98.8	99.6	99.1	99.2	97.3	94.2
<b>Mother's education*</b>						
None	95.7	97.3	97.3	100.0	97.1	88.0
Primary	98.8	100.0	98.4	99.6	98.7	95.6
Secondary +	100.0	100.0	99.8	100.0	100.0	99.8
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)
Not in the household	(*)	(*)	(*)	(*)	(*)	(*)
<b>Wealth index quintile</b>						
Poorest	98.2	98.7	99.1	99.7	97.3	93.1
Second	98.2	100.0	99.7	98.6	99.5	96.0
Middle	100.0	100.0	97.2	99.6	98.9	95.7
Fourth	100.0	98.3	100.0	100.0	100.0	98.3
Richest	100.0	100.0	(100.0)	100.0	98.5	(98.5)
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	100.0	98.9	93.2	100.0	(96.4)	(88.9)
Maroon	97.3	99.2	98.5	99.5	97.3	92.1
Creole	100.0	100.0	100.0	100.0	100.0	100.0
Hindustani	100.0	100.0	100.0	98.6	99.1	97.7
Javanese	(100.0)	100.0	100.0	100.0	100.0	(100.0)
Mixed	(100.0)	(97.0)	100.0	(100.0)	(100.0)	(97.0)
Others	(*)	(*)	(*)	(*)	(*)	(*)
<b>Total</b>	<b>99.0</b>	<b>99.4</b>	<b>99.1</b>	<b>99.5</b>	<b>98.8</b>	<b>95.8</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 7.6; MDG indicator 2.2

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

Primary school completion rates and transition rate to secondary school, Suriname, 2010

	Primary school completion rate <sup>1</sup>	Number of children of primary school completion age	Transition rate to secondary school <sup>2</sup>	Number of children who were in the last grade of primary school the previous year
<b>Sex</b>				
Male	78.3	320	79.9	283
Female	100.2	260	78.5	268
<b>Region</b>				
Paramaribo	83.8	257	81.9	248
Wanica	112.1	98	75.4	116
Nickerie	98.6	43	79.8	49
Coronie	(*)	2	(*)	3
Saramacca	(109.4)	18	(*)	13
Commewijne	(76.2)	23	(79.7)	36
Marowijne	88.2	26	(84.4)	23
Para	(102.2)	27	(62.2)	22
Brokopondo	(98.0)	21	(79.1)	18
Sipaliwini	50.3	66	72.2	23
<b>Area</b>				
Urban	93.0	382	79.6	401
Rural Coastal	92.3	110	79.4	108
Rural interior	61.7	87	75.2	42
Total Rural	78.8	198	78.2	150
<b>Mother's education</b>				
None	44.8	70	(88.5)	24
Primary	85.7	204	77.0	143
Secondary +	100.1	286	80.2	314
Other/Non-standard	(*)	8	(*)	12
Not in the household	-	0	(83.0)	30
Missing/DK/Cannot be determined	(*)	12	(77.6)	27
<b>Wealth index quintile</b>				
Poorest	63.3	150	73.9	89
Second	84.6	130	77.5	125
Middle	97.1	105	82.1	121
Fourth	102.7	90	74.6	112
Richest	106.7	105	87.2	105
<b>Ethnicity of household head</b>				
Indigenous/Amerindian	75.3	37	(64.3)	24
Maroon	69.7	209	80.6	155
Creole	102.3	92	80.9	100
Hindustani	92.9	133	80.0	148
Javanese	137.5	50	78.9	74
Mixed	(91.0)	51	(69.8)	39
Others	(*)	8	(*)	11
<b>Total</b>	<b>88.2</b>	<b>580</b>	<b>79.2</b>	<b>551</b>
( ) Figures that are based on 25-49 unweighted cases				
(*) Figures that are based on less than 25 unweighted cases				
<sup>1</sup> MICS indicator 7.7				
<sup>2</sup> MICS indicator 7.8				

**Table ED.8: Education gender parity**

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

	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 <sup>1</sup>	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 <sup>2</sup>
<b>Region</b>						
Paramaribo	96.9	95.6	1.01	75.8	59.5	1.27
Wanica	96.5	91.0	1.06	67.0	58.0	1.16
Nickerie	95.2	94.9	1.00	75.5	54.4	1.39
Coronie	(*)	(*)	(*)	(*)	(*)	(*)
Saramacca	97.1	92.6	1.05	72.5	56.0	1.29
Commewijne	93.7	92.2	1.02	73.5	60.0	1.22
Marowijne	95.7	94.5	1.01	50.7	33.8	1.50
Para	96.5	94.6	1.02	55.8	41.8	1.33
Brokopondo	95.9	93.5	1.03	45.2	31.0	1.46
Sipaliwini	89.3	87.2	1.02	12.7	16.8	0.75
<b>Area</b>						
Urban	96.7	94.0	1.03	73.3	58.3	1.26
Rural Coastal	95.4	95.0	1.00	64.3	49.4	1.30
Rural interior	90.7	88.9	1.02	20.6	21.4	0.96
Total Rural	93.2	92.2	1.01	47.1	40.4	1.17
<b>Education of mother/caretaker</b>						
None	88.7	83.6	1.06	30.7	16.0	1.92
Primary	96.0	94.0	1.02	51.7	36.5	1.42
Secondary +	96.5	95.2	1.01	81.1	65.0	1.25
Other/Non-standard	95.9	100.0	0.96	47.1	56.3	0.84
Not in the household	na	na	na	55.6	60.2	0.92
Missing/DK/Cannot be determined	na	na	na	69.1	58.8	1.18
<b>Wealth index quintile</b>						
Poorest	92.9	89.2	1.04	31.6	25.3	1.25
Second	97.0	93.8	1.03	65.3	46.6	1.40
Middle	96.9	97.4	1.00	69.3	56.9	1.22
Fourth	97.7	96.0	1.02	79.2	63.7	1.24
Richest	93.2	93.3	1.00	85.6	77.6	1.10
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	94.8	95.1	1.00	46.5	45.4	1.02
Maroon	94.4	91.4	1.03	48.3	33.5	1.44
Creole	97.1	94.9	1.02	75.1	63.9	1.17
Hindustani	95.1	94.9	1.00	70.7	62.4	1.13
Javanese	95.9	93.7	1.02	77.6	64.2	1.21
Mixed	98.2	93.5	1.05	83.2	54.7	1.52
Others	(*)	(*)	(*)	(*)	(*)	(*)
<b>Total</b>	<b>95.4</b>	<b>93.3</b>	<b>1.02</b>	<b>65.5</b>	<b>52.8</b>	<b>1.24</b>

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 7.9; MDG indicator 3.1<sup>2</sup> MICS indicator 7.10; MDG indicator 3.1

## 10. Child Protection



## Birth Registration

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

The births of 99 percent of children under five years in Suriname have been registered (Table CP.1, page 138). There are no major variations in birth registration across sex, age, or education categories. However, there is slight variation in children that are registered, but have no birth certificate. Even if all are above 90 percent, it is evident that rural children, those whose mothers have no education, those from the poorest households, and especially those from Marowijne are less in possession of birth certificates, than children in other categories.

Further questions were asked to mothers of those children that were not registered: Whether the mother knows how to register the child and what the main reason is for not registering. However, with a total of just 56 unregistered children in the sample, disaggregated data cannot be presented. The total result shows that 45 percent of mothers of children that are not registered do know how to register. As far as the main reason for not registering, the majority of mothers gave other reasons than those precoded or no answer at all.

## Child Labour

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

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

This definition allows differentiation between child labour and child work to identify the type of work that should be eliminated. Table CP.2 (page 139) 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 Suriname, 10 percent of children 5-14 years are engaged in child labour. While there are no observed differences across the sexes, there are noteworthy variations across the districts and urban/rural domains of Suriname. In districts such as Sipaliwini, Brokopondo, Para, and Marowijne, the prevalence of child labour is observed to be greater than the national estimate of 10 percent. In the respective areas, prevalence of child labour among children 5-14 is estimated to be 30 percent, 20 percent, 10 percent and 13 percent. In the remaining districts, the prevalence of child labour is estimated to be lower than the national estimate with a low of 4 percent in Nickerie. Marked difference also characterize the prevalence of child labour in urban and rural areas being estimated to be higher in the latter (17%) than in the former

(5%). In the rural interior, the prevalence of child labour is estimated to be 27 percent while in the rural coastal areas, it is estimated to be 8 percent. The prevalence of child labour among children 5-14 years is inversely associated with children's socio-economic status and mother's education. For children whose mothers had no education, 25 percent are estimated to be involved in child labour as opposed to 5 percent among those whose mother had at least secondary education. Over one fifth (21%) of the poorest children are estimated to be engaged in child labours as opposed to just 2 percent from the wealthiest quintile.

It is interesting to note that most of the child labour prevalence stems from the younger children, age 5-11, and from within that group the children that are engaged in economic activity for at least one hour.

Table CP.3 (page 141) presents the percentage of children classified as student labourers or as labourer students. Student labourers are the children attending school that were involved in child labour activities at the moment of the surveys. More specifically, of the 96 percent of the children 5-14 years of age attending school, 9 percent are also involved in child labour activities. On the other hand, out of the 10 percent of the children classified as child labourers, the majority of them are also attending school (94 percent). Variation across background variables is similar to those described for Table CP.2.

## Child Discipline

As stated in A World Fit for Children, "children must be protected against any acts of violence ..." and the Millennium Declaration calls for the protection of children against abuse, exploitation and violence. In the Suriname MICS survey, respondents to the household questionnaire were asked a series of questions on the ways adults in the household tend to use to discipline children during the past month preceding the survey. 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* physical punishment; and 2) the number of respondents who believe that in order to raise children properly, they need be physically punished.

In Suriname, Table CP.4 (page 142) reveals that 86 percent of children aged 2-14 years were subjected to at least one form of violent psychological or physical punishment by household members, with 60 percent being subjected to any physical punishment. More importantly, 12 percent of children were subjected to severe physical punishment. On the other hand, just 13 percent of respondents believed that children should be physically punished, which implies an interesting contrast with the actual prevalence of physical discipline.

There do not seem to be much, if any, differences between the proportions of boys and of girls whether in the context of being subjected to physical violence or physical violence that assumes the form of severe physical discipline. With respect to the different wealth status groups, it is worth noting that the greatest proportion of children subjected to at least one form of psychological or physical violence has been observed among the poorest set of children. This is also the case among children who belonged to households where the head had no education whatsoever. The respondents in the poorest households are also more inclined to believe that children need physical punishment (21%).

<b>Table CP.1: Birth registration</b>					
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, Suriname, 2010					
	<b>Children under age 5 whose birth is registered with civil authorities</b>				
	<b>Has birth certificate</b>		No birth certificate	Total registered <sup>1</sup>	Number of children
	Seen	Not seen			
<b>Sex*</b>					
Male	49.5	45.4	4.3	99.1	1,659
Female	47.4	47.3	3.9	98.7	1,649
<b>District</b>					
Paramaribo	51.3	45.9	2.4	99.5	1,274
Wanica	47.5	49.8	2.4	99.7	599
Nickerie	45.3	48.8	5.9	100.0	188
Coronie	(*)	(*)	(*)	(*)	14
Saramacca	40.0	56.4	2.9	99.3	91
Commewijne	45.9	49.2	4.9	100.0	122
Marowijne	34.3	51.9	9.7	95.9	192
Para	41.4	51.1	5.7	98.3	122
Brokopondo	48.6	43.2	6.9	98.8	167
Sipaliwini	52.9	38.1	6.1	97.0	537
<b>Area</b>					
Urban	49.6	47.5	2.4	99.6	2,001
Rural Coastal	40.5	50.6	7.1	98.2	603
Rural interior	51.9	39.3	6.3	97.5	705
Total Rural	46.6	44.5	6.7	97.8	1,307
<b>Age</b>					
0-11 months	53.7	40.2	4.4	98.3	646
12-23 months	51.4	44.6	3.0	99.1	744
24-35 months	52.0	44.0	3.2	99.2	640
36-47 months	40.5	54.1	4.3	98.9	694
48-59 months	44.5	48.6	6.0	99.1	584
<b>Mother's education</b>					
None	54.3	36.9	6.2	97.4	454
Primary	46.6	46.8	4.8	98.2	967
Secondary +	47.4	49.1	3.2	99.7	1,824
Other/Non-standard	(74.3)	(18.8)	(5.6)	(98.7)	48
<b>Wealth index quintile</b>					
Poorest	48.4	42.9	6.7	97.9	1,139
Second	48.8	47.6	2.5	98.8	675
Middle	49.9	46.3	3.2	99.3	563
Fourth	49.9	47.1	2.8	99.8	501
Richest	44.6	52.9	2.5	100.0	429
<b>Ethnicity of household head*</b>					
Indigenous/Amerindian	48.6	47.9	1.9	98.4	153
Maroon	51.9	40.0	5.9	97.9	1,389
Creole	46.3	48.1	5.1	99.5	428
Hindustani	47.3	50.1	2.6	100.0	644
Javanese	39.0	58.9	2.1	100.0	346
Mixed	48.0	49.9	1.4	99.3	308
Others	57.3	42.7	0.0	100.0	38
<b>Total</b>	<b>48.5</b>	<b>46.3</b>	<b>4.1</b>	<b>98.9</b>	<b>3,308</b>

\* 'Missing/DK' categories not shown due to low number of observations  
 ( ) Figures that are based on 25-49 unweighted cases  
 (\*) Figures that are based on less than 25 unweighted cases  
<sup>1</sup> **MICS indicator 8.1**

**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, Suriname, 2010

	Percentage of children age 5-11 involved in:										Percentage of children age 12-14 involved in:										
	Economic activity					Economic activity					Economic activity					Economic activity					
	Working outside household		Working for family business		Economic activity for at least one hour	Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Number of children age 5-11	Working outside household		Working for family business		Economic activity less than 14 hours	Economic activity for 14 hours or more	Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Number of children age 12-14	Total child labour <sup>1</sup>	Number of children age 5-14 years
Paid work	Unpaid work	Paid work	Unpaid work						Paid work	Unpaid work	Paid work	Unpaid work									
<b>Sex</b>																					
Male	0.9	3.6	10.8	13.6	13.6	40.5	0.1	13.6	2,058	3.5	3.8	13.2	17.6	0.5	59.4	0.0	0.5	921	9.6	2,979	
Female	1.1	3.3	10.6	13.2	13.2	45.1	0.0	13.2	1,859	2.1	3.1	13.1	15.3	0.7	72.6	0.0	0.7	770	9.5	2,628	
<b>District</b>																					
Paramaribo	0.7	2.5	4.9	7.5	7.5	36.0	0.1	7.5	1,583	3.1	1.9	7.8	11.3	0.5	61.2	0.0	0.5	708	5.3	2,292	
Wanica	0.2	3.0	5.7	8.7	8.7	41.1	0.0	8.7	675	2.5	4.0	8.6	13.6	0.5	66.2	0.0	0.5	333	6.0	1,009	
Nickerie	0.2	1.7	5.0	6.7	6.7	40.6	0.0	6.7	230	0.0	4.9	6.9	10.6	0.0	71.1	0.0	0.0	144	4.1	374	
Coronie	(4.2)	(2.1)	(4.2)	(10.4)	(10.4)	(64.6)	(0.0)	(10.4)	26	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	10	7.5	37
Saramacca	0.4	0.0	5.9	6.4	6.4	54.2	0.0	6.4	129	2.3	0.0	7.0	8.1	0.0	73.3	0.0	0.0	47	4.7	176	
Commewijne	2.3	0.3	4.3	7.0	7.0	38.7	0.0	7.0	166	0.8	0.0	6.2	6.2	0.0	71.3	0.0	0.0	72	4.9	238	
Marowijne	1.4	2.9	13.9	17.3	17.3	58.4	0.0	17.3	211	2.1	2.8	17.9	20.0	1.4	78.6	0.0	1.4	74	13.2	284	
Para	0.6	0.9	12.8	14.0	14.0	53.6	0.0	14.0	190	1.5	0.8	19.8	22.1	0.0	77.1	0.0	0.0	77	10.0	267	
Brokopondo	0.7	10.4	19.3	26.4	26.4	40.0	0.0	26.4	173	4.3	10.1	24.6	32.6	0.0	55.1	0.0	0.0	59	19.7	232	
Sipaliwini	2.8	8.4	35.1	37.8	37.8	53.6	0.2	37.9	532	6.5	9.1	46.5	47.5	2.1	63.2	0.3	2.3	166	29.5	698	
<b>Area</b>																					
Urban	0.7	2.5	5.1	7.8	7.8	37.5	0.1	7.8	2,444	2.6	2.6	7.9	11.8	0.4	63.3	0.0	0.4	1,145	5.4	3,590	
Rural Coastal	0.9	1.5	9.5	11.4	11.4	52.3	0.0	11.4	767	1.5	2.2	12.5	14.6	0.3	76.0	0.0	0.3	320	8.2	1,087	
Rural interior	2.3	8.9	31.2	35.0	35.1	50.3	0.1	35.1	705	6.0	9.4	40.8	43.6	1.5	61.1	0.2	1.7	225	27.0	930	
Total Rural	1.6	5.0	19.9	22.7	22.8	51.3	0.1	22.8	1,472	3.4	5.2	24.2	26.6	0.8	69.8	0.1	0.9	545	16.9	2,017	
<b>School attendance</b>																					
Yes	1.0	3.3	10.4	13.2	13.2	43.0	0.1	13.2	3,745	2.8	3.4	12.8	16.2	0.6	65.5	0.0	0.6	1,626	9.4	5,371	
No	1.0	6.1	16.1	17.7	17.7	35.0	0.3	17.7	172	3.3	4.0	22.3	24.9	0.7	63.4	0.7	1.3	65	13.2	236	
<b>Mother's education</b>																					
None	2.1	7.1	30.8	33.5	33.6	47.3	0.1	33.6	529	5.0	6.9	36.2	38.2	1.4	56.4	0.2	1.6	185	25.3	714	
Primary	0.8	4.1	12.5	15.7	15.7	47.6	0.2	15.7	1,236	1.7	3.7	18.3	20.8	0.6	67.0	0.0	0.6	557	11.0	1,792	
Secondary +	0.7	2.0	4.3	6.5	6.5	38.4	0.0	6.5	2,045	2.7	2.6	5.5	9.2	0.4	65.8	0.0	0.4	899	4.6	2,944	
Other/Non-standard	2.6	5.9	12.9	21.5	21.5	46.2	0.0	21.5	64	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	29	14.7	93
Missing/DK	4.0	5.2	7.8	16.9	16.9	43.1	0.0	16.9	42	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	21	11.2	63



**Table CP.2: Child labour (continued)**

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, Suriname, 2010

	Percentage of children age 5-11 involved in:										Percentage of children age 12-14 involved in:										
	Economic activity					Economic activity					Economic activity			Economic activity							
	Working outside household		Working for family business		Economic activity for at least one hour	Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Number of children age 5-11	Working outside household		Working for family business		Economic activity less than 14 hours	Economic activity for 14 hours or more	Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Number of children age 12-14	Total child labour <sup>1</sup>	Number of children age 5-14 years
Paid work	Unpaid work								Paid work	Unpaid work											
<b>Wealth index quintile</b>																					
Poorest	1.6	5.9	25.0	27.7	50.3	0.1	27.8	1,191	4.7	5.6	34.6	36.7	1.3	64.6	0.1	1.4	393	21.2	1,584		
Second	1.2	2.2	7.3	9.9	44.7	0.0	9.9	895	3.2	2.0	12.2	15.5	0.1	67.8	0.0	0.1	386	7.0	1,282		
Middle	0.8	2.8	5.9	8.8	38.2	0.2	8.8	687	2.8	3.4	6.7	11.5	0.7	64.6	0.0	0.7	312	6.3	1,000		
Fourth	0.2	2.7	1.5	4.4	39.5	0.0	4.4	587	2.2	4.1	5.2	10.2	0.6	67.1	0.0	0.6	300	3.1	887		
Richest	0.6	1.8	1.1	3.5	32.0	0.0	3.5	556	0.7	1.8	0.7	3.1	0.0	62.4	0.0	0.0	299	2.3	855		
<b>Ethnicity of household head*</b>																					
Indigenous/Amerindian	0.7	2.5	17.0	18.6	52.3	0.2	18.6	232	1.9	3.3	19.5	20.0	0.5	73.1	0.0	0.5	96	13.3	328		
Maroon	1.4	5.5	19.0	22.2	46.1	0.0	22.3	1,534	3.9	4.6	24.2	27.0	1.0	66.2	0.1	1.1	530	16.8	2,064		
Creole	0.8	3.0	4.6	7.5	38.5	0.0	7.5	590	4.4	1.4	7.5	11.3	0.6	62.4	0.0	0.6	281	5.3	871		
Hindustani	0.6	2.3	4.4	7.0	42.6	0.2	7.0	784	2.1	3.1	8.2	12.5	0.0	65.1	0.0	0.0	428	4.6	1,213		
Javanese	1.4	0.1	3.8	4.9	38.7	0.0	4.9	405	1.8	3.7	4.0	7.6	0.9	66.6	0.0	0.9	182	3.7	588		
Mixed	0.7	2.5	2.7	5.9	34.1	0.0	5.9	317	1.0	4.5	4.5	9.4	0.3	63.5	0.0	0.3	147	4.1	464		
Others	(0.0)	(0.0)	(3.2)	(3.2)	(29.9)	(0.0)	(3.2)	48	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	26	2.1	74	
<b>Total</b>	<b>1.0</b>	<b>3.5</b>	<b>10.7</b>	<b>13.4</b>	<b>42.7</b>	<b>0.1</b>	<b>13.4</b>	<b>3,916</b>	<b>2.9</b>	<b>3.4</b>	<b>13.1</b>	<b>16.6</b>	<b>0.6</b>	<b>65.4</b>	<b>0.0</b>	<b>0.6</b>	<b>1,691</b>	<b>9.6</b>	<b>5,607</b>		

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 8.2

**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, Suriname, 2010

	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 <sup>1</sup>	Number of children age 5-14 years involved in child labour	Percentage of children attending school who are involved in child labour <sup>2</sup>	Number of children age 5-14 years attending school
<b>Sex</b>							
Male	9.6	95.2	2,979	93.8	285	9.4	2,835
Female	9.5	96.5	2,628	94.6	250	9.3	2,536
<b>District</b>							
Paramaribo	5.3	97.5	2,292	100.0	122	5.4	2,233
Wanica	6.0	96.0	1,009	(100.0)	61	6.3	968
Nickerie	4.1	97.7	374	(*)	15	4.0	365
Coronie	7.5	100.0	37	(*)	3	7.5	37
Saramacca	4.7	98.1	176	(*)	8	4.7	173
Commewijne	4.9	97.9	238	(*)	12	5.0	233
Marowijne	13.2	95.4	284	94.6	38	13.1	271
Para	10.0	98.5	267	(100.0)	27	10.1	263
Brokopondo	19.7	93.7	232	96.3	46	20.2	217
Sipaliwini	29.5	87.3	698	86.9	206	29.3	610
<b>Area</b>							
Urban	5.4	97.1	3,590	100.0	195	5.6	3,486
Rural Coastal	8.2	97.3	1,087	97.1	89	8.2	1,058
Rural interior	27.0	88.9	930	88.6	251	26.9	827
Total Rural	16.9	93.4	2,017	90.8	340	16.4	1,885
<b>Age</b>							
5-11	13.4	95.6	3,916	94.2	526	13.2	3,745
12-14	0.6	96.2	1,691	(*)	10	0.6	1,626
<b>Mother's education</b>							
None	25.3	85.8	714	86.5	181	25.5	613
Primary	11.0	95.7	1,792	97.0	197	11.2	1,716
Secondary +	4.6	98.1	2,944	99.3	137	4.7	2,889
Other/Non-standard	14.7	99.1	93	(*)	14	14.8	92
Missing/DK	11.2	95.8	63	(*)	7	11.7	61
<b>Wealth index quintile</b>							
Poorest	21.2	91.1	1,584	91.0	336	21.2	1,443
Second	7.0	96.1	1,282	99.0	89	7.2	1,231
Middle	6.3	97.8	1,000	100.0	63	6.4	977
Fourth	3.1	99.0	887	(*)	28	3.2	879
Richest	2.3	98.3	855	(*)	20	2.3	840
<b>Ethnicity of household head*</b>							
Indigenous/Amerindian	13.3	96.4	328	92.8	44	12.8	316
Maroon	16.8	92.5	2,064	91.9	347	16.7	1,910
Creole	5.3	98.5	871	(100.0)	46	5.4	858
Hindustani	4.6	97.5	1,213	(100.0)	55	4.7	1,182
Javanese	3.7	97.7	588	(*)	22	3.7	574
Mixed	4.1	97.4	464	(*)	19	4.2	451
Others	2.1	97.8	74	(*)	2	2.1	73
<b>Total</b>	<b>9.6</b>	<b>95.8</b>	<b>5,607</b>	<b>94.2</b>	<b>536</b>	<b>9.4</b>	<b>5,371</b>

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 8.3

<sup>2</sup> MICS indicator 8.4

**Table CP.4: Child discipline**

Percentage of children age 2-14 years according to method of disciplining the child, Suriname, 2010

	Percentage of children age 2-14 years who experienced:					Number of children age 2-14 years	Respondent believes that a child needs to be physically punished	Respondents to the child discipline module
	Only non-violent discipline	Psychological aggression	Physical punishment		Any violent discipline method <sup>1</sup>			
			Any	Severe				
<b>Sex</b>								
Male	7.8	83.2	61.0	11.8	87.0	3,774	13.6	1,869
Female	9.4	80.0	58.6	11.9	85.1	3,526	12.3	1,737
<b>District</b>								
Paramaribo	11.0	78.9	59.0	11.9	85.0	2,925	13.2	1,587
Wanica	9.1	81.4	52.6	5.8	84.5	1,325	7.6	665
Nickerie	12.0	77.5	49.4	6.7	81.4	467	7.3	261
Coronie	12.3	84.0	46.9	14.8	86.4	44	(14.3)	23
Saramacca	11.6	79.1	48.8	1.7	83.7	222	6.0	119
Commewijne	8.6	78.3	52.1	4.9	83.4	297	6.2	160
Marowijne	5.9	85.4	62.9	12.6	87.0	376	12.6	140
Para	4.8	86.7	57.9	8.1	91.2	334	9.2	135
Brokopondo	2.8	87.6	72.9	20.7	90.3	321	17.6	119
Sipaliwini	2.3	88.5	77.4	24.3	91.5	989	29.4	396
<b>Area</b>								
Urban	10.2	79.6	56.6	9.6	84.7	4,597	11.1	2,428
Rural Coastal	8.8	82.2	55.1	8.3	85.8	1,393	9.0	664
Rural interior	2.4	88.3	76.3	23.4	91.2	1,310	26.7	515
Total Rural	5.7	85.1	65.4	15.6	88.4	2,704	16.7	1,179
<b>Age</b>								
2-4 years	6.9	81.8	65.9	8.9	86.5	1,673	11.9	863
5-9 years	8.9	81.4	65.4	13.4	86.8	2,823	13.2	1,316
10-14 years	9.2	81.8	50.6	12.0	85.1	2,805	13.4	1,427
<b>Education of household head</b>								
None	3.2	87.9	73.4	22.2	90.0	1,003	na	na
Primary	7.9	81.5	61.6	13.0	86.1	2,331	na	na
Secondary +	11.3	79.7	53.5	7.8	84.4	3,468	na	na
Other/Non-standard	0.0	82.4	62.2	10.9	89.3	104	na	na
Missing/DK	4.0	83.8	70.0	14.0	90.6	395	na	na
<b>Respondent's education</b>								
None	na	na	na	na	na	na	27.6	355
Primary	na	na	na	na	na	na	14.7	982
Secondary +	na	na	na	na	na	na	9.7	2,182
Non-standard	na	na	na	na	na	na	17.6	72
<b>Wealth index quintile</b>								
Poorest	3.4	87.9	72.9	19.2	91.5	2,192	21.3	852
Second	6.6	83.9	62.7	11.7	88.1	1,633	12.2	767
Middle	11.9	75.2	53.6	8.4	81.3	1,274	11.2	665
Fourth	12.5	79.4	50.3	8.4	83.4	1,129	11.1	646
Richest	14.0	75.7	46.2	4.5	80.5	1,072	6.8	676
<b>Ethnicity of household head*</b>								
Indigenes/Amerindian	8.9	76.6	56.5	17.0	82.0	403	12.6	172
Maroon	2.5	88.9	73.7	18.4	92.1	2,806	21.7	1,057
Creole	11.6	75.6	57.8	10.0	84.1	1,090	13.8	593
Hindustani	12.4	77.1	47.3	5.3	81.4	1,530	7.4	912
Javanese	15.2	79.4	45.2	2.8	81.2	764	5.7	482
Mixed	12.1	77.7	55.7	10.1	84.2	607	10.2	333
Others	16.5	73.6	30.0	4.2	74.3	91	(10.2)	55
<b>Total</b>	<b>8.6</b>	<b>81.7</b>	<b>59.8</b>	<b>11.8</b>	<b>86.1</b>	<b>7,301</b>	<b>13.0</b>	<b>3,606</b>

\* 'Missing/DK' category of ethnicity of household head not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

<sup>1</sup> 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 60 million women age 20-24 were married/in union before the age of 18. Factors that influence child marriage rates include: the state of the country's civil registration system, which provides proof of age for children; the existence of an adequate legislative framework with an accompanying enforcement mechanism to address cases of child marriage; and the existence of customary or religious laws and practices that condone the practice.

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

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

Two of the indicators are to estimate the percentage of women married before 15 years of age and the percentage married before 18 years of age. The percentage of women married at various ages is provided in Table CP.5 (page 145). Among women 20-49 years in Suriname, almost 6 percent have been married before their 15<sup>th</sup> birthday and 23 percent before their 18<sup>th</sup> birthday. The respective proportions are greatest in Sipaliwini (20% and 50%) and Brokopondo (11% and 45%) and hence in the rural interior (19% and 48%). The proportions married before their 15<sup>th</sup> and 18<sup>th</sup> birthdays also vary inversely with women's education and wealth quintile. For women with no education, respective proportions are estimated to be 19 percent and 48 percent being much lower at 3 percent and 14 percent, respectively, among women with at least secondary education. For the poorest women, respective proportions have been estimated to be almost 15 percent and 42 percent compared to 2 percent and 11 percent among the women in the richest households. Among women 15-19 years, 12 percent were estimated to have been married or in union at the time of the survey. Among women 15-49 years, 5 percent were married before age 15 and 4 percent are in a polygynous marriage or union at the time of the survey. For women 15-49 years, the proportion in polygynous marriage or union is by far the greatest in Sipaliwini (24%) and to a much lesser extent in Brokopondo (11%). Third on the list is Marowijne at 5 percent. The proportion in polygynous marriage or union varies inversely with women's education and wealth status group. For women with no education, the proportion is estimated to be 26 percent and much higher than 2 percent that is characteristic of the experience of women with at least secondary education. For the women in the poorest households, the proportion is estimated to be 14 percent and for the women in the richest households it is estimated to be less than 1 percent.

Table CP.6 (page 147) presents the proportion of women who were first married or entered into a marital union before age 15 and 18 by area and age groups. Examining the percentages married before age 15 and 18 by different age groups allow observation of trends in early marriage over time. While the picture is not

completely clear, there does seem to be a drop in marriage before age 18 in the rural coastal area and likely also in the urban areas. For the rural interior, the trend is there for a reduction in marriages before age 15, but not for marriages under age 18.

Another component is the spousal age difference with an indicator being the percentage of married/in union women with a difference of 10 or more years younger than their current spouse. Table CP.7 (page 148) presents the results of the age difference between husbands and wives. The relatively low number of young married women does not allow for observations on background characteristics for women age 15-19 and to a certain extent not even for those aged 20-24.

For women 15-19 years, 15 percent of them are estimated to be married or in union with a man who is at least 10 years older. For women 20-24 years, the corresponding proportion is estimated to be 17 percent.

**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, Suriname, 2010

	Percentage married before age 15 <sup>1</sup>	Number of women age 15-49 years	Percentage married before age 15	Percentage married before age 18 <sup>2</sup>	Number of women age 20-49 years	Percentage of women 15-19 years currently married/in union <sup>3</sup>	Number of women age 15-19 years	Percentage of women age 15-49 years in polygynous marriage/ union <sup>4</sup>	Number of women age 15-49 years currently married/in union
<b>District</b>									
Paramaribo	3.6	3,037	3.6	14.5	2,529	9.4	508	2.9	1,484
Wanica	4.3	1,252	4.9	24.8	1,033	13.0	219	2.7	735
Nickerie	4.6	471	5.1	28.7	388	14.8	83	0.3	326
Coronie	3.4	31	2.0	18.0	26	(*)	4	(2.9)	18
Saramacca	1.9	198	2.2	28.6	172	16.0	26	1.1	151
Commewijne	5.1	296	5.2	27.3	238	15.2	57	0.8	203
Marowijne	9.4	208	10.6	29.3	162	8.5	46	5.1	105
Para	6.9	205	8.7	34.0	164	8.3	41	2.6	109
Brokopoondo	11.8	132	11.1	45.2	108	29.5	24	11.3	67
Sipaliwini	17.9	461	19.6	50.2	385	15.5	76	24.4	208
<b>Area</b>									
Urban	3.8	4,620	4.0	18.0	3,826	10.4	794	2.7	2,430
Rural Coastal	5.8	1,077	6.4	30.1	887	13.6	190	1.6	701
Rural interior	16.5	593	17.8	49.1	493	18.9	100	21.2	275
Total Rural	9.6	1,670	10.4	36.9	1,379	15.4	291	7.1	976
<b>Age</b>									
15-19	3.8	1,085	na	na	na	11.8	1,085	2.9	128
20-24	5.2	991	5.2	18.8	991	na	na	2.7	386
25-29	4.1	972	4.1	21.3	972	na	na	4.5	585
30-34	5.7	816	5.7	23.8	816	na	na	3.7	566
35-39	6.4	852	6.4	27.1	852	na	na	4.4	628
40-44	7.4	831	7.4	23.2	831	na	na	4.4	608
45-49	5.8	743	5.8	24.9	743	na	na	3.7	506

**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, Suriname, 2010

	Percentage married before age 15 <sup>1</sup>	Number of women age 15-49 years	Percentage married before age 15	Percentage married before age 18 <sup>2</sup>	Number of women age 20-49 years	Percentage of women 15-19 years currently married/in union <sup>3</sup>	Number of women age 15-19 years	Percentage of women age 15-49 years in polygynous marriage/union <sup>4</sup>	Number of women age 15-49 years currently married/in union
<b>Education*</b>									
None	18.6	361	19.2	47.7	345	19.9	16	26.4	174
Primary	11.9	1,335	11.9	45.2	1,152	16.9	183	5.5	859
Secondary +	2.4	4,463	2.5	13.6	3,586	10.5	877	1.8	2,294
Other/Non-standard	3.4	111	3.6	18.7	104	(*)	7	(0.7)	60
<b>Wealth index quintile</b>									
Poorest	13.7	1,117	14.6	42.1	898	19.8	220	14.0	529
Second	6.6	1,231	7.4	30.3	1,008	11.3	223	5.7	685
Middle	3.9	1,276	4.2	19.4	1,065	13.5	211	1.5	712
Fourth	2.2	1,328	2.1	16.6	1,116	10.6	211	0.9	759
Richest	1.8	1,339	2.0	11.0	1,119	3.8	220	0.5	720
<b>Ethnicity of household head*</b>									
Indigenous/Amerindian	12.2	246	13.2	38.9	201	15.4	45	1.1	159
Maroon	9.5	1,510	10.5	33.0	1,187	11.1	323	17.4	570
Creole	2.2	1,056	2.3	9.5	878	4.3	178	2.1	434
Hindustani	3.6	1,851	3.9	23.7	1,570	13.2	281	1.5	1,216
Javanese	5.1	870	5.1	24.0	721	19.2	149	0.4	601
Mixed	3.8	621	4.1	16.2	531	11.1	90	1.0	336
Others	4.6	131	3.9	9.6	113	(*)	18	0.0	88
<b>Total</b>	<b>5.4</b>	<b>6,290</b>	<b>5.7</b>	<b>23.0</b>	<b>5,205</b>	<b>11.8</b>	<b>1,085</b>	<b>3.9</b>	<b>3,406</b>

\* 'Missing/DK' categories not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 8.6

<sup>2</sup> MICS indicator 8.7

<sup>3</sup> MICS indicator 8.8

<sup>4</sup> MICS indicator 8.9

**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 area and age groups, Suriname, 2010

Age	Urban			Rural Coastal			Rural Interior			Total Rural			All			
	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	
15-19	3.1	794	na	na	190	na	na	100	na	na	291	na	na	1,085	na	na
20-24	3.8	745	14.2	24.1	164	164	50.1	82	82	50.1	246	32.8	246	991	18.8	991
25-29	1.9	706	15.5	31.0	158	158	45.5	107	107	45.5	266	36.9	266	972	21.3	972
30-34	3.7	585	18.1	31.4	148	148	50.0	82	82	50.0	231	38.1	231	816	23.8	816
35-39	5.1	620	23.3	30.9	155	155	49.7	77	77	49.7	232	37.1	232	852	27.1	852
40-44	6.0	605	18.4	30.2	145	145	47.1	82	82	47.1	226	36.3	226	831	23.2	831
45-49	3.8	565	19.7	34.4	116	116	54.9	62	62	54.9	178	41.5	178	743	24.9	743
<b>Total</b>	<b>3.8</b>	<b>4,620</b>	<b>18.0</b>	<b>30.1</b>	<b>1,077</b>	<b>887</b>	<b>49.1</b>	<b>593</b>	<b>493</b>	<b>49.1</b>	<b>1,670</b>	<b>36.9</b>	<b>1,379</b>	<b>6,290</b>	<b>23.0</b>	<b>5,205</b>



**Table CP.7: Spousal age difference**

Percent distribution of women currently married/in union age 15-19 and 20-24 years according to the age difference with their husband or partner, Suriname, 2010

District	Percentage of currently married/in union women age 15-19 years whose husband or partner is:						Percentage of currently married/in union women age 20-24 years whose husband or partner is:						Number of women age 15-19 years currently married/in union	Number of women age 20-24 years currently married/in union												
	Younger		0-4 years older		5-9 years older		10+ years older <sup>1</sup>		Husband/Partner's age unknown		Total				Younger		0-4 years older		5-9 years older		10+ years older <sup>2</sup>		Husband/Partner's age unknown		Total	
	(0.0)	(44.8)	(41.4)	(13.8)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)			(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Paramaribo	(0.0)	(44.8)	(41.4)	(13.8)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	5.8	46.2	32.7	14.4	1.0	100.0	172										
Wanica	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(2.9)	(38.2)	(35.3)	(23.5)	(0.0)	100.0	57										
Nickerie	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	4.9	31.0	39.4	21.0	3.7	100.0	43										
Coronie	-	-	-	-	-	-	-	-	-	(*)	(*)	(*)	(*)	(*)	100.0	3										
Saramacca	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(15.8)	(31.6)	(34.2)	(18.4)	(0.0)	100.0	20										
Commewijne	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(4.6)	(18.5)	(46.5)	(30.3)	(0.0)	100.0	23										
Marowijne	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(3.2)	(51.6)	(29.0)	(12.9)	(3.2)	100.0	15										
Para	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	9										
Brokopondo	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(3.3)	(30.0)	(33.3)	(13.3)	(20.0)	100.0	12										
Sipaliwini	(0.0)	(37.9)	(24.1)	(24.1)	(13.8)	(13.8)	(13.8)	(13.8)	(13.8)	6.2	28.7	27.5	12.5	25.0	100.0	32										
<b>Area</b>																										
Urban	0.0	44.0	40.1	13.9	2.0	2.0	2.0	2.0	2.0	4.5	42.7	33.8	17.8	1.3	100.0	260										
Rural Coastal	(0.0)	(28.8)	(54.8)	(14.2)	(2.2)	(2.2)	(2.2)	(2.2)	(2.2)	9.0	35.8	36.6	17.3	1.3	100.0	82										
Rural interior	(0.0)	(38.3)	(31.8)	(19.2)	(10.7)	(10.7)	(10.7)	(10.7)	(10.7)	5.5	29.1	29.1	12.7	23.7	100.0	44										
Total Rural	0.0	32.8	45.1	16.3	5.8	5.8	5.8	5.8	5.8	7.8	33.5	34.0	15.7	9.1	100.0	127										
<b>Age</b>																										
15-19	0.0	40.1	41.8	14.7	3.3	3.3	3.3	3.3	3.3	na	na	na	na	na	na	na										
20-24	na	na	na	na	na	na	na	na	na	5.6	39.7	33.8	17.1	3.8	100.0	386										
<b>Education</b>																										
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(2.4)	(21.8)	(43.9)	(5.5)	(26.4)	100.0	17										
Primary	(0.0)	(51.9)	(32.1)	(11.5)	(4.4)	(4.4)	(4.4)	(4.4)	(4.4)	2.6	28.8	33.7	26.1	8.8	100.0	81										
Secondary +	0.0	36.2	47.1	13.9	2.7	2.7	2.7	2.7	2.7	6.1	44.2	34.1	14.5	1.2	100.0	282										
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	5										

**Table CP.7: Spousal age difference**

Percent distribution of women currently married/in union age 15-19 and 20-24 years according to the age difference with their husband or partner, Suriname, 2010

	Percentage of currently married/in union women age 15-19 years whose husband or partner is:					Percentage of currently married/in union women age 20-24 years whose husband or partner is:					Number of women age 20-24 years currently married/in union		
	Younger		5-9 years older		10+ years older <sup>1</sup>		Younger		5-9 years older			10+ years older <sup>2</sup>	
	Husband/Partner's age unknown	Total	Husband/Partner's age unknown	Total	Husband/Partner's age unknown	Total	Husband/Partner's age unknown	Total	Husband/Partner's age unknown	Total			
<b>Wealth index quintile</b>													
Poorest	0.0	37.6	39.4	18.4	4.7	100.0	4.4	29.5	37.2	15.4	13.5	100.0	83
Second	(0.0)	(27.5)	(59.6)	(10.6)	(2.3)	100.0	5.2	36.5	33.0	23.0	2.3	100.0	90
Middle	(0.0)	(61.6)	(34.6)	(3.8)	(0.0)	100.0	7.1	48.9	28.3	13.3	2.4	100.0	69
Fourth	(*)	(*)	(*)	(*)	(*)	100.0	7.5	38.3	37.0	17.2	0.0	100.0	73
Richest	(*)	(*)	(*)	(*)	(*)	100.0	3.8	47.8	33.1	15.3	0.0	100.0	71
<b>Ethnicity of household head</b>													
Indigenous/Amerindian	(*)	(*)	(*)	(*)	(*)	100.0	(20.6)	(23.3)	(38.3)	(17.8)	(0.0)	100.0	18
Maroon	0.0	31.7	42.6	18.5	7.2	100.0	3.7	32.8	38.0	11.0	14.5	100.0	80
Creole	(*)	(*)	(*)	(*)	(*)	100.0	0.0	57.3	19.2	23.5	0.0	100.0	52
Hindustani	(0.0)	(40.2)	(43.7)	(16.1)	(0.0)	100.0	3.6	36.1	41.8	17.2	1.3	100.0	120
Javanese	(*)	(*)	(*)	(*)	(*)	100.0	7.1	43.0	28.4	19.6	2.0	100.0	84
Mixed	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	100.0	27
Others	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	(*)	(*)	(*)	100.0	6
<b>Total</b>	<b>0.0</b>	<b>40.1</b>	<b>41.8</b>	<b>14.7</b>	<b>3.3</b>	<b>100.0</b>	<b>5.6</b>	<b>39.7</b>	<b>33.8</b>	<b>17.1</b>	<b>3.8</b>	<b>100.0</b>	<b>386</b>

\* 'Missing/DK' category of education not shown due to low number of observations

() Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 8.10a<sup>2</sup> MICS indicator 8.10b

## Attitudes toward Domestic Violence

The Suriname MICS4 assessed the attitudes of women age 15-49 years towards wife/partner beating for a variety of scenarios by asking the respondents whether husbands are justified to hit or beat their wives/partners for a variety of scenarios. These questions were asked to have an indication of cultural beliefs that tend to be associated with the prevalence of violence against women by their husbands/partners. The main assumption here is that women that agree with the statements indicating that husbands/partners are justified to beat their wives/partners under the situations described in reality tend to be abused by their own husbands/partners.

The responses to these questions can be found in Table CP.8 (page 151). Overall, 13 percent of women age 15-49 believe a husband is justified in beating his wife/partner for any of the reasons mentioned. Neglect of children is the most common reason given why women believe that a man is justified in beating his wife / partner. In fact, neglect of children is the most common reason irrespective of the women's background characteristics. Other reasons frequently mentioned by the women are: "if she goes out without telling him" (3%) and "if she argues with him" (4%).

With respect to the belief that a husband is justified in beating his wife/partner, this was mostly prevalent among women from Sipaliwini (27%) and Brokopondo (30%) and hence women from the rural interior (27%). Paramaribo is the only district that recorded less than 10 percent acceptance. The prevalence of such a belief was inversely associated with women's education and wealth quintile. For women with no education, the prevalence is estimated to be 26 percent and much higher than 10 percent observed in the case of women with at least secondary education. For the poorest women, the acceptance is estimated to be 22 percent and for the women of the richest households, it is estimated to be 6 percent.

Interestingly, the level of acceptance drops with age of the woman, ranging from 19 percent for 15-19 year olds to less than 10 percent for 40-49 year olds.

**Table CP.8: 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, Suriname, 2010

	Percentage of women age 15-49 years who believe a husband is justified in beating his wife/partner:						Number of women age 15-49 years
	If she 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 <sup>1</sup>	
<b>District</b>							
Paramaribo	1.9	6.7	2.0	0.7	0.5	8.8	3,037
Wanica	2.7	8.7	3.2	0.9	1.5	12.1	1,252
Nickerie	4.1	13.8	5.6	1.6	2.2	17.0	471
Coronie	0.0	15.5	3.4	1.7	0.0	19.0	31
Saramacca	2.4	8.5	1.9	1.1	0.5	10.1	198
Commewijne	3.5	8.3	2.8	2.2	0.4	11.9	296
Marowijne	3.5	12.2	6.1	1.2	1.9	16.5	208
Para	3.1	9.2	4.7	1.9	1.9	13.3	205
Brokopondo	10.3	23.9	7.3	3.3	6.0	29.6	132
Sipaliwini	10.4	19.8	11.5	4.7	5.3	26.8	461
<b>Area</b>							
Urban	2.2	7.6	2.5	0.8	0.9	10.1	4,620
Rural Coastal	3.2	10.8	4.2	1.7	1.4	14.3	1,077
Rural interior	10.4	20.7	10.5	4.4	5.5	27.4	593
Total Rural	5.8	14.3	6.4	2.6	2.9	19.0	1,670
<b>Age</b>							
15-19	4.3	14.9	3.7	0.8	2.0	19.1	1,085
20-24	3.4	11.7	3.5	0.9	1.4	14.9	991
25-29	3.3	8.2	3.2	1.5	1.4	11.6	972
30-34	2.8	8.5	4.0	1.4	1.3	10.8	816
35-39	2.6	8.5	3.1	1.6	1.2	11.2	852
40-44	2.6	6.5	3.8	1.4	1.3	8.4	831
45-49	2.8	5.1	4.0	1.5	0.9	8.5	743
<b>Marital/Union status*</b>							
Currently married/in union	3.0	8.5	3.8	1.4	1.2	11.7	3,406
Formerly married/in union	4.4	10.3	4.1	1.8	1.7	12.8	873
Never married/in union	2.8	10.4	3.0	0.8	1.5	13.5	1,998
<b>Education*</b>							
None	10.8	19.9	10.1	5.0	6.2	26.0	361
Primary	7.0	13.2	7.3	1.7	2.1	19.0	1,335
Secondary +	1.5	7.5	2.0	0.9	0.8	9.6	4,463
Other/Non-standard	1.2	4.6	1.9	0.9	0.4	6.6	111
<b>Wealth index quintile</b>							
Poorest	7.3	17.0	7.9	2.8	3.3	22.4	1,117
Second	3.6	11.1	4.7	1.2	1.5	15.7	1,231
Middle	2.5	8.1	2.8	1.5	0.9	11.3	1,276
Fourth	1.7	7.1	2.3	0.8	0.9	8.9	1,328
Richest	1.3	5.0	1.0	0.4	0.7	5.8	1,339
<b>Ethnicity of household head*</b>							
Indigenous/Amerindian	5.0	12.5	7.0	2.3	2.6	18.5	246
Maroon	6.4	15.3	6.1	2.1	2.9	20.2	1,510
Creole	0.8	4.3	1.1	0.7	0.5	5.6	1,056
Hindustani	3.4	11.3	4.6	1.6	1.4	15.3	1,851
Javanese	1.0	4.3	1.3	0.2	0.5	5.3	870
Mixed	1.5	5.6	1.1	0.7	0.4	6.6	621
Others	0.4	1.7	0.0	0.4	0.4	1.7	131
<b>Total</b>	<b>3.2</b>	<b>9.4</b>	<b>3.6</b>	<b>1.3</b>	<b>1.4</b>	<b>12.5</b>	<b>6,290</b>

\* 'Missing/DK' categories not shown due to low number of observations

<sup>1</sup> MICS indicator 8.14

## 11. HIV/AIDS and Sexual Behaviour



## Knowledge about HIV Transmission and Misconceptions about HIV/AIDS

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

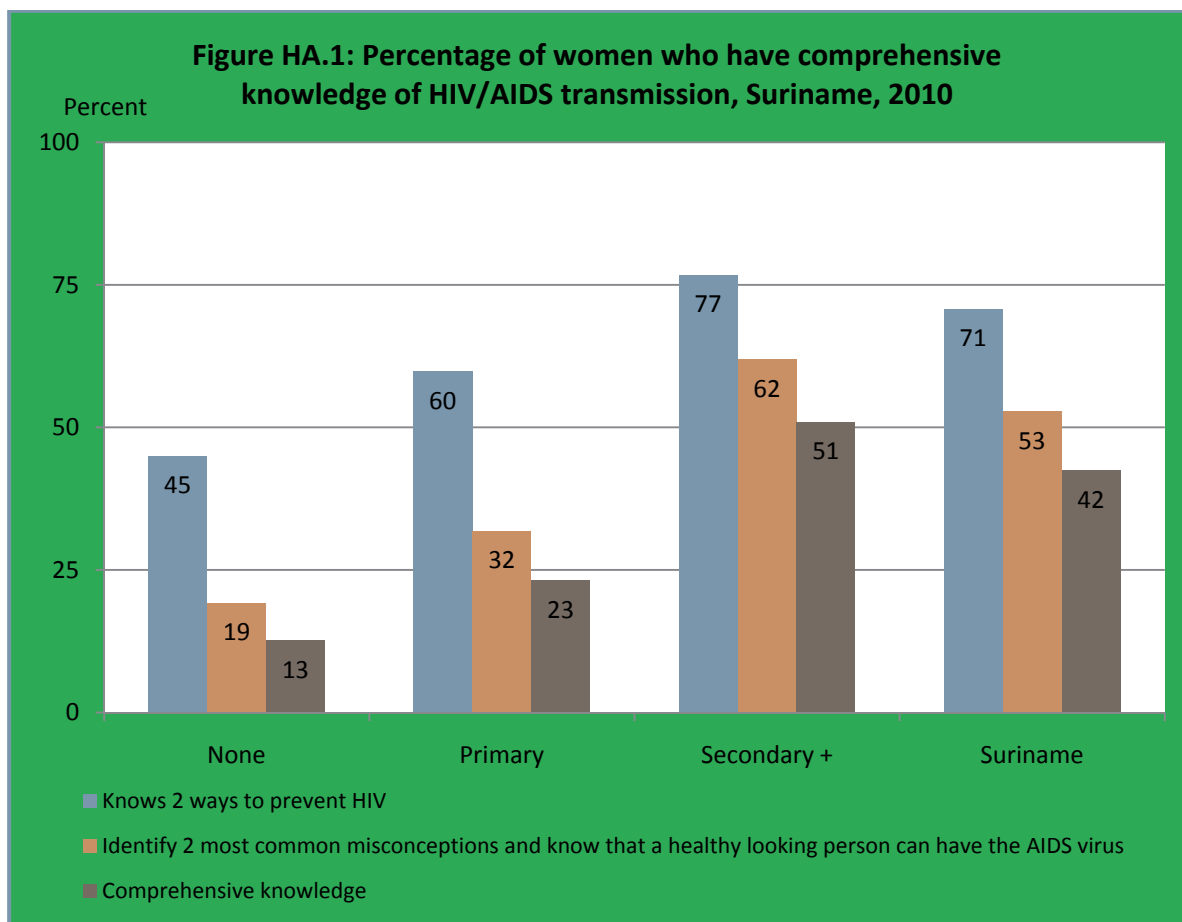
One indicator which is both an MDG and UNGASS indicator is the percent of young women who have comprehensive and correct knowledge of HIV prevention and transmission. In Suriname MICS all women who have heard of AIDS were asked whether they knew of the three main ways of preventing HIV transmission – having only one faithful uninfected partner, using a condom every time, and abstaining from sex. The results are presented in Table HA.1, page 155. In Suriname, 98 percent of interviewed women 15-49 years have heard of AIDS. However, the percentage that know of two ways of preventing HIV transmission is 71 percent. Eighty-three percent of women know of having one faithful uninfected sex partner, while 79 percent know of using a condom every time as two main ways of preventing HIV transmission.

The identical Table HA.2 (page 157) shows the results just for women 15-24 years and indicates that virtually every woman 15-24 years (99 percent) heard of AIDS. Seventy percent knew the two main ways of preventing HIV transmission. With respect to knowing about using a condom every time and having one faithful unaffected partner, the respective proportions among women 15-24 years are 78 percent and 84 percent. Whether 15-24 years or 15-49 years, a similar profile is evident among women with regard to awareness of AIDS and knowledge of ways to prevent transmission.

Table HA.1 and Table HA.2 also present the percent of women who can correctly identify misconceptions concerning HIV. The indicator is based on the two most common and relevant misconceptions in Suriname, that HIV can be transmitted by supernatural means or by mosquito bites. The table also provides information on whether women know that HIV cannot be transmitted by sharing food with someone with AIDS. Of the interviewed women 15-49 years, 53 percent reject the two most common misconceptions and know that a healthy-looking person can be infected. Eighty-two percent of women know that HIV cannot be transmitted by sharing food with someone with AIDS, and 79 percent of women know that supernatural means are misconceptions concerning the transmission of HIV. Additionally, 81 percent of women 15-49 years know that a healthy-looking person can be infected.

Women who have comprehensive knowledge about HIV prevention include women who know of the two main ways of HIV prevention (having only one faithful uninfected partner and using a condom every time, who know that a healthy looking person can have the AIDS virus, and who reject the two most common misconceptions. Tables HA.1 and HA.2 also present the percentage of women with comprehensive knowledge. Comprehensive knowledge of HIV prevention methods and transmission is still fairly low although there are differences by area of residence. Overall, 43 percent of women 15-49 and 42 percent of women 15-24 were found to have comprehensive knowledge, which was markedly higher in urban areas than in rural coastal areas, the rural interior, and by extension rural areas for both age groups. As expected, the percentage of women with comprehensive knowledge increases with the woman's

education level (Figure HA.1, below). Women's wealth status is also positively associated with the proportion of women exhibiting comprehensive knowledge of HIV prevention.



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 (page 159). Overall, 93 percent 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 52 percent, while 5 percent of women did not know of any specific way. There is not sufficient evidence to claim that women's socio-economic status or their education is positively or negatively associated in their knowledge of mother-to-child transmission. Only the overall knowledge that HIV can be transmitted from mother to child is slightly lower among women with no education.

**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, Suriname, 2010

District	Percentage who know transmission can be prevented by:			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 <sup>1</sup>	Number of women	
	Percentage who have heard of AIDS	Having only one faithful uninfected sex partner	Using a condom every time	Percentage of women who know both ways	Percentage who know that a healthy looking person can have the AIDS virus	Mosquito bites	Supernatural means				Sharing food with someone with AIDS
Paramaribo	98.9	85.2	80.8	72.8	85.2	76.5	84.2	85.8	60.6	49.0	3,037
Wanica	98.7	86.8	82.1	74.2	80.2	68.5	79.3	84.1	50.6	42.6	1,252
Nickerie	96.6	80.9	77.4	66.7	79.9	67.3	74.3	72.8	47.4	34.1	471
Coronie	100.0	84.5	84.5	72.4	81.0	74.1	84.5	91.4	60.3	46.6	31
Saramacca	97.6	84.3	81.3	73.3	78.7	65.1	77.9	76.0	48.5	39.5	198
Commewijne	98.0	81.8	77.0	67.3	81.1	67.1	76.3	81.5	48.6	37.1	296
Marowijne	98.4	83.1	75.3	68.2	78.8	60.5	70.4	81.6	42.8	33.4	208
Para	98.9	88.3	84.4	78.6	85.3	67.8	76.9	78.3	53.6	45.8	205
Brokopondo	95.8	80.4	76.7	68.9	74.6	59.5	73.7	75.5	40.2	31.1	132
Sipaliwini	92.6	64.9	64.4	51.6	60.3	46.6	61.8	59.2	25.5	17.6	461
<b>Area</b>											
Urban	98.7	85.4	81.0	72.8	83.9	73.9	82.1	85.0	57.3	46.5	4,620
Rural Coastal	97.6	83.3	78.7	70.7	78.9	64.8	75.5	76.6	47.3	37.2	1,077
Rural interior	93.3	68.4	67.2	55.5	63.5	49.5	64.4	62.8	28.7	20.6	593
Total Rural	96.1	78.0	74.6	65.3	73.4	59.4	71.6	71.7	40.7	31.3	1,670
<b>Age</b>											
15-24	98.6	84.2	77.8	70.4	81.1	71.0	81.6	86.4	52.9	41.9	2,076
25-29	98.2	81.9	79.9	70.0	82.3	70.7	81.0	80.7	55.0	44.1	972
30-39	98.4	84.8	81.3	72.1	82.3	72.2	79.7	80.9	55.4	44.3	1,668
40-49	96.8	82.0	78.8	70.5	79.2	66.0	74.8	76.1	48.8	40.2	1,574
<b>Marital status*</b>											
Currently married/in union	97.8	83.0	79.5	70.6	80.0	68.1	77.7	78.6	51.0	41.2	4,279
Formerly married/in union	98.6	84.5	78.8	71.1	83.5	74.2	82.8	87.7	56.9	45.2	1,998



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

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, Suriname, 2010

	Percentage who know transmission can be prevented by:		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 <sup>1</sup>	Number of women	
	Having only one faithful uninfected sex partner	Using a condom every time	Percentage of women who know both ways	Percentage who know that a healthy looking person can have the AIDS virus	Mosquito bites	Supernatural means	Sharing food with someone with AIDS	Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus				
<b>Women's education*</b>												
None	88.6	60.2	45.0	54.2	37.1	56.6	48.1	19.3	12.6	361		
Primary	95.9	74.4	59.9	68.7	55.0	66.0	67.1	31.9	23.2	1,335		
Secondary +	99.7	88.5	76.7	87.5	77.1	85.6	88.7	62.0	50.9	4,463		
Other/Non-standard	93.2	72.4	55.1	70.0	76.6	66.5	76.4	51.4	34.5	111		
<b>Wealth index quintiles</b>												
Poorest	94.2	72.3	59.1	69.6	51.9	65.2	66.7	32.3	23.4	1,117		
Second	98.0	81.7	68.1	76.3	62.7	74.6	77.8	42.8	33.5	1,231		
Middle	98.6	85.7	72.6	82.7	74.9	79.4	83.8	55.8	44.0	1,276		
Fourth	99.2	86.6	75.4	86.4	76.8	86.2	86.3	62.3	51.2	1,328		
Richest	99.6	89.0	76.7	88.5	80.5	88.7	90.3	67.1	56.4	1,339		
<b>Ethnicity of household head*</b>												
Indigenous/Amerindian	94.3	74.1	61.7	73.1	60.3	70.0	69.4	41.6	30.4	246		
Maroon	97.0	79.2	65.3	76.1	60.9	72.1	78.8	42.8	33.0	1,510		
Creole	99.9	89.5	77.9	89.1	83.6	87.3	91.0	69.0	57.4	1,056		
Hindustani	97.9	83.8	71.4	79.6	65.0	75.9	74.8	46.1	37.8	1,851		
Javanese	98.9	85.5	71.1	80.2	74.7	86.5	87.0	56.5	44.3	870		
Mixed	99.7	87.2	78.0	91.6	82.9	89.2	91.8	71.1	58.2	621		
Others	90.1	64.0	51.4	68.0	62.8	69.6	68.3	44.7	34.7	131		
<b>Total</b>	<b>98.0</b>	<b>83.4</b>	<b>70.8</b>	<b>81.1</b>	<b>70.0</b>	<b>79.3</b>	<b>81.5</b>	<b>52.9</b>	<b>42.5</b>	<b>6,290</b>		

\* 'Missing/DK' categories not shown due to low number of observations

<sup>1</sup>MICS indicator 9.1

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

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, Suriname, 2010

	Percentage who know transmission can be prevented by:			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 <sup>1</sup>	Number of women age 15-24		
	Percentage who have heard of AIDS	Having only one faithful/uninfected sex partner	Using a condom every time	Percentage of women who know both ways	Percentage who know that a healthy looking person can have the AIDS virus	Mosquito bites				Supernatural means	Sharing food with someone with AIDS
<b>District</b>											
Paramaribo	99.0	85.3	79.0	71.7	85.4	77.1	85.0	89.9	59.8	47.8	1,034
Wanica	99.6	88.4	79.4	74.2	76.4	65.7	82.4	85.8	47.2	38.2	389
Nickerie	96.9	81.9	75.3	65.5	78.1	70.4	73.8	81.9	46.3	34.9	153
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	7
Saramacca	98.2	86.2	81.7	72.5	84.4	63.3	89.9	82.6	53.2	38.5	58
Commewijne	98.9	85.6	78.3	72.2	83.4	67.8	81.1	93.4	49.5	41.2	98
Marowijne	100.0	81.1	73.1	66.9	77.1	64.0	74.3	86.3	45.1	34.3	86
Para	99.2	86.7	87.5	79.2	90.0	70.0	80.8	84.2	59.2	48.3	68
Brokopondo	96.5	80.0	76.5	69.6	79.1	59.1	78.3	79.1	45.2	33.9	46
Sipaliwini	93.8	65.3	62.6	50.4	61.1	54.9	65.9	66.5	30.6	20.8	137
<b>Area</b>											
Urban	99.1	86.2	79.0	72.2	83.1	73.8	83.5	89.0	56.0	45.0	1,539
Rural Coastal	98.3	83.0	78.5	70.3	80.5	66.6	79.9	83.7	49.5	37.7	354
Rural interior	94.5	69.0	66.1	55.2	65.6	56.0	69.0	69.6	34.2	24.1	183
Total Rural	97.0	78.2	74.3	65.2	75.5	63.0	76.2	78.9	44.3	33.1	537
<b>Age</b>											
15-19	98.2	83.2	76.3	69.7	79.8	70.3	81.4	87.4	50.1	40.3	1,085
20-24	99.0	85.2	79.4	71.2	82.6	71.8	81.8	85.4	56.1	43.7	991
<b>Marital status*</b>											
Ever married/in union	98.1	83.8	75.0	68.5	75.8	66.5	77.7	80.1	46.7	37.0	635
Never married/in union	98.8	84.3	79.0	71.2	83.4	73.0	83.4	89.2	55.7	44.0	1,434
<b>Women's education*</b>											
None	85.5	60.7	54.1	40.9	54.1	34.8	47.5	47.6	17.6	11.8	50
Primary	94.8	67.1	62.4	51.1	67.2	56.8	64.9	65.1	33.6	22.8	318
Secondary +	99.7	88.2	81.6	75.0	84.7	74.9	86.2	91.7	57.9	46.7	1,687
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	19

**Table HA.2: Knowledge about HIV transmission, misconceptions about HIV/AIDS, and comprehensive knowledge about HIV transmission among young women (continued)**

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, Suriname, 2010

	Percentage who know transmission can be prevented by:			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 <sup>1</sup>	Number of women age 15-24	
	Percentage who have heard of AIDS	Having only one faithful/uninfected sex partner	Using a condom every time	Percentage of women who know both ways	Percentage who know that a healthy looking person can have the AIDS virus	Mosquito bites	Supernatural means				Sharing food with someone with AIDS
<b>Wealth index quintiles</b>											
Poorest	95.4	72.7	65.9	57.2	71.0	58.9	69.9	73.5	36.6	25.7	388
Second	98.7	82.9	77.3	69.6	78.6	65.5	80.2	84.3	48.3	36.2	433
Middle	100.0	87.2	80.6	73.7	83.7	75.3	81.5	87.9	56.0	45.3	398
Fourth	99.1	87.1	80.3	73.3	85.2	76.4	87.5	93.0	60.9	49.5	414
Richest	99.5	89.9	83.9	77.0	86.3	78.1	88.1	92.3	61.6	51.5	443
<b>Ethnicity of household head*</b>											
Indigenous/Amerindian	96.9	74.0	68.5	61.9	74.6	64.0	76.6	74.0	45.1	29.9	84
Maroon	97.6	80.0	75.5	66.9	77.1	65.4	74.8	83.5	45.7	36.2	579
Creole	100.0	87.6	81.6	74.1	88.1	80.7	89.1	93.2	68.1	54.7	358
Hindustani	98.4	86.4	77.4	71.6	81.7	67.6	78.5	82.7	48.3	38.3	560
Javanese	99.4	86.3	77.8	70.7	77.2	74.0	89.3	91.7	51.6	41.0	285
Mixed	100.0	86.9	84.4	76.2	89.7	81.5	88.5	93.9	68.2	52.9	180
Others	92.4	73.6	71.7	60.4	69.7	57.0	84.8	71.5	43.6	43.6	29
<b>Total</b>	<b>98.6</b>	<b>84.2</b>	<b>77.8</b>	<b>70.4</b>	<b>81.1</b>	<b>71.0</b>	<b>81.6</b>	<b>86.4</b>	<b>52.9</b>	<b>41.9</b>	<b>2,076</b>

\* 'Missing/DK' categories not shown due to low number of observations

(<sup>1</sup>) Figures that are based on less than 25 unweighted cases

<sup>1</sup>MICS indicator 9.2; MDG indicator 6.3

**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, Suriname, 2010

	Percentage who know HIV can be transmitted from mother to child	Percent who know HIV can be transmitted:				Does not know any of the specific means	Number of women
		During pregnancy	During delivery	By breastfeeding	All three means <sup>1</sup>		
<b>District</b>							
Paramaribo	94.8	76.6	65.9	77.7	47.9	4.0	3037
Wanica	92.9	78.8	66.6	78.5	53.0	5.7	1252
Nickerie	93.1	88.1	71.0	77.4	60.7	3.5	471
Coronie	100.0	79.3	65.5	96.6	58.6	0.0	31
Saramacca	89.3	80.3	65.1	69.3	50.7	8.3	198
Commewijne	92.1	86.0	69.9	76.6	56.3	5.9	296
Marowijne	90.8	71.1	67.1	88.2	55.8	7.5	208
Para	93.6	78.3	71.7	84.2	58.6	5.3	205
Brokopondo	91.8	66.2	68.6	90.6	54.7	3.9	132
Sipaliwini	86.6	66.8	68.9	83.5	56.6	6.0	461
<b>Area</b>							
Urban	94.3	78.2	66.5	77.9	50.1	4.5	4620
Rural Coastal	91.5	79.9	68.7	79.6	56.7	6.1	1077
Rural interior	87.8	66.6	68.8	85.1	56.1	5.5	593
Total Rural	90.2	75.2	68.7	81.6	56.5	5.9	1670
<b>Age group</b>							
15-24	94.2	74.6	65.3	82.4	50.7	4.4	2076
15-19	93.3	72.8	61.0	81.9	48.6	4.9	1085
20-24	95.1	76.6	69.9	82.8	52.9	3.9	991
25-29	92.9	75.0	66.2	80.3	51.3	5.4	972
30-39	93.9	80.0	69.7	77.8	52.9	4.6	1668
40-49	91.5	79.8	67.3	74.5	52.5	5.3	1574
<b>Marital status*</b>							
Ever married/in union	92.8	79.0	67.9	78.3	53.1	4.9	4279
Never married/in union	94.1	74.1	65.4	80.1	49.2	4.5	1998
<b>Women's education*</b>							
None	78.9	60.7	59.8	76.8	50.8	9.7	361
Primary	88.4	74.8	66.1	79.8	54.7	7.5	1335
Secondary +	96.2	79.7	68.2	78.9	51.0	3.5	4463
Other/Non-standard	86.7	77.0	63.5	77.2	54.2	6.5	111
<b>Wealth index quintiles</b>							
Poorest	88.3	70.2	65.5	84.1	55.0	5.9	1117
Second	91.5	74.1	65.0	80.2	50.5	6.5	1231
Middle	94.2	79.6	68.7	79.4	54.3	4.4	1276
Fourth	95.2	79.6	68.1	77.1	50.9	4.0	1328
Richest	95.9	82.2	67.8	74.4	48.8	3.6	1339
<b>Ethnicity of household head*</b>							
Indigenous/Amerindian	88.9	80.1	74.1	82.7	64.8	5.4	246
Maroon	92.4	66.0	68.3	89.1	53.5	4.6	1510
Creole	96.7	76.3	64.9	85.6	51.1	3.2	1056
Hindustani	91.9	83.6	66.2	69.3	50.4	6.0	1851
Javanese	94.7	83.6	66.8	75.3	51.5	4.2	870
Mixed	97.0	81.4	69.5	79.4	50.9	2.6	621
Others	73.0	64.2	59.6	54.5	39.1	17.1	131
<b>Total</b>	<b>93.2</b>	<b>77.4</b>	<b>67.1</b>	<b>78.9</b>	<b>51.8</b>	<b>4.8</b>	<b>6290</b>

\* 'Missing/DK' categories not shown due to low number of observations

<sup>1</sup> 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 is HIV positive; 3) thinks that a female teacher who is HIV positive should be allowed to teach in school; and 4) would **not** want to keep HIV status of a family member a secret. Table HA.4 (page 161) presents the attitudes of women towards people living with HIV/AIDS. Specifically, 96 percent of women interviewed agree with at least one of the above-mentioned accepting attitudes while 21 percent have responded favourably expressing accepting attitudes on all four indicators. The survey does provide evidence that seem consistent with positive association between women's education and the proportion expressing favourable responses toward accepting attitudes in the context of stigmatization. A similar positive association is also supported when women's socio-economic status is taken into account.

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

Another important indicator is the knowledge of where to be tested for HIV and use of such services. In order to protect themselves and to prevent infecting others, it is important for individuals to know their HIV status. Knowledge of own status is also a critical factor in the decision to seek treatment. Questions related to knowledge among women of a facility for HIV testing and whether they have ever been tested are presented in Table HA.5 (page 162). With respect to women 15-49 years, as much as 85 percent know a place where they can be tested, while 55 percent have actually been tested. A smaller proportion equivalent to 21 percent has been tested in the past 12 months and 20 percent have been tested in the past 12 months and have been told the result. For these women, the greater the socio-economic status, greater proportions expressed knowledge of a place to be tested.

Table HA.6 (page 163) presents the same results for sexually active young women. The proportion of young women who have been tested and have been told the result within the last 12 months provides a measure of the effectiveness of interventions that promote HIV counselling and testing among young people. This is important to know, because young people may feel that there are barriers to accessing services related to sensitive issues, such as sexual health. With respect to younger women 15-24 years, 57 percent had sex in the past 12 months. Among them, 91 percent know a place where they can be tested, while 63 percent have actually been tested with a smaller proportion equivalent to 35 percent being tested in the past 12 months and percent have been tested in the past 12 months and told the result. For these women, greater proportions expressed knowledge of a place to be tested, the greater the socio-economic status and the higher their level of education. Whether women were 15-24 years or 15-49 years, smaller proportions from rural areas, in particular, the rural interior, claim to have had knowledge of a place where one can be tested when compared to their counterparts from urban areas.

Among women 15-49 years who had given birth within the two years preceding the survey, the percentage who received counselling and HIV testing during antenatal care is presented in Table HA.7 (page 164). Some 91 percent of these women received antenatal care from a health care professional for their last pregnancy with just under a half (49%) receiving HIV counselling while receiving antenatal care. During antenatal care, 82 percent were offered a HIV test and tested for HIV, and 80 percent received the results of their tests. During antenatal care, just under one half (46%) of the women received counselling in addition to being offered a HIV test, being tested, and being given the results.

**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, Suriname, 2010

	Percentage of women who:						
	Are willing to care for a family member with the AIDS virus in own home	Would buy fresh vegetables from a shopkeeper or vendor who has the AIDS virus	Believe that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Agree with at least one accepting attitude	Express accepting attitudes on all four indicators <sup>1</sup>	Number of women who have heard of AIDS
<b>District</b>							
Paramaribo	79.6	65.4	80.7	47.3	97.8	24.4	3,002
Wanica	67.3	52.9	70.1	54.0	96.3	19.6	1,235
Nickerie	64.1	49.0	60.5	48.8	92.9	16.7	455
Coronie	75.9	58.6	72.4	46.6	93.1	20.7	31
Saramacca	63.7	50.8	64.2	55.5	92.6	21.6	193
Commewijne	66.4	56.3	66.1	59.5	93.2	23.1	290
Marowijne	67.0	48.3	59.6	55.5	94.5	16.5	204
Para	73.0	51.7	67.1	57.3	94.1	23.3	203
Brokopondo	70.0	49.2	53.0	49.5	91.5	15.5	126
Sipaliwini	67.4	28.3	34.6	54.4	89.4	8.6	427
<b>Area</b>							
Urban	75.1	61.3	76.6	49.9	97.1	23.0	4,562
Rural Coastal	67.4	50.2	63.3	52.8	93.5	18.6	1,051
Rural interior	68.0	33.0	38.8	53.3	89.9	10.1	553
Total Rural	67.6	44.3	54.8	53.0	92.2	15.7	1,604
<b>Age</b>							
15-24	75.9	55.3	74.1	47.5	96.3	18.7	2,047
15-19	74.3	52.5	73.0	48.0	96.1	17.4	1,065
20-24	77.7	58.4	75.2	46.9	96.6	20.0	982
25-29	72.1	59.6	69.3	48.8	94.6	20.2	955
30-39	71.1	57.6	69.0	52.0	95.9	21.9	1,641
40-49	72.3	56.3	69.9	54.8	95.7	24.0	1,523
<b>Marital status*</b>							
Ever married/in union	71.2	56.3	68.0	52.8	95.4	21.2	4,183
Never married/in union	77.4	58.1	77.0	46.3	96.6	20.8	1,971
<b>Women's education*</b>							
None	65.9	21.8	28.4	52.2	86.7	6.2	320
Primary	64.0	40.2	49.2	58.3	92.9	14.3	1,280
Secondary +	76.3	64.3	80.5	48.6	97.3	24.2	4,449
Other/Non-standard	72.8	49.5	64.8	43.5	93.5	18.7	103
<b>Wealth index quintiles</b>							
Poorest	66.4	37.7	46.9	56.9	91.8	13.4	1,053
Second	69.5	51.2	65.0	52.3	94.4	16.7	1,206
Middle	75.5	59.3	74.0	49.8	97.0	21.4	1,258
Fourth	76.5	64.6	80.0	48.8	97.5	26.0	1,317
Richest	76.4	67.1	83.5	47.2	97.4	26.1	1,333
<b>Ethnicity of household head*</b>							
Indigenous/Amerindian	63.4	42.9	59.6	55.5	94.3	13.3	232
Maroon	76.1	49.2	60.5	50.3	94.4	16.3	1,465
Creole	80.7	67.9	85.7	48.1	98.4	27.0	1,056
Hindustani	64.2	50.4	62.5	54.4	94.5	18.6	1,811
Javanese	76.4	63.6	81.5	49.4	96.9	25.7	861
Mixed	80.5	71.0	86.2	47.5	98.4	27.7	619
Others	64.7	54.9	62.6	39.3	91.2	12.5	118
<b>Total</b>	<b>73.2</b>	<b>56.9</b>	<b>70.9</b>	<b>50.7</b>	<b>95.8</b>	<b>21.1</b>	<b>6,166</b>

\* 'Missing/DK' categories not shown due to low number of observations

<sup>1</sup> MICS indicator 9.4

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

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

	Percentage of women who:				Number of women
	Know a place to get tested <sup>1</sup>	Have ever been tested	Have been tested in the last 12 months	Have been tested in the last 12 months and have been told result <sup>2</sup>	
<b>District</b>					
Paramaribo	89.9	58.0	23.0	21.9	3,037
Wanica	82.0	48.6	20.4	19.4	1,252
Nickerie	76.5	40.5	12.5	11.7	471
Coronie	89.7	56.9	19.0	19.0	31
Saramacca	78.7	43.2	13.9	13.6	198
Commewijne	81.8	44.7	15.4	14.1	296
Marowijne	84.9	65.9	30.1	28.5	208
Para	86.7	58.1	22.2	20.8	205
Brokopondo	85.2	71.6	32.9	32.3	132
Sipaliwini	73.7	61.1	22.2	21.1	461
<b>Area</b>					
Urban	87.2	54.3	21.7	20.5	4,620
Rural Coastal	80.5	50.1	18.6	17.7	1,077
Rural interior	76.3	63.4	24.6	23.6	593
Total Rural	79.0	54.8	20.7	19.8	1,670
<b>Age</b>					
15-19	77.7	20.4	11.9	11.4	1,085
20-24	91.2	61.0	31.9	30.3	991
25-29	90.7	76.6	31.4	30.0	972
30-34	87.8	72.0	26.5	25.2	816
35-39	87.4	64.9	18.9	17.2	852
40-44	82.0	50.4	16.5	16.3	831
45-49	77.4	39.9	11.1	10.1	743
<b>Marital status*</b>					
Ever married/in union	85.4	63.6	24.4	23.2	4,279
Never married/in union	84.1	34.9	15.0	14.1	1,998
<b>Wealth index quintiles</b>					
Poorest	76.7	59.9	26.4	24.9	1,117
Second	81.9	56.0	22.6	22.1	1,231
Middle	85.4	54.2	21.4	20.4	1,276
Fourth	89.8	51.5	18.9	17.7	1,328
Richest	89.7	51.8	18.7	17.4	1,339
<b>Ethnicity of household head*</b>					
Indigenous/Amerindian	77.3	51.4	17.8	16.3	246
Maroon	84.5	65.0	30.2	28.8	1,510
Creole	95.7	65.2	28.1	26.2	1,056
Hindustani	76.7	39.8	12.8	12.3	1,851
Javanese	87.7	48.1	16.3	15.2	870
Mixed	96.0	66.8	25.9	25.0	621
Others	67.1	44.2	8.6	8.6	131
<b>Total</b>	<b>85.0</b>	<b>54.5</b>	<b>21.4</b>	<b>20.3</b>	<b>6,290</b>
* 'Missing/DK' categories not shown due to low number of observations					
<sup>1</sup> MICS indicator 9.5					
<sup>2</sup> MICS indicator 9.6					

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

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

	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 in the last 12 months	Have been tested in the last 12 months and have been told result <sup>1</sup>	
<b>District</b>							
Paramaribo	57.4	1,034	94.4	65.2	39.0	37.3	594
Wanica	49.8	389	90.5	59.5	32.8	31.9	194
Nickerie	48.4	153	82.8	54.6	23.0	23.0	74
Coronie	(*)	7	(*)	(*)	(*)	(*)	5
Saramacca	54.1	58	84.7	55.9	27.1	27.1	31
Commewijne	45.0	98	(92.7)	(61.7)	(30.8)	(27.1)	44
Marowijne	68.6	86	85.0	65.8	35.0	34.2	59
Para	59.2	68	93.0	66.2	33.8	32.4	40
Brokopondo	80.0	46	88.0	70.7	34.8	34.8	37
Sipaliwini	76.6	137	79.5	60.1	28.7	26.4	105
<b>Area</b>							
Urban	54.7	1,539	93.5	63.2	36.4	34.9	842
Rural Coastal	56.3	354	85.1	61.8	31.0	30.5	199
Rural interior	77.4	183	81.7	62.8	30.3	28.5	141
Total Rural	63.5	537	83.7	62.2	30.7	29.7	341
<b>Age</b>							
15-19	38.6	1,085	87.2	47.1	29.4	28.3	419
20-24	77.0	991	92.6	71.6	37.7	36.1	763
<b>Marital status*</b>							
Ever married/in union	95.7	635	89.2	75.2	41.3	39.9	608
Never married/in union	39.8	1,434	92.2	50.2	28.0	26.6	571
<b>Women's education*</b>							
None	81.2	50	71.7	61.6	33.0	27.9	40
Primary	68.5	318	81.9	67.8	35.1	33.4	218
Secondary +	53.7	1,687	93.8	62.2	35.0	33.8	906
Other/Non-standard	(*)	19	(*)	(*)	(*)	(*)	16
<b>Wealth index quintiles</b>							
Poorest	70.1	388	81.0	62.2	31.9	30.4	272
Second	57.1	433	92.1	67.3	39.0	39.0	247
Middle	58.3	398	92.5	64.3	30.0	29.6	232
Fourth	50.1	414	93.8	62.9	41.8	38.6	208
Richest	50.5	443	96.1	57.4	32.0	29.8	224
<b>Ethnicity of household head*</b>							
Indigenous/Amerindian	69.5	84	82.6	57.4	24.0	20.4	58
Maroon	65.4	579	87.0	63.3	35.5	34.1	379
Creole	60.3	358	98.0	64.9	40.7	38.7	216
Hindustani	38.5	560	85.4	63.6	31.9	31.2	216
Javanese	68.1	285	96.9	60.4	31.8	30.1	194
Mixed	60.0	180	93.5	66.8	40.7	40.7	108
Others	(*)	29	(*)	(*)	(*)	(*)	11
<b>Total</b>	<b>57.0</b>	<b>2,076</b>	<b>90.7</b>	<b>62.9</b>	<b>34.8</b>	<b>33.4</b>	<b>1,182</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 9.7



**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, Suriname, 2010

	Percentage of women who:					
	Received antenatal care from a health care professional for last pregnancy	Received HIV counselling during antenatal care <sup>1</sup>	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 <sup>2</sup>	Received HIV counselling, were offered an HIV test, accepted and received the results	Number of women who gave birth in the 2 years preceding the survey
<b>District</b>						
Paramaribo	92.7	43.5	80.8	76.9	38.8	430
Wanica	96.5	47.4	79.8	79.8	45.6	191
Nickerie	98.3	43.8	79.8	78.9	42.1	61
Coronie	(*)	(*)	(*)	(*)	(*)	4
Saramacca	93.0	33.3	68.4	66.7	28.1	30
Commewijne	(97.5)	(51.4)	(88.9)	(88.9)	(50.1)	44
Marowijne	93.9	57.6	84.1	84.1	56.1	65
Para	95.5	62.1	87.9	84.8	57.6	38
Brokopondo	66.2	61.7	85.7	85.0	59.4	53
Sipaliwini	78.9	61.9	82.8	80.6	60.0	146
<b>Area</b>						
Urban	94.3	45.2	80.9	78.4	41.7	668
Rural Coastal	94.9	50.9	81.9	80.7	47.9	193
Rural interior	75.5	61.9	83.6	81.7	59.8	199
Total Rural	85.0	56.5	82.7	81.2	53.9	392
<b>Age group</b>						
15-24	91.9	48.0	79.8	77.9	44.2	374
15-19	91.1	47.9	73.1	71.2	42.9	108
20-24	92.3	48.0	82.5	80.5	44.7	267
25-29	93.3	53.1	83.5	80.7	49.6	303
30-39	85.7	48.0	86.3	84.1	45.3	189
40-49	90.1	47.4	77.4	76.1	45.8	195
<b>Marital status*</b>						
Ever married/in union	90.9	48.9	81.9	80.4	46.3	903
Never married/in union	90.8	51.0	79.5	73.4	44.5	153
<b>Women's education*</b>						
None	78.7	59.4	79.4	77.5	56.0	125
Primary	88.9	49.9	78.6	77.2	47.4	305
Secondary +	94.5	47.2	83.6	81.0	43.7	609
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	16
<b>Wealth index quintiles</b>						
Poorest	82.1	57.9	81.7	79.5	55.2	341
Second	94.0	45.6	77.3	75.5	42.2	212
Middle	95.1	49.9	87.4	86.0	46.6	200
Fourth	97.0	42.7	79.6	76.7	41.7	167
Richest	94.1	41.4	81.6	79.2	35.5	141
<b>Ethnicity of household head</b>						
Indigenous/Amerindian	88.3	49.0	77.7	77.7	49.0	50
Maroon	84.8	57.6	83.0	79.8	54.2	429
Creole	97.5	46.5	85.5	83.8	42.3	131
Hindustani	97.5	41.4	82.5	81.5	40.1	216
Javanese	93.5	39.5	76.1	74.6	33.5	111
Mixed	92.0	47.0	80.4	77.7	43.4	104
Others	(*)	(*)	(*)	(*)	(*)	20
<b>Total</b>	<b>90.9</b>	<b>49.3</b>	<b>81.6</b>	<b>79.5</b>	<b>46.2</b>	<b>1,060</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

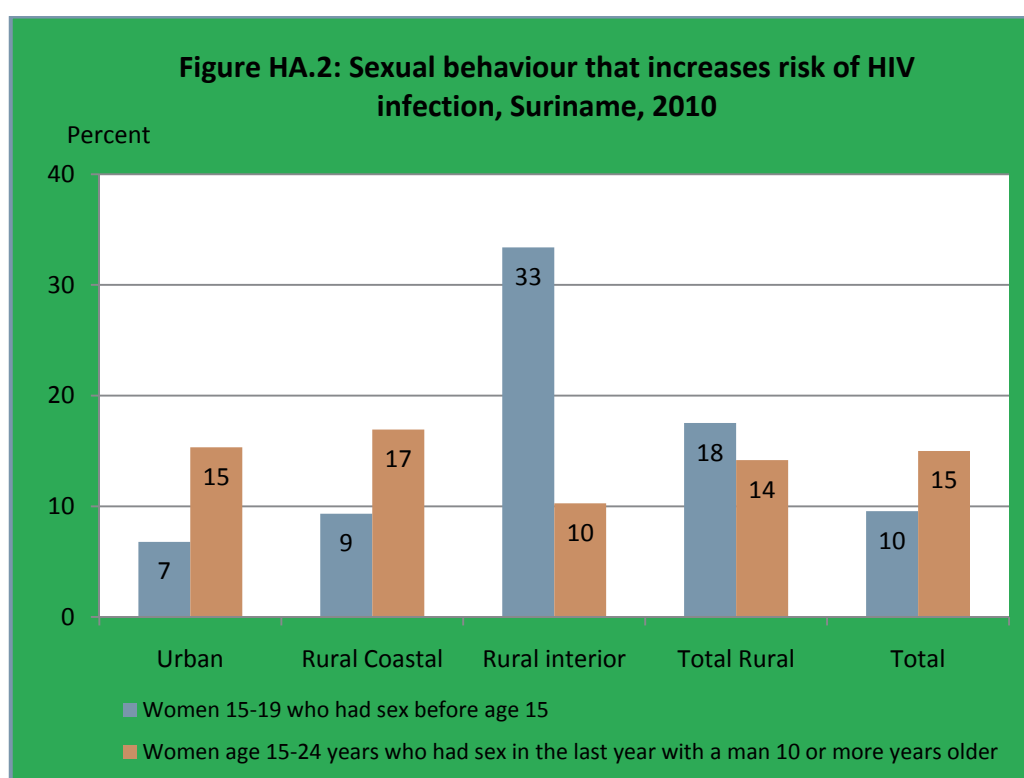
<sup>1</sup> MICS indicator 9.8

<sup>2</sup> MICS indicator 9.9

## Sexual Behaviour Related to HIV Transmission

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

Table HA.8 (page 166) and Figure HA.2 below, present the frequency of sexual behaviours that increase the risk of HIV infection among women. In Suriname, 55 percent of never married women 15-24 years never had sex (sexual intercourse). In the rural coastal areas, a notably larger proportion estimated to be 63 percent never had sex while in the rural interior the proportion is estimated to be substantially lower at 29 percent. Figure HA.2 shows that 10 percent of women 15-24 years had sex before their 15<sup>th</sup> birthday. The urban-rural difference shows 7 percent in urban areas and 19 percent in rural areas. In the rural interior, however, it is estimated that approximately one third (33%) of the women 15-24 years had sex before their 15<sup>th</sup> birthday being substantially higher than corresponding proportions observed in the rural coastal areas (9%) and in urban areas (7%). With respect to women 15-24 years who had sex in the last 12 months with a man who was at least 10 years older, proportions of women with such experiences did not vary much across urban-rural domains in Suriname.



**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, Suriname, 2010

	Percentage of never-married women age 15-24 years who have never had sex <sup>1</sup>	Number of never-married women age 15-24 years	Percentage of women age 15-24 years who had sex before age 15 <sup>2</sup>	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 <sup>3</sup>	Number of women age 15-24 years who had sex in the 12 months preceding the survey
<b>District</b>						
Paramaribo	50.0	758	6.9	1,034	14.5	594
Wanica	63.3	282	6.9	389	12.1	194
Nickerie	76.5	95	8.7	153	21.6	74
Coronie	(*)	4	(*)	7	(*)	5
Saramacca	78.0	31	6.4	58	20.3	31
Commewijne	78.3	65	0.5	98	(38.4)	44
Marowijne	40.8	59	17.7	86	12.5	59
Para	52.2	51	8.3	68	15.5	40
Brokopondo	26.9	21	35.7	46	13.0	37
Sipaliwini	29.5	67	32.6	137	9.3	105
<b>Area</b>						
Urban	55.1	1,117	6.8	1,539	15.3	842
Rural Coastal	63.1	229	9.3	354	16.9	199
Rural interior	28.9	88	33.4	183	10.3	141
Total Rural	53.6	318	17.5	537	14.2	341
<b>Age</b>						
15-19	66.4	931	10.1	1,085	11.4	419
20-24	33.1	503	9.0	991	17.0	763
<b>Marital status*</b>						
Ever married/in union	na	na	17.6	635	18.9	608
Never married/in union	54.7	1,434	6.0	1,434	10.7	571
<b>Women's education*</b>						
None	(22.5)	18	33.2	50	10.4	40
Primary	48.9	164	26.2	318	18.0	218
Secondary +	56.3	1,239	5.6	1,687	14.2	906
Other/Non-standard	(*)	13	(*)	19	(*)	16
<b>Wealth index quintiles</b>						
Poorest	41.0	209	24.5	388	15.5	272
Second	57.4	291	9.7	433	17.1	247
Middle	53.7	280	8.2	398	12.3	232
Fourth	61.5	304	3.5	414	19.6	208
Richest	55.6	350	3.1	443	10.6	224
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	44.2	53	15.4	84	17.4	58
Maroon	39.4	398	18.6	579	10.2	379
Creole	43.8	278	8.2	358	15.3	216
Hindustani	82.9	393	3.1	560	18.4	216
Javanese	49.9	159	5.6	285	17.0	194
Mixed	45.2	132	7.5	180	19.2	108
Others	(*)	21	(*)	29	(*)	11
<b>Total</b>	<b>54.7</b>	<b>1,434</b>	<b>9.6</b>	<b>2,076</b>	<b>15.0</b>	<b>1,182</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 9.10

<sup>2</sup> MICS indicator 9.11

<sup>3</sup> MICS indicator 9.12

**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, Suriname, 2010

	Percentage of women who:			Number of women age 15-49 years	Percent 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 <sup>2</sup>	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 <sup>1</sup>			
<b>District</b>						
Paramaribo	85.5	74.7	2.8	3,037	43.1	84
Wanica	84.1	76.2	2.5	1,252	(*)	32
Nickerie	82.2	76.0	1.1	471	(*)	5
Coronie	91.4	81.0	3.4	31	(*)	1
Saramacca	86.7	80.3	0.5	198	(*)	1
Commewijne	81.6	74.2	0.2	296	(*)	1
Marowijne	88.0	82.8	2.4	208	(*)	5
Para	86.4	80.6	3.3	205	(*)	7
Brokopondo	95.5	84.9	2.1	132	(*)	3
Sipaliwini	95.0	81.6	3.4	461	(25.6)	16
<b>Area</b>						
Urban	84.8	75.0	2.5	4,620	39.4	118
Rural Coastal	85.5	79.6	1.7	1,077	(29.5)	18
Rural interior	95.1	82.3	3.1	593	(30.4)	19
Total Rural	88.9	80.6	2.2	1,670	29.9	37
<b>Age</b>						
15-24	61.9	57.0	3.0	2,076	39.3	62
25-29	93.9	87.4	4.5	972	(44.3)	44
30-39	98.3	90.4	1.9	1,668	(26.9)	32
40-49	99.4	80.7	1.1	1,574	(*)	17
<b>Marital status*</b>						
Ever married/in union	99.9	90.5	2.1	4,279	22.4	88
Never married/in union	55.9	46.5	3.2	1,998	55.8	65
<b>Women's education*</b>						
None	97.9	80.7	2.1	361	(*)	8
Primary	93.4	83.9	2.1	1,335	(31.9)	29
Secondary +	82.5	73.8	2.5	4,463	40.2	112
Other/Non-standard	90.0	80.7	3.0	111	(*)	3
<b>Wealth index quintiles</b>						
Poorest	92.0	80.6	2.8	1,117	40.4	31
Second	85.4	76.6	2.7	1,231	(21.1)	33
Middle	86.4	77.0	2.2	1,276	(*)	29
Fourth	83.6	75.3	2.8	1,328	(35.8)	37
Richest	82.9	73.6	1.9	1,339	(*)	25
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	90.3	85.6	3.6	246	(*)	9
Maroon	89.0	78.4	3.0	1,510	42.7	46
Creole	87.2	74.8	3.7	1,056	(52.9)	39
Hindustani	79.2	70.4	0.7	1,851	(*)	14
Javanese	89.7	83.7	2.0	870	(*)	17
Mixed	89.6	80.5	4.1	621	(*)	25
Others	82.9	68.4	2.5	131	(*)	3
<b>Total</b>	<b>85.9</b>	<b>76.5</b>	<b>2.5</b>	<b>6,290</b>	<b>37.2</b>	<b>154</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 9.13

<sup>2</sup> MICS indicator 9.14

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

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

District	Percentage of women age 15-24 years who:				Percent of women age 15-24 years who had more than one sexual partner in the last 12 months, who also reported that a condom was used the last time they had sex	Number of women age 15-24 years who had more than one sexual partner in the last 12 months
	Ever had sex	Had sex in the last 12 months	Had sex with more than one partner in last 12 months	Number of women age 15-24 years		
<b>District</b>						
Paramaribo	63.4	57.4	3.4	1,034	(*)	35
Wanica	53.2	49.8	2.6	389	(*)	10
Nickerie	51.2	48.4	1.7	153	(*)	3
Coronie	(*)	(*)	(*)	7	-	0
Saramacca	57.8	54.1	0.0	58	-	0
Commewijne	47.8	45.0	0.0	98	-	0
Marowijne	72.0	68.6	3.4	86	(*)	3
Para	60.8	59.2	5.0	68	(*)	3
Brokopondo	87.8	80.0	0.9	46	-	0
Sipaliwini	84.3	76.6	5.6	137	(*)	8
<b>Area</b>						
Urban	59.7	54.7	2.9	1,539	(40.7)	45
Rural Coastal	59.1	56.3	2.5	354	(*)	9
Rural interior	85.2	77.4	4.4	183	(*)	8
Total Rural	68.0	63.5	3.2	537	(35.6)	17
<b>Age</b>						
15-19	42.5	38.6	1.8	1,085	(*)	20
20-24	83.0	77.0	4.3	991	(31.3)	42
<b>Marital status*</b>						
Ever married/in union	99.1	95.7	3.7	635	(15.5)	23
Never married/in union	45.3	39.8	2.6	1,434	(51.5)	37
<b>Women's education*</b>						
None	92.1	81.2	6.9	50	(*)	3
Primary	74.0	68.5	2.1	318	(*)	7
Secondary +	58.4	53.7	2.9	1,687	(41.6)	48
Other/Non-standard	(*)	(*)	(*)	19	(*)	2
<b>Wealth index quintiles</b>						
Poorest	77.5	70.1	3.3	388	(*)	13
Second	61.1	57.1	3.6	433	(*)	16
Middle	61.7	58.3	3.2	398	(*)	13
Fourth	54.9	50.1	2.8	414	(*)	12
Richest	55.6	50.5	2.1	443	(*)	9
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	72.0	69.5	6.8	84	(*)	6
Maroon	72.6	65.4	3.3	579	(32.4)	19
Creole	66.0	60.3	2.3	358	(*)	8
Hindustani	41.3	38.5	1.3	560	(*)	7
Javanese	72.1	68.1	4.4	285	(*)	13
Mixed	65.8	60.0	4.6	180	(*)	8
Others	(*)	(*)	(*)	29	(*)	1
<b>Total</b>	<b>61.9</b>	<b>57.0</b>	<b>3.0</b>	<b>2,076</b>	<b>39.3</b>	<b>62</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

Sexual behaviour and condom use during sex was assessed in all women and separately for women age 15-24 years of age who had sex with multiple partners in the previous year (Tables HA.9 and HA.10, pages 167 and 168). Only 3 percent of women 15-49 years of age report having sex with more than one partner in

the last 12 months. Of those women, a little more than a third (37%) report using a condom when they had sex the last time. For young women, age 15-24, the numbers are practically the same, with 3 percent reporting more than one partner and 39 percent using condom at last sex. Observations on background characteristics are impossible due to the low prevalence of multiple partners among women.

Tables HA.11 (page 170) 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. Sex with non-partners in the past 12 months appears relatively even across most background characteristics, except of course on age and marital status. However, there are large differences between districts with a low prevalence in Saramacca (22%), Nickerie (27%), and Commewijne (35%) to high prevalence in Para (70%), Marowijne (68%), and Paramaribo (65%).

On whether a condom was used during the last such sexual encounter, unfortunately the low prevalence in some districts makes comparison difficult. Nevertheless, condom use is not common in the rural interior (34%) compared to the urban area (60%). Condom use is also much lower for women with no education or from households in the poorest quintile.

**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, Suriname, 2010

	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 <sup>1</sup>	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 <sup>2</sup>	Number of women age 15-24 years who had sex in last 12 months with a non-marital, non-cohabiting partner
	Ever had sex	Had sex in the last 12 months					
<b>District</b>							
Paramaribo	63.4	57.4	1,034	64.9	594	62.7	385
Wanica	53.2	49.8	389	59.5	194	50.7	115
Nickerie	51.2	48.4	153	27.4	74	(55.2)	20
Coronie	(*)	(*)	7	(*)	5	(*)	2
Saramacca	57.8	54.1	58	22.0	31	(*)	7
Commewijne	47.8	45.0	98	34.7	44	(*)	15
Marowijne	72.0	68.6	86	68.3	59	47.6	40
Para	60.8	59.2	68	70.4	40	52.0	28
Brokopondo	87.8	80.0	46	51.1	37	(48.9)	19
Sipaliwini	84.3	76.6	137	60.1	105	29.0	63
<b>Area</b>							
Urban	59.7	54.7	1,539	62.0	842	59.7	522
Rural Coastal	59.1	56.3	354	46.1	199	51.3	92
Rural interior	85.2	77.4	183	57.7	141	33.6	82
Total Rural	68.0	63.5	537	50.9	341	43.0	174
<b>Age</b>							
15-19	42.5	38.6	1,085	70.5	419	57.3	295
20-24	83.0	77.0	991	52.4	763	54.2	400
<b>Marital status*</b>							
Ever married/in union	99.1	95.7	635	20.6	608	48.9	125
Never married/in union	45.3	39.8	1,434	99.4	571	57.0	567
<b>Women's education*</b>							
None	92.1	81.2	50	51.0	40	17.8	21
Primary	74.0	68.5	318	50.0	218	43.6	109
Secondary +	58.4	53.7	1,687	61.1	906	58.9	554
Other/Non-standard	(*)	(*)	19	(*)	16	(*)	10
<b>Wealth index quintiles</b>							
Poorest	77.5	70.1	388	57.2	272	37.2	156
Second	61.1	57.1	433	56.1	247	59.8	139
Middle	61.7	58.3	398	58.1	232	67.1	135
Fourth	54.9	50.1	414	55.8	208	60.9	116
Richest	55.6	50.5	443	67.3	224	56.0	151
<b>Ethnicity of household head*</b>							
Indigenous/Amerindian	72.0	69.5	84	57.4	58	(53.6)	33
Maroon	72.6	65.4	579	70.9	379	54.5	268
Creole	66.0	60.3	358	75.1	216	58.3	162
Hindustani	41.3	38.5	560	30.0	216	56.9	65
Javanese	72.1	68.1	285	46.3	194	52.7	90
Mixed	65.8	60.0	180	67.0	108	57.9	72
Others	(*)	(*)	29	(*)	11	(*)	4
<b>Total</b>	<b>61.9</b>	<b>57.0</b>	<b>2,076</b>	<b>58.8</b>	<b>1,182</b>	<b>55.5</b>	<b>696</b>

\* 'Missing/DK' categories not shown due to low number of observations

( ) Figures that are based on 25-49 unweighted cases

(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator 9.15

<sup>2</sup> MICS indicator 9.16; MDG indicator 6.2

## 12. Access to Mass Media and Use of Information/Communication Technology





The 2011 Suriname MICS collected information on exposure to mass media and the use of computers and the internet.

Information is collected on:

- exposure to newspapers/magazines, radio and television among women age 15-49,
- use of computers among 15-24 year-olds, and
- use of the internet among 15-24 year-olds.

### Access to Mass Media

The proportion of women 15-49 years who read a newspaper, listen to the radio, and watch television at least once a week is shown in Table MT.1 (page 173). At least once a week, 77 percent of women in Suriname read a newspaper, 84 percent listen to the radio, and 90 percent watch television. Overall, 2 percent do not have regular exposure to any of the three media, while 66 percent are exposed to all the three types of media at least on a weekly basis. There are no clear patterns of association between women's age and their reported exposure to all three types of mass media. However, there are definite patterns of association between attributes such as area, women's education, and socio-economic status on one hand, and exposure to all types of mass media on the other.

Only 1 percent of women with no education are exposed to all three media once a week, while this is the case for 45 percent of women with primary education, and 78 percent of women with secondary or higher education. The very low rate for women with no education is of course driven by only 2 percent being exposed to newspaper, but there are low rates for radio (55%) and TV (45%) as well. As expected a somewhat similar pattern can be found when looking at wealth quintiles. Much larger proportions of women were exposed to all the media types in urban areas (75 percent) than in rural areas (44 percent). In the rural interior, exposure to all three types of media was very low with only 13 percent of women having exposure to all. Exposure of women to all three media was greatest in Paramaribo (77 percent) and lowest in Sipaliwini (9 percent).

**Table MT.1: Exposure to mass media**

Percentage of women age 15-49 years who are exposed to specific mass media on a weekly basis, Suriname 2010

	Percentage of women age 15-49 who:					Number of women age 15-49 years
	Read a newspaper at least once a week	Listen to the radio at least once a week	Watch television at least once a week	All three media at least once a week <sup>1</sup>	No media at least once a week	
<b>Age</b>						
15-19	77.1	85.8	93.1	67.3	1.5	1,085
20-24	80.3	83.3	89.2	67.4	1.9	991
25-29	75.0	82.7	90.0	64.1	1.6	972
30-34	75.5	85.2	90.2	66.7	1.2	816
35-39	76.9	82.1	89.5	65.4	1.6	852
40-44	77.3	84.7	87.8	66.5	1.6	831
45-49	75.6	85.2	89.6	67.7	1.4	743
<b>District</b>						
Paramaribo	87.3	87.6	94.9	76.8	0.8	3,037
Wanica	83.7	88.1	94.3	72.2	0.7	1,252
Nickerie	64.7	83.5	94.1	55.2	1.6	471
Coronie	79.3	93.1	96.6	74.1	0.0	31
Saramacca	88.8	83.5	93.9	72.3	0.5	198
Commewijne	80.3	91.8	94.8	72.8	0.0	296
Marowijne	58.8	75.8	82.1	45.6	3.1	208
Para	75.0	81.7	86.7	61.7	2.5	205
Brokopondo	38.4	61.0	72.2	27.2	7.6	132
Sipaliwini	14.7	57.8	46.9	9.4	7.6	461
<b>Area</b>						
Urban	85.3	87.9	94.7	74.7	0.8	4,620
Rural Coastal	72.0	82.3	90.8	60.0	1.6	1,077
Rural interior	20.0	58.5	52.5	13.4	7.6	593
Total Rural	53.5	73.8	77.2	43.5	3.7	1,670
<b>Education*</b>						
None	2.0	55.4	44.6	1.0	0.8	361
Primary	57.2	77.7	84.5	45.3	4.2	1,335
Secondary +	89.2	88.4	95.2	78.4	0.8	4,463
Other/Non-standard	69.7	87.9	94.3	62.2	1.5	111
<b>Wealth index quintile</b>						
Poorest	39.1	63.1	62.4	24.3	5.5	1,117
Second	73.9	83.3	91.5	60.6	1.4	1,231
Middle	85.3	87.4	95.9	74.7	0.5	1,276
Fourth	88.6	91.0	97.9	80.2	0.2	1,328
Richest	91.7	92.7	98.2	85.3	0.7	1,339
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	61.3	70.7	80.6	50.0	7.7	246
Maroon	52.0	77.3	76.2	43.9	2.8	1,510
Creole	88.8	92.2	95.0	80.8	0.8	1,056
Hindustani	82.1	85.5	94.8	70.0	1.0	1,851
Javanese	91.8	87.8	97.4	80.4	0.1	870
Mixed	88.3	86.9	93.4	76.2	1.0	621
Others	69.8	67.3	94.4	51.9	1.1	131
<b>Total</b>	<b>76.9</b>	<b>84.2</b>	<b>90.0</b>	<b>66.4</b>	<b>1.6</b>	<b>6,290</b>

\* 'Missing/DK' categories not shown due to low number of observations

<sup>1</sup> MICS indicator MT.1

## Use of Information/Communication Technology

The questions on computer and internet use were asked only to 15-24 year old women. As displayed in Table MT.2 (page 175), 72 percent of 15-24 year old women had ever used a computer, 60 percent used a computer during the last year, and 46 percent used at least once a week during the last month. Overall, 57 percent of women age 15-24 ever used the internet, while 49 percent browsed the internet during the last year. The proportion of young women who used the internet more frequently, at least once a week during the last month was smaller, at 37 percent. While there appears to be little or no differences between younger women 15-19 years and their older counterparts 20-24 years with respect to both computer and internet usage, observations from MICS4 in Suriname suggest that use of both a computer and the internet is strongly associated with area, women's education, and household wealth.

While 12 percent of women with primary education report using a computer during the last year, the corresponding proportion among women with secondary or higher education was 71 percent. It is noteworthy that all women without education have never used a computer. Women living in urban areas were almost twice as likely as those in rural areas to have used a computer during the last year (68 percent and 35 percent, respectively). For women from the rural interior, it was as low as 11 percent. The proportion of women that used a computer during the last 12 months was observed to be greater among women, the higher their household wealth quintile. While it was observed to be 20 percent among the women in the poorest households, it was as high as 89 percent in the richest quintile. The proportion of women that used a computer during the last year was greatest in Paramaribo (71 percent) and lowest in Sipaliwini (7 percent).

With respect to internet use during the last 12 months, 7 percent of women with primary education had engaged in such a practice compared to a much higher proportion amounting to 58 percent among women with higher levels of educational attainment. Women living in urban areas were more than twice as likely to have used the internet in the last 12 months when compared to their counterparts from rural areas (57 percent and 24 percent respectively). Only 5 percent of the women living in the rural interior had used the internet during the last 12 months. The proportion of women that used the internet during the last 12 months was observed to be greater among women, the higher their household wealth. While it was observed to be 10 percent among the women in the poorest households, it was as high as 77 percent among the wealthiest. Internet use in the last 12 months was lowest among women from Sipaliwini (4 percent) and highest among women from Paramaribo (61 percent).

**Table MT.2: Use of computers and internet**

Percentage of young women age 15-24 who have ever used a computer, percentage who have used a computer during the last 12 months, and frequency of use during the last one month, Suriname, 2010

	Percentage of women age 15-24 who have:			Percentage of women age 15-24 who have:			Number of women age 15-24 years
	Ever used a computer	Used a computer during the last 12 months <sup>1</sup>	Used a computer at least once a week during the last one month	Ever used the internet	Used the internet during the last 12 months <sup>2</sup>	Used the internet at least once a week during the last one month	
<b>Age</b>							
15-19	71.7	59.6	45.8	56.6	47.5	36.4	1,085
20-24	72.0	60.0	46.9	57.2	49.7	38.5	991
<b>District</b>							
Paramaribo	81.0	70.7	57.9	69.4	60.6	49.6	1,034
Wanica	78.1	63.1	48.1	57.5	49.8	34.3	389
Nickerie	71.1	56.8	37.6	51.9	39.1	25.1	153
Coronie	(*)	(*)	(*)	(*)	(*)	(*)	7
Saramacca	68.8	50.5	44.0	49.5	42.2	32.1	58
Commewijne	75.0	61.7	43.4	61.7	51.2	41.7	98
Marowijne	52.0	35.4	20.0	27.4	20.6	10.3	86
Para	65.8	48.3	31.7	41.7	35.0	25.0	68
Brokopondo	32.2	20.0	7.0	11.3	7.8	2.6	46
Sipaliwini	13.4	7.7	4.2	7.4	3.6	2.7	137
<b>Area</b>							
Urban	79.8	68.3	54.1	65.9	57.1	44.9	1,539
Rural Coastal	65.2	47.9	33.7	42.9	33.8	23.1	354
Rural interior	18.1	10.8	4.9	8.4	4.6	2.7	183
Total Rural	49.1	35.3	23.9	31.1	23.9	16.1	537
<b>Education*</b>							
None	0.0	0.0	0.0	0.0	0.0	0.0	50
Primary	21.6	12.4	6.8	11.7	7.3	3.9	318
Secondary +	83.4	70.7	55.2	67.0	57.8	44.8	1,687
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	(*)	19
<b>Wealth index quintile</b>							
Poorest	30.1	20.1	10.8	16.3	10.4	6.0	388
Second	66.7	49.9	32.8	46.2	36.3	26.0	433
Middle	79.0	64.8	47.5	64.3	54.8	37.1	398
Fourth	86.0	71.7	58.8	70.2	60.3	47.0	414
Richest	93.8	88.6	77.9	83.8	77.3	67.5	443
<b>Ethnicity of household head*</b>							
Indigenous/Amerindian	56.1	37.4	28.4	40.1	28.6	22.2	84
Maroon	47.6	34.8	20.4	28.9	21.0	12.6	579
Creole	84.5	76.7	66.6	72.3	64.6	53.7	358
Hindustani	78.7	65.8	51.4	65.3	57.1	42.7	560
Javanese	85.4	73.7	60.8	75.4	66.2	54.2	285
Mixed	89.7	75.2	58.4	66.8	58.2	48.4	180
Others	(*)	(*)	(*)	(*)	(*)	(*)	29
<b>Total</b>	<b>71.8</b>	<b>59.8</b>	<b>46.3</b>	<b>56.9</b>	<b>48.5</b>	<b>37.4</b>	<b>2,076</b>

\* 'Missing/DK' categories not shown due to low number of observations

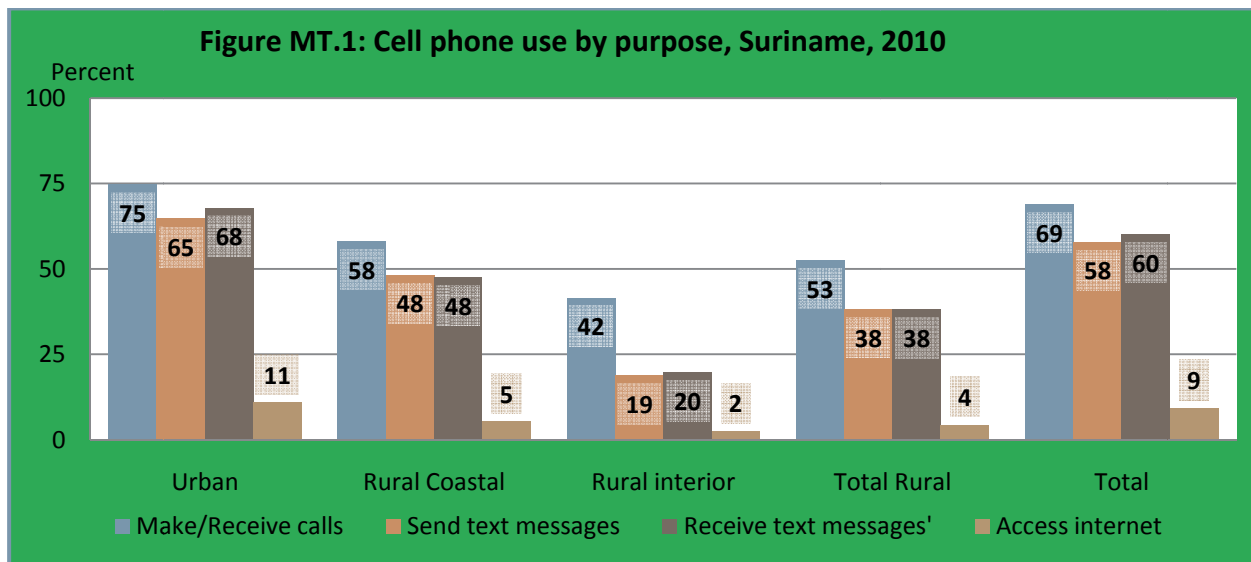
(\*) Figures that are based on less than 25 unweighted cases

<sup>1</sup> MICS indicator MT.2

<sup>2</sup> MICS indicator MT.3

The Suriname MICS added the questions on ownership and use and pattern of use of cellular phones on a daily basis during the seven days preceding the survey to the standard questionnaire. The results are obtained from Table MT.3 (page 177) for young women 15-24 years. Almost 4 in every 5 (79 percent) women claimed to have a cellular phone that works. Smaller percentages indicated that they use their phones to make or receive call (69 percent), to send text messages (58%), to receive text messages (60 percent), and to access the internet (9%). Education and wealth status seem to matter in determining the proportion of young women using cellular phones for all of the abovementioned purposes. In all instances, the proportion using cellular phones was higher in the cases of women with higher levels of education and living in higher socio-economic status groups. In particular, those attaining at least secondary level education were more than twice as likely to send text messages, receive text messages, and access the internet when compared to their counterparts who attained primary education as their highest level. In urban areas of Suriname, notably greater proportions indicated that they used cellular phones for each of the four purposes mentioned above when compared to corresponding proportions for rural coastal areas. Greater proportions of young women from rural coastal areas used cellular phones for each of the focal purposes when compared to corresponding proportions for the rural interior.

Figure MT.1 below is a graphical representation of some of the discrepancies found.



**Table MT.3: Cell phone ownership and use**

Percentage of young women age 15-24 who own a cell phone that works, percentage who have used a cell phone during the last 7 days, and purpose of use among those with at least almost daily use during the last 7 days, Suriname, 2010

	Percentage of women age 15-24 who:					Number of women age 15-24 years
	Own a cell phone that works	In the past week, at least almost daily used a cell phone to:			Receive text messages <sup>1</sup>	
		Make/Receive calls	Send text messages		Access internet	
<b>Age</b>						
15-19	74.6	64.2	57.6	57.7	7.5	1,085
20-24	83.7	74.3	58.3	62.9	11.1	991
<b>District</b>						
Paramaribo	85.3	78.9	67.4	70.9	12.5	1,034
Wanica	81.5	66.1	60.1	62.2	8.6	389
Nickerie	74.5	57.1	46.3	46.0	4.5	153
Coronie	(*)	(*)	(*)	(*)	(*)	7
Saramacca	69.7	65.1	55.0	54.1	5.5	58
Commewijne	84.0	70.1	65.1	64.5	6.1	98
Marowijne	54.9	56.0	34.9	39.4	2.3	86
Para	71.7	58.3	54.2	54.2	8.3	68
Brokopondo	76.5	49.6	28.7	29.6	4.3	46
Sipaliwini	49.6	38.9	15.4	16.3	1.8	137
<b>Area</b>						
Urban	84.0	74.8	64.8	67.9	10.9	1,539
Rural Coastal	68.9	58.2	48.3	47.6	5.3	354
Rural interior	56.3	41.6	18.8	19.6	2.4	183
Total Rural	64.6	52.6	38.2	38.1	4.3	537
<b>Education*</b>						
None	53.1	36.8	2.5	10.8	0.0	50
Primary	56.2	48.1	25.8	25.5	3.5	318
Secondary +	83.8	74.0	65.8	68.3	10.6	1,687
Other/Non-standard	(*)	(*)	(*)	(*)	(*)	19
<b>Wealth index quintile</b>						
Poorest	60.0	46.7	25.4	26.6	1.8	388
Second	74.2	64.7	49.7	53.4	4.6	433
Middle	83.8	72.2	64.5	66.9	11.5	398
Fourth	85.2	78.6	69.0	71.9	11.3	414
Richest	90.1	81.1	78.3	79.4	16.1	443
<b>Ethnicity of household head*</b>						
Indigenous/Amerindian	67.4	49.3	36.7	43.9	6.9	84
Maroon	69.7	59.8	39.2	42.3	3.4	579
Creole	86.8	82.9	75.7	77.1	12.8	358
Hindustani	75.7	63.9	55.1	58.2	8.0	560
Javanese	92.1	79.2	79.9	76.8	17.8	285
Mixed	88.9	82.3	68.9	73.6	10.1	180
Others	(*)	(*)	(*)	(*)	(*)	29
<b>Total</b>	<b>79.0</b>	<b>69.0</b>	<b>57.9</b>	<b>60.2</b>	<b>9.2</b>	<b>2,076</b>

\* 'Missing/DK' categories not shown due to low number of observations

(\*) Figures that are based on less than 25 unweighted cases

## 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 Suriname Multiple Indicator Cluster Survey was to produce statistically reliable estimates of most indicators, at the national level, for areas classified as urban, rural coastal and rural interior, and for the 10 districts of the country – Paramaribo, Wanica, Nickerie, Coronie, Marowijne, Commewijne, Sarramacca, Para, Brokopondo, and Sipaliwini.

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 Suriname MICS was calculated as 9,000 households. For the calculation of the sample size, the key indicator used was the number of children younger than 5 years of age who had had diarrhoea in the past two weeks before the survey using the estimate of the last MICS3 survey. The following formula was used to estimate the required sample size for this indicator:

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

where

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

For the calculation,  $r$  (the number of children younger than 5 years of age who had had diarrhoea in the past two weeks before the survey) was assumed to be 10.6 percent. The value of *deff* (design effect) was taken as 1.5 based on estimates from previous surveys,  $p$  (percentage of children aged 0-4 years in the total population) was taken as 10.3 percent,  $\bar{n}$  (average household size) was taken as 4, and the response rate was assumed to be 90%.

The resulting number of households from this exercise was about 9,000 in total. The average number of households selected per cluster for the Suriname MICS was determined as 20 households, based on a number of considerations, including the design effect, the budget available, and the time that would be needed per team to complete one cluster.

## Sampling Frame and Sample Design

Suriname is divided into 10 districts and 62 'ressorten' by law. The 'ressorten' are subdivisions at the district level. For purposes of conducting the fieldwork during the Seventh Population and Housing Census the General Bureau of Statistics subdivided each ressort in the coastal area (lowland and savannah) into 'telblokken'. A 'telblok' also called an enumeration block, was considered to be the manageable workload for a Census enumerator for the fieldwork period of two weeks and would ideally have between 100 and 150 objects. An object can be any kind of building or a construction work, like, churches, schools, stores, houses, dwellings etc. In order to clarify: not every object stands for a dwelling or living quarters of a household. In the interior (rainforest) a somewhat different fieldwork approach was used, whereby teams consisting of 5-7 fieldworkers canvassed clusters of villages. These clusters were called 'telgebieden' and were expected to have approximately 500 households, or the workload of 5 interviewers. "Telgebied" can also be called an enumeration area.

The 2004 census frame was used for the selection of clusters as the results of the 2004 Census provide a basis for provisional estimates on the number of households. Thus, the 'telblokken' and 'telgebieden' were considered the best currently available subdivisions by the General Bureau of Statistics and formed the basis for the MICS 2010 sample design. The 2004 Population Census provided the sampling frame for MICS4, and Table A1.1 below shows the distribution of the population and households around the country. Also shown in the table are the number of clusters and sample households allocated to each district in MICS4. As in MICS3, three geographical strata were used in MICS 4: urban areas; rural coastal areas; and rural areas in the interior of the country.

**Table A1.1: Distribution of population and households by stratum and district, and MICS4 sample design and outcome**

	2004 Population Census			MICS 4 Sample Design		MICS 4 Achieved Sample	
	Households	Population	Average household size	Clusters	Households	Clusters	Households successfully interviewed
<b>Suriname</b>	<b>123,463</b>	<b>492,829</b>	<b>4.0</b>	<b>450</b>	<b>9,000</b>	<b>448</b>	<b>7,407</b>
<b>Stratum</b>							
Urban	87,542	356,399	4.1	200	4,000	200	3,176
Rural coastal	22,257	88,079	4.0	150	3,000	149	2,367
Rural interior	13,664	48,351	3.5	100	2,000	99	1,864
<b>District</b>							
Paramaribo	59,392	242,946	4.1	136	2,720	136	2,184
Wanica	20,928	85,986	4.1	48	960	48	757
Nickerie	9,488	36,639	3.9	47	940	47	789
Coronie	932	2,887	3.1	7	140	7	93
Saramacca	4,309	15,980	3.7	29	580	29	445
Commewijne	6,363	24,649	3.9	27	540	27	418
Marowijne	3,987	16,642	4.2	27	540	27	446
Para	4,400	18,749	4.3	29	580	28	411
Brokopondo	3,749	14,215	3.8	24	480	24	437
Sipaliwini	9,915	34,136	3.4	76	1,520	75	1,427
<i>Nw. Nickerie (Nickerie)</i>	<i>3,698</i>	<i>13,842</i>	<i>3.7</i>	<i>8</i>	<i>160</i>	<i>8</i>	<i>120</i>
<i>Meerzorg(Commewijne)</i>	<i>2,068</i>	<i>8,115</i>	<i>3.9</i>	<i>4</i>	<i>80</i>	<i>4</i>	<i>55</i>
<i>Tamanredjo (Commewijne)</i>	<i>1,456</i>	<i>5,510</i>	<i>3.8</i>	<i>4</i>	<i>80</i>	<i>4</i>	<i>60</i>

## Selection of Clusters

Each of the 10 districts in the country is allocated to one of these strata, but with three towns (Nw. Nickerie in Nickerie district, and Meerzorg and Tamanredjo in Commewijne district) being counted as urban, even though they are located in what are otherwise rural districts. The allocation of districts to the three strata is shown in Table A1.2 below as follows:



Table A1.2: Stratification of the population in Suriname in 2004 by strata		
Strata		Population (Seventh Population and Housing Census)
<b>Urban</b>	Urban (Paramaribo, Wanica, Nw. Nickerie, Meerzorg, and Tamanredjo)	356,399
<b>Rural</b>	Rural Coastal (remainder of Nickerie, remainder of Commewijne, Coronie, Saramacca, Para, and Marowijne)	88,079
	Rural Interior (Brokopondo and Sipaliwini)	48,351
<b>Total</b>		<b>492,829</b>

In the case of MICS3, the total sample had been about 6,000 households. Survey results had been reported not only for the three strata, but also for a five-way breakdown of districts. This was achieved by grouping districts as follows: Paramaribo; Wanica and Para; Nickerie, Coronie and Saramacca; Commewijne and Marowijne; and Brokopondo and Sipaliwini. In the case of MICS4, the sample size was increased to 9,000 households. One of the main benefits of this increase was that it would permit the reporting of indicators at the district level.

The allocation within each stratum was done with probability proportional to size, where the population of each area (from the 2004 census) was used as the measure of size. It was only after the fieldwork was completed that it was realized that the samples allocated to several of the individual districts were insufficient to provide satisfactory estimates for many of the variables. A more equal allocation to each district would have provided more precise estimates for the smaller districts.

It should be noted that, according to sampling theory, it is the size of the sample, rather than the proportion of the population covered, that is the key factor in determining the precision of the estimate. Several districts have sample sizes that are around the 500 level, which is slightly on the low side. An allocation of about 700 households would have been more appropriate, which could have been achieved by reducing the allocation for Paramaribo. In the rural interior, the allocation for Brokopondo might usefully have been increased, with a corresponding reduction in Sipaliwini. Only 140 households were allocated to Cornie, reflecting its small population of less than 1,000 households, but it would have been necessary to cover a larger number of households there (say 300 or 400) in order to obtain reliable estimates.

The actual sample selection in the selected clusters was done as follows. In urban and rural coastal areas, where enumeration districts (EDs) usually contain about 150 households, one pointer address (PA) was selected at random within the ED. If it was not the address of a private household, the next address was taken as the starting point. Twenty adjacent addresses (1 to 20) were then selected around this PA, and a printed map provided to each team, showing the location of each address. In rural areas the enumeration areas might consist of either one village or several smaller villages combined. Where a village was very isolated, it was treated as one enumeration area, even though sometimes it did not contain many households.

## Listing Activities

There were some fieldwork activities conducted by the Cartography Unit of the GBS prior to the survey as a means of establishing, as much as possible (with the exception of the interior) the landmarks and boundaries of each selected MICS-cluster. This was done to facilitate the interview teams in the field with maps and clearly defined boundaries. This was required to facilitate the interview teams in the field with

maps and clearly defined boundaries. The interview teams received during the fieldwork the instructions to gather information on each household encountered within the boundaries of designated MICS-clusters. For the Interior stratum where it is relatively difficult to geographically divide each enumeration block into clusters of households, names of heads of households were used to select households that were sampled.

### Selection of Households

Unfortunately no full listing was carried out for this survey, which would have provided an up-to-date sampling frame for each selected enumeration area. In future surveys, a listing team should prepare an up-to-date numbered list of households in each selected area. This list should be sent to the head office of the General Bureau of Statistics, who would then select a random sample of 20 households from across the whole list, using systematic sampling. This methodology would provide more precise estimates that can be obtained from the “compact sample” approach that was adopted in many enumeration areas.

In designing the survey, only three main sampling strata (urban, rural coastal, and rural interior) were used, but within the strata the sample clusters were allocated to districts (and the three towns) in proportion to their size. It should be remembered that three towns were treated in a special way, so the districts containing them (Nickerie and Commewijne) were split up and weights applied to the separate elements before they were finally combined.

No full listing exercise was carried out in MICS4, so there were no up-to-date size estimates for all the selected clusters. To get the correct weights, it was decided to weigh up to the latest population figures, as reflected in the official population projections for 2004-2024. The official projections provide three scenarios of growth (high, constant and low). For MICS the constant model was used, which assumes a total fertility rate of 2.52, male and female expectation of life of 67.4 and 72.8 respectively and no net migration.

Table A1.3 below shows the relevant district figures for the 2004 census, the constant projections for 2012, the annual growth rate for each district implied by these figures, and the implied growth multiplier between 2004 and 2010. The growth was estimated using the standard growth formula  $p_t = p_0 e^{rt}$ . The column in the Excel design weight template that is normally used for recording the listing sizes was filled with values calculated directly by multiplying the original size measure by the growth multiplier for the appropriate district. In using this method of calculation, we assumed that there has been no change in the average household size between 2004 and 2010.

Table A1.3: Projections of the population by district					
	Population 2004	Projection 2012	Implied annual growth rate (%)	Implied multiplier, 2004-2010	growth
<b>Suriname</b>	<b>492,829</b>	<b>545,615</b>	<b>1.27</b>	<b>1.0793</b>	
<b>District</b>					
Paramaribo	242,946	273,002	1.46	1.0914	
Wanica	85,986	97,981	1.63	1.1029	
Nickerie	36,639	40,042	1.11	1.0689	
Coronie	2,887	20,560	1.07	1.0666	
Saramacca	15,980	20,560	1.07	1.0666	
Commewijne	24,649	27,484	1.36	1.0851	
Marowijne	16,642	16,348	-0.02	0.9867	
Para	18,749	22,589	2.32	1.1500	
Brokopondo	14,215	13,768	-0.03	0.9763	
Sipaliwini	34,136	33,841	-0.01	0.9935	

## Calculation of Sample Weights

The Suriname Multiple Indicator Cluster Survey sample is not self-weighting. Essentially, by allocating sampling units disproportionately in each of the regions, different sampling fractions were used in each region. For this reason, sample weights were calculated and these were used in the subsequent analyses of the survey data.

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

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

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

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

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.

The sampling fractions for households in each enumeration area (cluster) included the first stage probability of selection of the enumeration area in that particular sampling stratum and the second stage probability of selection of a household in the sample enumeration area (cluster).

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

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

After the completion of fieldwork, response rates were calculated for each sampling stratum. These were used to adjust the sample weights calculated for each cluster. Response rates in the Suriname Multiple Indicator Cluster Survey are shown in Table HH.1 (page 9) 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 were applied to the adjusted household weights. Numbers of eligible women and under-5 children were obtained from the roster of household members in the Household Questionnaire for households where interviews were completed.

The weights for the households were calculated by multiplying the above factors for each enumeration area. These weights were then standardized (or normalized), one purpose of which is to make the weighted sum of the interviewed sample units equal the total sample size at the national level. Normalization is achieved by dividing the full sample weights (adjusted for non-response) by the average of these weights across all households at the national level. This is performed by multiplying the sample weights by a constant factor equal to the unweighted number of households at the national level divided by the weighted total number of households (using the full sample weights adjusted for non-response). A similar standardization procedure was followed in obtaining standardized weights for the women's and under-5's questionnaires. In the 483 sample enumeration areas (clusters), adjusted (normalized) weights varied between a minimum of 0.406618 in the case of women in clusters 392 to 450 and a maximum of

2.036209 in the case of children in clusters 126 to 169 and clusters 462 to 465. Using the standard MICS template, and incorporating the growth rates shown above, the normalized weights were found to be as shown in Table A1.4 below.

<b>Table A1.4: Weights to be applied to the household, women, and child data</b>			
	hhweight	wmweight	chweight
<b>Cluster</b>			
1 to 125	1.666781	1.670331	2.015016
126 to 169	1.684311	1.687899	2.036209
170 to 177	1.632359	1.635835	1.973402
178 to 180	1.657094	1.660623	2.003305
181 to 184	1.657094	1.660623	2.003305
186 to 232	0.548778	0.533539	0.654314
233 to 240	0.547593	0.532387	0.652901
242 to 276	0.547593	0.532387	0.652901
277 to 299	0.557094	0.541624	0.664229
300 to 332	0.506596	0.492528	0.604021
333 to 367	0.590414	0.574019	0.703958
368 to 391	0.426726	0.399582	0.503419
392 to 450	0.434240	0.406618	0.512282
451 to 461	1.666781	1.670331	2.015016
462 to 465	1.684311	1.687899	2.036209
466	1.657094	1.660623	2.003305
467 to 483	0.434240	0.409349	0.512282

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

## Appendix B. List of Personnel Involved in the Survey

### MICS Technical Committee

Member's name	Area of specialization
Pahalwankhan, Faranaaz	Head of Research and Planning, Ministry of Social Affairs and Housing, survey management
Warso, Jacqueline	Policy staff member Research and Planning, Ministry of Social Affairs and Housing, survey management
Glebova, Ksenia	HIV/AIDS officer, UNICEF, MICS focal point and TC secretary 2009-2011
Hirasingh, Prya	Monitoring and Evaluation Specialist, UNICEF Suriname
Eersteling-Hammen, Claudine	Child Survival and Development officer, UNICEF Suriname
Fung A Loi, Jo-Ann	Manager Social Statistics, General Bureau of Statistics, sampling expert
Algoe, Maltie	Head of National Health Information System Ministry of Health, health data expert
MacNack-Van Kats, Marian	Policy advisor, Ministry of Social Affairs and Housing, child development specialist
Mangoen, Els	Staff member Research Planning and Monitoring, Ministry of Education and Community Development, education data expert
Van Kanten, Elly	Consultant Family and Community Health, PAHO Suriname
Brielle, Judith	Assistant representative, UNFPA Suriname
Vis, Simone	Education specialist, UNICEF Suriname
Hidalgo-Sanchis, Paula	Social Policy and Poverty specialist, UNDP Suriname

### MICS Fieldwork Coordination: General Bureau of Statistics

Name	Function
Drs. Iwan Sno, M. Sc.	MICS Coordinator
Drs. Eartha Groenfelt	MICS Survey Coordinator
Ms. Jacqueline Sontohartono	MICS Assistant Coordinator Coastal
Drs. Guillano Koornaar	MICS Assistant Coordinator Interior
Ms. Astrid Hunte	Assistant Logistics
Ms. Miriam Ramdhari	Assistant Data entry
Ms. Edith Ritfeld	Assistant Data entry (part time)

## MICS Fieldworkers

<b>Name</b>	<b>First Name</b>	<b>Name</b>	<b>First Name</b>
Adriaans-Nelson	Merlien	Misidjan	Patricia
Akima	Samaidy	Misidjang	Munita
Alensie	Marijke	Mungroo	Carmelita
Babel	Euredice	Neslo	Mirella
Baino	Monique	Olan	Dominique
Berrenstein	Charissa	Omouh	Sarajane
Bhikharie	Varsha	Pansa	Tinza
Biserta	Gerda	Pansa	Glenda
Boldewijn	Debora	Pinas	Miriam
Caupain	Naomi	Podrono	Pamela
Corinde	Ingrid	Poeketi	Isolda
Daschveld	Adelien	Pryor	Ruth
De Mees	Ilangha	Rahaman	Roxan
Dors	Jo-Ann	Ramautarsing	Ingrid
Eduards	Nancy	Ramroep	Jankipersad
Eduards	Regina	Reding	Natasja
Esajas	Maira	Rigters	Daniella
Gonsalves Jardin de Ponte	Sara	Sabajo	Jerry
Hankers	Henna	Sante	Danitsia
Harper	Henna	Sheik Zahoeri	Jasmien
Hoefdraad	Vivian	Starke	Henna
Hoepel	Lucretia	Strijder	Joel
Huur	Hugo	Thakoersing	Radjkoemarie
Jabini	Astrano	Tojosemito	Lorette
Jahangir	Fauzia	Van Dalen	Brigitte
Karjamenawi	Karwan	Verbond	Denise
Kasmo	Jan	Vliet	Natashia
Kliwon	Brain	Wezer	Eunice
Lobles-Lemen	Haidy	Wijnstein	Cherida
Luxemburg	Melanie		
Mawdo	Mariska		

**MICS Data Processing Coordination: Institute for Social Science Research**

<b>Name</b>	<b>First Name</b>	<b>Function</b>
Dundas	Benjamin	Supervisor
Moe Soe Let	Natashia	Supervisor
Altenberg	Judith	Data keyer
Bendt	Jennifer	Data keyer
Gopal	Lalini	Data keyer
Graham	Orphilia	Data keyer
Hardjopawiro	Nancy	Data keyer
Marengo	Alexandra	Data keyer
Moestro	Ypsila	Data keyer
Ondunk	Gittan	Data keyer
Overman	Lorraine	Data keyer
Plein	Denice	Data keyer
Pryor	Burnithia	Data keyer
Stomp	Hellen	Data keyer
Tilborg	Shyreeta	Data keyer
Van Brussel	Stephanie	Data keyer
Vlijter	Lenea	Data keyer

## Appendix C. Estimates of Sampling Errors

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

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

- Standard error (*se*): Sampling errors are usually measured in terms of standard errors for particular indicators (means, proportions, etc.). Standard error is the square root of the variance of the estimate. The Taylor linearization method is used for the estimation of standard errors.
- Coefficient of variation (*se/r*) is the ratio of the standard error to the value of the indicator, and is a measure of the relative sampling error.
- Design effect (*deff*) is the ratio of the actual variance of an indicator, under the sampling method used in the survey, to the variance calculated under the assumption of simple random sampling. The square root of the design effect (*deft*) is used to show the efficiency of the sample design in relation to the precision. A *deft* value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a *deft* value above 1.0 indicates the increase in the standard error due to the use of a more complex sample design.
- Confidence limits are calculated to show the interval within which the true value for the population can be reasonably assumed to fall, with a specified level of confidence. For any given statistic calculated from the survey, the value of that statistic will fall within a range of plus or minus two times the standard error ( $r + 2.se$  or  $r - 2.se$ ) of the statistic in 95 percent 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 districts, and for urban, rural coastal, rural interior, and total rural areas. One of the selected indicators is based on households, 6 are based on household members, 19 are based on women, and 17 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.16 show the calculated sampling errors for selected domains.

Note that indicators related to malaria modules are only included in the tables for rural interior and for the two districts of Brokopondo and Sipaliwini.



**Table SE.1: Indicators selected for sampling error calculations**

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

MICS4 Indicator	Base Population
<b>Households</b>	
3.12 Household availability of insecticide-treated nets (ITNs) <sup>26</sup>	All households
<b>Household members</b>	
4.1 Use of improved drinking water sources	All household members
4.3 Use of improved sanitation	All household members
7.5 Secondary school net attendance ratio (adjusted)	Children of secondary school age
8.2 Child labour	Children age 5-14 years
9.18 Prevalence of children with one or both parents dead	Children age 0-17 years
8.5 Violent discipline	Children age 2-14 years
<b>Women</b>	
- Pregnant women <sup>26</sup>	Women age 15-49 years
3.19 Pregnant women sleeping under insecticide-treated nets (ITNs) <sup>26</sup>	Pregnant women
5.3 Contraceptive prevalence	Women age 15-49 years who are currently married or in union
5.4 Unmet need	Women age 15-49 years who are currently married or in union
5.5a Antenatal care coverage – at least once by skilled personnel	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.5b Antenatal care coverage – at least four times by any provider	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.7 Skilled attendant at delivery	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.8 Institutional deliveries	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.9 Caesarean section	Women age 15-49 years with a live birth in the 2 years preceding the survey
7.1 Literacy rate among young women	Women age 15-24 years
8.7 Marriage before age 18	Women age 20-49 years
8.9 Polygyny	Women age 15-49 years who are currently married or in union
9.2 Comprehensive knowledge about HIV prevention among young people	Women age 15-24 years
9.3 Knowledge of mother- to-child transmission of HIV	Women age 15-49 years
9.4 Accepting attitudes towards people living with HIV	Women age 15-49 years who have heard of HIV
9.6 Women who have been tested for HIV and know the results	Women age 15-49 years
9.7 Sexually active young women who have been tested for HIV and know the results	Women age 15-24 years who have had sex in the 12 months preceding the survey
9.11 Sex before age 15 among young women	Women age 15-24 years
9.16 Condom use with non-regular partners	Women age 15-24 years who had a non-marital, non-cohabiting partner in the 12 months preceding the survey
<b>Children under age 5</b>	
2.1a Underweight prevalence	Children under age 5
2.2a Stunting prevalence	Children under age 5
2.3a Wasting prevalence	Children under age 5
2.6 Exclusive breastfeeding under 6 months	Total number of infants under 6 months of age
2.14 Age-appropriate breastfeeding	Children age 0-23 months
- Received polio immunization	Children age 12-23 months
- Received measles (MMR) immunization	Children age 12-23 months
- Diarrhoea in the previous 2 weeks	Children under age 5
- Illness with a cough in the previous 2 weeks	Children under age 5
- Fever in last two weeks	Children under age 5

<sup>26</sup> Brokopondo and Sipaliwini districts only

**Table SE.1: Indicators selected for sampling error calculations (continued)**

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

3.8	Oral rehydration therapy with continued feeding	Children under age 5 with diarrhoea in the previous 2 weeks
3.10	Antibiotic treatment of suspected pneumonia	Children under age 5 with suspected pneumonia in the previous 2 weeks
3.15	Children under age 5 sleeping under insecticide-treated nets (ITNs) <sup>27</sup>	Children under age 5
3.18	Anti-malarial treatment of children under age 5 <sup>27</sup>	Children under age 5 reported to have had fever in the previous 2 weeks
6.1	Support for learning	Children age 36-59 months
6.7	Attendance to early childhood education	Children age 36-59 months
8.1	Birth registration	Children under age 5

<sup>27</sup> Brokopondo and Sipaliwini districts only

**Table SE.2: Sampling errors: Total sample**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value ( <i>r</i> )	Standard error ( <i>se</i> )	Coefficient of variation ( <i>se/r</i> )	Design effect ( <i>deff</i> )	Square root of design effect ( <i>deft</i> )	Weighted count	Unweighted count	Confidence limits	
									<i>r</i> - 2 <i>se</i>	<i>r</i> + 2 <i>se</i>
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.9503	0.00395	0.004	2.450	1.565	28,421	7,407	0.942	0.958
Use of improved sanitation	4.3	0.8023	0.00970	0.012	4.392	2.096	28,421	7,407	0.783	0.822
Secondary school net attendance ratio (adjusted)	7.5	0.5937	0.01224	0.021	1.967	1.402	3,095	3,166	0.569	0.618
Child labour	8.2	0.0955	0.00548	0.057	2.186	1.479	5,607	6,289	0.085	0.107
Prevalence of children with one or both parents dead	9.18	0.0458	0.00337	0.074	2.923	1.710	9,941	11,228	0.039	0.053
Violent discipline	8.5	0.8609	0.00794	0.009	2.028	1.424	7,301	3,856	0.845	0.877
<b>Women</b>										
Contraceptive prevalence	5.3	0.4760	0.01014	0.021	1.429	1.196	3,406	3,470	0.456	0.496
Unmet need	5.4	0.1693	0.00841	0.050	1.745	1.321	3,406	3,470	0.152	0.186
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9087	0.00845	0.009	1.087	1.043	1,060	1,265	0.892	0.926
Antenatal care coverage - at least four times by any provider	5.5b	0.6679	0.01587	0.024	1.436	1.198	1,060	1,265	0.636	0.700
Skilled attendant at delivery	5.7	0.9266	0.00881	0.010	1.442	1.201	1,060	1,265	0.909	0.944
Institutional deliveries	5.8	0.9229	0.00965	0.010	1.655	1.287	1,060	1,265	0.904	0.942
Caesarean section	5.9	0.1899	0.01282	0.067	1.350	1.162	1,060	1,265	0.164	0.216
Literacy rate among young women	7.1	0.9213	0.00648	0.007	1.188	1.090	2,076	2,053	0.908	0.934
Marriage before age 18	8.7	0.2299	0.00713	0.031	1.495	1.223	5,205	5,202	0.216	0.244
Polygyny	8.9	0.0395	0.00381	0.097	1.329	1.153	3,406	3,470	0.032	0.047
Comprehensive knowledge about HIV prevention among young people	9.2	0.4190	0.01317	0.031	1.463	1.209	2,076	2,053	0.393	0.445
Knowledge of mother- to-child transmission of HIV	9.3	0.5181	0.00766	0.015	1.479	1.216	6,290	6,290	0.503	0.533
Accepting attitudes towards people living with HIV	9.4	0.2111	0.00691	0.033	1.751	1.323	6,166	6,108	0.197	0.225
Women who have been tested for HIV and know the results	9.6	0.2032	0.00644	0.032	1.612	1.270	6,290	6,290	0.190	0.216
Sexually active young women who have been tested for HIV and know the results	9.7	0.3336	0.01680	0.050	1.571	1.254	1,182	1,238	0.300	0.367
Sex before age 15 among young women	9.11	0.0956	0.00682	0.071	1.103	1.050	2,076	2,053	0.082	0.109
Condom use with non-regular partners	9.16	0.5550	0.01661	0.030	0.773	0.879	696	693	0.522	0.588
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0577	0.00416	0.072	0.896	0.946	2,870	2,812	0.049	0.066
Stunting prevalence	2.2a	0.0880	0.00583	0.066	1.141	1.068	2,744	2,697	0.076	0.100
Wasting prevalence	2.3a	0.0499	0.00444	0.089	1.117	1.057	2,726	2,682	0.041	0.059
Exclusive breastfeeding under 6 months	2.6	0.0277	0.00881	0.318	0.872	0.934	286	304	0.010	0.045
Age-appropriate breastfeeding	2.14	0.1471	0.01021	0.069	1.133	1.064	1,390	1,366	0.127	0.168
Received polio immunization	-	0.8318	0.01194	0.014	0.740	0.860	742	728	0.808	0.856
Received measles (MMR) immunization	-	0.7794	0.01543	0.020	0.974	0.987	721	705	0.749	0.810
Diarrhoea in the previous 2 weeks	-	0.0984	0.00682	0.069	1.732	1.316	3,308	3,308	0.085	0.112
Illness with a cough in the previous 2 weeks	-	0.0220	0.00353	0.160	1.910	1.382	3,308	3,308	0.015	0.029
Oral rehydration therapy with continued feeding	3.8	0.6078	0.02215	0.036	0.706	0.840	325	344	0.564	0.652
Antibiotic treatment of suspected pneumonia	3.10	0.7120	0.02953	0.041	0.327	0.572	73	78	0.653	0.771
Support for learning	6.1	0.7290	0.01479	0.020	1.423	1.193	1,278	1,285	0.699	0.759
Attendance to early childhood education	6.7	0.3427	0.01278	0.037	0.931	0.965	1,278	1,285	0.317	0.368
Birth registration	8.1	0.9890	0.00235	0.002	1.673	1.293	3,308	3,308	0.984	0.994

**Table SE.3: Sampling errors: Urban**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.9858	0.00317	0.003	2.287	1.512	20,066	3,176	0.979	0.992
Use of improved sanitation	4.3	0.8774	0.01304	0.015	5.021	2.241	20,066	3,176	0.851	0.903
Secondary school net attendance ratio (adjusted)	7.5	0.6617	0.01715	0.026	1.697	1.303	2,157	1,292	0.627	0.696
Child labour	8.2	0.0545	0.00660	0.121	1.818	1.348	3,590	2,150	0.041	0.068
Prevalence of children with one or both parents dead	9.18	0.0509	0.00498	0.098	1.944	1.394	6,324	3,787	0.041	0.061
Violent discipline	8.5	0.8471	0.01167	0.014	1.528	1.236	4,597	1,454	0.824	0.870
<b>Women</b>										
Contraceptive prevalence	5.3	0.4926	0.01333	0.027	1.042	1.021	2,430	1,466	0.466	0.519
Unmet need	5.4	0.1509	0.01103	0.073	1.392	1.180	2,430	1,466	0.129	0.173
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9429	0.01020	0.011	0.777	0.881	668	403	0.923	0.963
Antenatal care coverage - at least four times by any provider	5.5b	0.6800	0.02318	0.034	0.992	0.996	668	403	0.634	0.726
Skilled attendant at delivery	5.7	0.9653	0.00938	0.010	1.055	1.027	668	403	0.947	0.984
Institutional deliveries	5.8	0.9455	0.01293	0.014	1.303	1.141	668	403	0.920	0.971
Caesarean section	5.9	0.2207	0.01956	0.089	0.895	0.946	668	403	0.182	0.260
Literacy rate among young women	7.1	0.9635	0.00626	0.006	1.033	1.016	1,539	929	0.951	0.976
Marriage before age 18	8.7	0.1799	0.00907	0.050	1.288	1.135	3,826	2,309	0.162	0.198
Polygyny	8.9	0.0266	0.00463	0.174	1.210	1.100	2,430	1,466	0.017	0.036
Comprehensive knowledge about HIV prevention among young people	9.2	0.4498	0.01694	0.038	1.076	1.037	1,539	929	0.416	0.484
Knowledge of mother- to-child transmission of HIV	9.3	0.5011	0.00984	0.020	1.079	1.039	4,620	2,788	0.481	0.521
Accepting attitudes towards people living with HIV	9.4	0.2302	0.00887	0.039	1.220	1.105	4,562	2,753	0.212	0.248
Women who have been tested for HIV and know the results	9.6	0.2052	0.00834	0.041	1.188	1.090	4,620	2,788	0.189	0.222
Sexually active young women who have been tested for HIV and know the results	9.7	0.3485	0.02250	0.065	1.131	1.063	842	508	0.303	0.394
Sex before age 15 among young women	9.11	0.0678	0.00815	0.120	0.974	0.987	1,539	929	0.052	0.084
Condom use with non-regular partners	9.16	0.5967	0.02004	0.034	0.524	0.724	522	315	0.557	0.637
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0556	0.00581	0.104	0.566	0.752	1,775	881	0.044	0.067
Stunting prevalence	2.2a	0.0680	0.00790	0.116	0.825	0.908	1,692	840	0.052	0.084
Wasting prevalence	2.3a	0.0504	0.00619	0.123	0.667	0.816	1,678	833	0.038	0.063
Exclusive breastfeeding under 6 months	2.6	0.0126	0.01280	1.013	1.024	1.012	159	79	0.000	0.038
Age-appropriate breastfeeding	2.14	0.1363	0.01398	0.103	0.704	0.839	856	425	0.108	0.164
Received polio immunization	-	0.8508	0.01670	0.020	0.499	0.706	459	228	0.817	0.884
Received measles (MMR) immunization	-	0.7839	0.02238	0.029	0.654	0.808	447	222	0.739	0.829
Diarrhoea in the previous 2 weeks	-	0.0937	0.01007	0.107	1.185	1.089	2,001	993	0.074	0.114
Illness with a cough in the previous 2 weeks	-	0.0211	0.00531	0.252	1.357	1.165	2,001	993	0.010	0.032
Oral rehydration therapy with continued feeding	3.8	0.5912	0.03459	0.059	0.455	0.675	187	93	0.522	0.660
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	42	21	*	*
Support for learning	6.1	0.8088	0.02046	0.025	1.031	1.015	770	382	0.768	0.850
Attendance to early childhood education	6.7	0.4397	0.01867	0.042	0.539	0.734	770	382	0.402	0.477
Birth registration	8.1	0.9960	0.00203	0.002	1.019	1.009	2,001	993	0.992	1.000

**Table SE.4: Sampling errors: Rural coastal**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value ( <i>r</i> )	Standard error ( <i>se</i> )	Coefficient of variation ( <i>se/r</i> )	Design effect ( <i>deff</i> )	Square root of design effect ( <i>deft</i> )	Weighted count	Unweighted count	Confidence limits	
									<i>r</i> - 2 <i>se</i>	<i>r</i> + 2 <i>se</i>
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.9587	0.01135	0.012	7.694	2.774	5,240	2,367	0.936	0.981
Use of improved sanitation	4.3	0.8340	0.01272	0.015	2.763	1.662	5,240	2,367	0.809	0.859
Secondary school net attendance ratio (adjusted)	7.5	0.5630	0.01623	0.029	1.176	1.085	603	1,100	0.531	0.595
Child labour	8.2	0.0817	0.00964	0.118	2.461	1.569	1,087	1,987	0.062	0.101
Prevalence of children with one or both parents dead	9.18	0.0367	0.00412	0.112	1.693	1.301	1,922	3,518	0.028	0.045
Violent discipline	8.5	0.8582	0.01366	0.016	1.856	1.362	1,393	1,211	0.831	0.886
<b>Women</b>										
Contraceptive prevalence	5.3	0.5063	0.01516	0.030	1.215	1.102	701	1,323	0.476	0.537
Unmet need	5.4	0.1668	0.01123	0.067	1.199	1.095	701	1,323	0.144	0.189
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9488	0.01159	0.012	1.018	1.009	193	369	0.926	0.972
Antenatal care coverage - at least four times by any provider	5.5b	0.7189	0.02372	0.033	1.025	1.012	193	369	0.671	0.766
Skilled attendant at delivery	5.7	0.9537	0.00945	0.010	0.745	0.863	193	369	0.935	0.973
Institutional deliveries	5.8	0.9075	0.01417	0.016	0.880	0.938	193	369	0.879	0.936
Caesarean section	5.9	0.1666	0.01671	0.100	0.740	0.860	193	369	0.133	0.200
Literacy rate among young women	7.1	0.9329	0.01039	0.011	1.157	1.076	354	672	0.912	0.954
Marriage before age 18	8.7	0.3009	0.01177	0.039	1.103	1.050	887	1,675	0.277	0.324
Polygyny	8.9	0.0163	0.00482	0.297	1.923	1.387	701	1,323	0.007	0.026
Comprehensive knowledge about HIV prevention among young people	9.2	0.3770	0.02141	0.057	1.310	1.144	354	672	0.334	0.420
Knowledge of mother- to-child transmission of HIV	9.3	0.5672	0.01223	0.022	1.240	1.113	1,077	2,036	0.543	0.592
Accepting attitudes towards people living with HIV	9.4	0.1857	0.01006	0.054	1.328	1.153	1,051	1,987	0.166	0.206
Women who have been tested for HIV and know the results	9.6	0.1769	0.00942	0.053	1.240	1.114	1,077	2,036	0.158	0.196
Sexually active young women who have been tested for HIV and know the results	9.7	0.3048	0.02382	0.078	1.015	1.007	199	380	0.257	0.352
Sex before age 15 among young women	9.11	0.0933	0.01300	0.139	1.340	1.158	354	672	0.067	0.119
Condom use with non-regular partners	9.16	0.5129	0.03788	0.074	1.005	1.003	92	176	0.437	0.589
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0720	0.00935	0.130	1.061	1.030	525	812	0.053	0.091
Stunting prevalence	2.2a	0.0883	0.01034	0.117	1.027	1.013	500	773	0.068	0.109
Wasting prevalence	2.3a	0.0687	0.01128	0.164	1.523	1.234	496	767	0.046	0.091
Exclusive breastfeeding under 6 months	2.6	0.0640	0.01460	0.228	0.334	0.578	61	95	0.035	0.093
Age-appropriate breastfeeding	2.14	0.1674	0.01689	0.101	0.821	0.906	259	402	0.134	0.201
Received polio immunization	-	0.7926	0.02616	0.033	0.841	0.917	131	203	0.740	0.845
Received measles (MMR) immunization	-	0.7343	0.02588	0.035	0.683	0.827	129	200	0.683	0.786
Diarrhoea in the previous 2 weeks	-	0.0803	0.00979	0.122	1.208	1.099	603	932	0.061	0.100
Illness with a cough in the previous 2 weeks	-	0.0119	0.00391	0.327	1.205	1.098	603	932	0.004	0.020
Oral rehydration therapy with continued feeding	3.8	0.6403	0.03324	0.052	0.355	0.596	48	75	0.574	0.707
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	7	11	*	*
Support for learning	6.1	0.8033	0.02503	0.031	1.372	1.171	225	347	0.753	0.853
Attendance to early childhood education	6.7	0.2274	0.02266	0.100	1.011	1.006	225	347	0.182	0.273
Birth registration	8.1	0.9824	0.00934	0.010	4.700	2.168	603	932	0.964	1.000

**Table SE.5: Sampling errors: Rural interior**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deff*) and confidence intervals for selected indicators, Suriname, 2010

	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
<b>Households</b>										
Household availability of insecticide-treated nets (ITNs)	3.12	0.6046	0.01463	0.024	1.668	1.292	806	1,864	0.575	0.634
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.7069	0.02210	0.031	4.393	2.096	3,114	1,864	0.663	0.751
Use of improved sanitation	4.3	0.2657	0.02121	0.080	4.296	2.073	3,114	1,864	0.223	0.308
Secondary school net attendance ratio (adjusted)	7.5	0.2098	0.01654	0.079	1.276	1.130	334	774	0.177	0.243
Child labour	8.2	0.2703	0.01595	0.059	2.775	1.666	930	2,152	0.238	0.302
Prevalence of children with one or both parents dead	9.18	0.0372	0.00482	0.130	2.546	1.596	1,695	3,923	0.028	0.047
Violent discipline	8.5	0.9123	0.01019	0.011	1.545	1.243	1,310	1,191	0.892	0.933
<b>Women</b>										
Pregnant women	-	0.0778	0.00644	0.083	0.846	0.920	593	1,466	0.065	0.091
Pregnant women sleeping under insecticide-treated nets (ITNs)	3.19	0.5047	0.04761	0.094	0.998	0.999	45	111	0.409	0.600
Contraceptive prevalence	5.3	0.2526	0.02046	0.081	1.508	1.228	275	681	0.212	0.293
Unmet need	5.4	0.3378	0.02193	0.065	1.462	1.209	275	681	0.294	0.382
Antenatal care coverage - at least once by skilled personnel	5.5a	0.7550	0.02697	0.036	1.935	1.391	199	493	0.701	0.809
Antenatal care coverage - at least four times by any provider	5.5b	0.5781	0.02429	0.042	1.191	1.091	199	493	0.529	0.627
Skilled attendant at delivery	5.7	0.7708	0.02945	0.038	2.415	1.554	199	493	0.712	0.830
Institutional deliveries	5.8	0.8622	0.02434	0.028	2.452	1.566	199	493	0.813	0.911
Caesarean section	5.9	0.1094	0.01413	0.129	1.008	1.004	199	493	0.081	0.138
Literacy rate among young women	7.1	0.5432	0.03778	0.070	2.594	1.611	183	452	0.468	0.619
Marriage before age 18	8.7	0.4911	0.01641	0.033	1.311	1.145	493	1,218	0.458	0.524
Polygyny	8.9	0.2119	0.01879	0.089	1.438	1.199	275	681	0.174	0.249
Comprehensive knowledge about HIV prevention among young people	9.2	0.2407	0.02037	0.085	1.024	1.012	183	452	0.200	0.281
Knowledge of mother-to-child transmission of HIV	9.3	0.5614	0.01502	0.027	1.343	1.159	593	1,466	0.531	0.591
Accepting attitudes towards people living with HIV	9.4	0.1014	0.00925	0.091	1.285	1.134	553	1,368	0.083	0.120
Women who have been tested for HIV and know the results	9.6	0.2357	0.01236	0.052	1.243	1.115	593	1,466	0.211	0.260
Sexually active young women who have been tested for HIV and know the results	9.7	0.2854	0.02514	0.088	1.082	1.040	141	350	0.235	0.336
Sex before age 15 among young women	9.11	0.3340	0.02378	0.071	1.147	1.071	183	452	0.286	0.382
Condom use with non-regular partners	9.16	0.3360	0.03497	0.104	1.102	1.050	82	202	0.266	0.406
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0509	0.00601	0.118	0.835	0.914	570	1,119	0.039	0.063
Stunting prevalence	2.2a	0.1488	0.01192	0.080	1.214	1.102	552	1,084	0.125	0.173
Wasting prevalence	2.3a	0.0314	0.00478	0.152	0.813	0.902	551	1,082	0.022	0.041
Exclusive breastfeeding under 6 months	2.6	0.0307	0.01706	0.556	1.262	1.124	66	130	0.000	0.065
Age-appropriate breastfeeding	2.14	0.1617	0.02211	0.137	1.940	1.393	274	539	0.117	0.206
Received polio immunization	-	0.8081	0.01754	0.022	0.587	0.766	151	297	0.773	0.843
Received measles (MMR) immunization	-	0.8060	0.02335	0.029	0.983	0.992	144	283	0.759	0.853
Diarrhoea in the previous 2 weeks	-	0.1273	0.01155	0.091	1.659	1.288	705	1,383	0.104	0.150
Illness with a cough in the previous 2 weeks	-	0.0333	0.00595	0.179	1.521	1.233	705	1,383	0.021	0.045
Fever in last two weeks	-	0.1698	0.01447	0.085	2.051	1.432	705	1,383	0.141	0.199
Oral rehydration therapy with continued feeding	3.8	0.6249	0.03216	0.051	0.772	0.879	90	176	0.561	0.689
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	23	46	*	*
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.4335	0.02186	0.050	2.526	1.589	662	1,299	0.390	0.477
Anti-malarial treatment of children under age 5	3.18	0.0000	0.00000	0.000	na	na	120	235	0.000	0.000
Support for learning	6.1	0.4531	0.02654	0.059	1.577	1.256	283	556	0.400	0.506
Attendance to early childhood education	6.7	0.1708	0.02317	0.136	2.104	1.451	283	556	0.124	0.217

Birth registration	8.1	0.9746	0.00454	0.005	1.151	1.073	705	1,383	0.966	0.984
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**Table SE.6: Sampling errors: Total rural**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deff*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value ( <i>r</i> )	Standard error ( <i>se</i> )	Coefficient of variation ( <i>se/r</i> )	Design effect ( <i>deff</i> )	Square root of design effect ( <i>deff</i> )	Weighted count	Unweighted count	Confidence limits	
									<i>r</i> - 2 <i>se</i>	<i>r</i> + 2 <i>se</i>
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.8648	0.01085	0.013	4.257	2.063	8,355	4,231	0.843	0.887
Use of improved sanitation	4.3	0.6221	0.01180	0.019	2.506	1.583	8,355	4,231	0.599	0.646
Secondary school net attendance ratio (adjusted)	7.5	0.4371	0.01252	0.029	1.193	1.092	938	1,874	0.412	0.462
Child labour	8.2	0.1686	0.00910	0.054	2.446	1.564	2,017	4,139	0.150	0.187
Prevalence of children with one or both parents dead	9.18	0.0369	0.00315	0.085	2.073	1.440	3,618	7,441	0.031	0.043
Violent discipline	8.5	0.8844	0.00865	0.010	1.758	1.326	2,704	2,402	0.867	0.902
<b>Women</b>										
Contraceptive prevalence	5.3	0.4348	0.01215	0.028	1.204	1.097	976	2,004	0.410	0.459
Unmet need	5.4	0.2150	0.01002	0.047	1.191	1.091	976	2,004	0.195	0.235
Antenatal care coverage - at least once by skilled personnel	5.5a	0.8504	0.01510	0.018	1.544	1.242	392	862	0.820	0.881
Antenatal care coverage - at least four times by any provider	5.5b	0.6474	0.01726	0.027	1.124	1.060	392	862	0.613	0.682
Skilled attendant at delivery	5.7	0.8608	0.01639	0.019	1.930	1.389	392	862	0.828	0.894
Institutional deliveries	5.8	0.8845	0.01431	0.016	1.726	1.314	392	862	0.856	0.913
Caesarean section	5.9	0.1375	0.01085	0.079	0.854	0.924	392	862	0.116	0.159
Literacy rate among young women	7.1	0.8002	0.01691	0.021	2.008	1.417	537	1,124	0.766	0.834
Marriage before age 18	8.7	0.3688	0.00959	0.026	1.143	1.069	1,379	2,893	0.350	0.388
Polygyny	8.9	0.0714	0.00663	0.093	1.329	1.153	976	2,004	0.058	0.085
Comprehensive knowledge about HIV prevention among young people	9.2	0.3306	0.01597	0.048	1.294	1.138	537	1,124	0.299	0.363
Knowledge of mother- to-child transmission of HIV	9.3	0.5652	0.00952	0.017	1.290	1.136	1,670	3,502	0.546	0.584
Accepting attitudes towards people living with HIV	9.4	0.1566	0.00737	0.047	1.378	1.174	1,604	3,355	0.142	0.171
Women who have been tested for HIV and know the results	9.6	0.1978	0.00754	0.038	1.255	1.120	1,670	3,502	0.183	0.213
Sexually active young women who have been tested for HIV and know the results	9.7	0.2968	0.01741	0.059	1.059	1.029	341	730	0.262	0.332
Sex before age 15 among young women	9.11	0.1752	0.01214	0.069	1.146	1.071	537	1,124	0.151	0.200
Condom use with non-regular partners	9.16	0.4297	0.02737	0.064	1.153	1.074	174	378	0.375	0.484
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0610	0.00549	0.090	1.013	1.007	1,095	1,931	0.050	0.072
Stunting prevalence	2.2a	0.1201	0.00795	0.066	1.109	1.053	1,052	1,857	0.104	0.136
Wasting prevalence	2.3a	0.0491	0.00594	0.121	1.400	1.183	1,047	1,849	0.037	0.061
Exclusive breastfeeding under 6 months	2.6	0.0467	0.01128	0.242	0.641	0.800	127	225	0.024	0.069
Age-appropriate breastfeeding	2.14	0.1645	0.01403	0.085	1.346	1.160	534	941	0.136	0.193
Received polio immunization	-	0.8009	0.01537	0.019	0.739	0.860	283	500	0.770	0.832
Received measles (MMR) immunization	-	0.7721	0.01778	0.023	0.866	0.931	274	483	0.737	0.808
Diarrhoea in the previous 2 weeks	-	0.1056	0.00776	0.073	1.475	1.215	1,307	2,315	0.090	0.121
Illness with a cough in the previous 2 weeks	-	0.0234	0.00368	0.157	1.372	1.171	1,307	2,315	0.016	0.031
Oral rehydration therapy with continued feeding	3.8	0.6303	0.02381	0.038	0.608	0.780	138	251	0.583	0.678
Antibiotic treatment of suspected pneumonia	3.10	0.5119	0.05674	0.111	0.721	0.849	31	57	0.398	0.625
Support for learning	6.1	0.6083	0.01965	0.032	1.462	1.209	509	903	0.569	0.648
Attendance to early childhood education	6.7	0.1959	0.01622	0.083	1.507	1.228	509	903	0.163	0.228
Birth registration	8.1	0.9782	0.00493	0.005	2.639	1.624	1,307	2,315	0.968	0.988

**Table SE.7: Sampling errors: Paramaribo**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.9913	0.00252	0.003	1.607	1.268	13,419	2,184	0.986	0.996
Use of improved sanitation	4.3	0.8707	0.01764	0.020	6.035	2.457	13,419	2,184	0.835	0.906
Secondary school net attendance ratio (adjusted)	7.5	0.6826	0.02008	0.029	1.516	1.231	1,360	816	0.642	0.723
Child labour	8.2	0.0531	0.00817	0.154	1.825	1.351	2,292	1,375	0.037	0.069
Prevalence of children with one or both parents dead	9.18	0.0568	0.00661	0.116	1.978	1.407	4,050	2,430	0.044	0.070
Violent discipline	8.5	0.8501	0.01297	0.015	1.256	1.121	2,925	952	0.824	0.876
<b>Women</b>										
Contraceptive prevalence	5.3	0.4760	0.01711	0.036	1.052	1.026	1,484	897	0.442	0.510
Unmet need	5.4	0.1527	0.01406	0.092	1.370	1.170	1,484	897	0.125	0.181
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9269	0.01404	0.015	0.754	0.868	430	260	0.899	0.955
Antenatal care coverage - at least four times by any provider	5.5b	0.6423	0.02748	0.043	0.851	0.923	430	260	0.587	0.697
Skilled attendant at delivery	5.7	0.9615	0.01258	0.013	1.109	1.053	430	260	0.936	0.987
Institutional deliveries	5.8	0.9538	0.01563	0.016	1.438	1.199	430	260	0.923	0.985
Caesarean section	5.9	0.2385	0.02512	0.105	0.900	0.949	430	260	0.188	0.289
Literacy rate among young women	7.1	0.9648	0.00784	0.008	1.131	1.063	1,034	625	0.949	0.980
Marriage before age 18	8.7	0.1445	0.01052	0.073	1.368	1.169	2,529	1,529	0.123	0.166
Polygyny	8.9	0.0290	0.00657	0.227	1.374	1.172	1,484	897	0.016	0.042
Comprehensive knowledge about HIV prevention among young people	9.2	0.4784	0.02037	0.043	1.038	1.019	1,034	625	0.438	0.519
Knowledge of mother- to-child transmission of HIV	9.3	0.4793	0.01163	0.024	0.995	0.997	3,037	1,836	0.456	0.503
Accepting attitudes towards people living with HIV	9.4	0.2435	0.01178	0.048	1.367	1.169	3,002	1,815	0.220	0.267
Women who have been tested for HIV and know the results	9.6	0.2190	0.01097	0.050	1.290	1.136	3,037	1,836	0.197	0.241
Sexually active young women who have been tested for HIV and know the results	9.7	0.3733	0.02399	0.064	0.881	0.938	594	359	0.325	0.421
Sex before age 15 among young women	9.11	0.0688	0.00939	0.136	0.858	0.926	1,034	625	0.050	0.088
Condom use with non-regular partners	9.16	0.6266	0.02335	0.037	0.541	0.735	385	233	0.580	0.673
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0558	0.00710	0.127	0.531	0.729	1,118	556	0.042	0.070
Stunting prevalence	2.2a	0.0584	0.00817	0.140	0.644	0.802	1,067	531	0.042	0.075
Wasting prevalence	2.3a	0.0496	0.00760	0.153	0.641	0.801	1,053	524	0.034	0.065
Exclusive breastfeeding under 6 months	2.6	0.0179	0.01818	1.018	1.037	1.018	113	56	0.000	0.054
Age-appropriate breastfeeding	2.14	0.1196	0.01634	0.137	0.697	0.835	555	276	0.087	0.152
Received polio immunization	-	0.8571	0.02054	0.024	0.479	0.692	281	140	0.816	0.898
Received measles (MMR) immunization	-	0.7810	0.02805	0.036	0.626	0.791	275	137	0.725	0.837
Diarrhoea in the previous 2 weeks	-	0.0836	0.01166	0.140	1.124	1.060	1,274	634	0.060	0.107
Illness with a cough in the previous 2 weeks	-	0.0205	0.00633	0.309	1.264	1.124	1,274	634	0.008	0.033
Oral rehydration therapy with continued feeding	3.8	0.6604	0.04008	0.061	0.372	0.610	107	53	0.580	0.741
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	26	13	*	*
Support for learning	6.1	0.8017	0.02201	0.027	0.734	0.857	486	242	0.758	0.846
Attendance to early childhood education	6.7	0.4876	0.02241	0.046	0.484	0.696	486	242	0.443	0.532
Birth registration	8.1	0.9953	0.00277	0.003	1.029	1.015	1,274	634	0.990	1.000



**Table SE.8: Sampling errors: Wanica**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deff*) and confidence intervals for selected indicators, Suriname, 2010

	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
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.9745	0.00969	0.010	2.856	1.690	5,217	757	0.955	0.994
Use of improved sanitation	4.3	0.8783	0.01972	0.022	2.750	1.658	5,217	757	0.839	0.918
Secondary school net attendance ratio (adjusted)	7.5	0.6240	0.03087	0.049	1.486	1.219	618	367	0.562	0.686
Child labour	8.2	0.0601	0.01362	0.227	1.963	1.401	1,009	599	0.033	0.087
Prevalence of children with one or both parents dead	9.18	0.0401	0.00786	0.196	1.714	1.309	1,804	1,071	0.024	0.056
Violent discipline	8.5	0.8450	0.02641	0.031	2.098	1.449	1,325	395	0.792	0.898
<b>Women</b>										
Contraceptive prevalence	5.3	0.5159	0.02543	0.049	1.137	1.066	735	440	0.465	0.567
Unmet need	5.4	0.1636	0.02124	0.130	1.448	1.203	735	440	0.121	0.206
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9649	0.01604	0.017	0.859	0.927	191	114	0.933	0.997
Antenatal care coverage - at least four times by any provider	5.5b	0.7456	0.04871	0.065	1.414	1.189	191	114	0.648	0.843
Skilled attendant at delivery	5.7	0.9737	0.01434	0.015	0.906	0.952	191	114	0.945	1.000
Institutional deliveries	5.8	0.9386	0.02139	0.023	0.897	0.947	191	114	0.896	0.981
Caesarean section	5.9	0.1667	0.02603	0.156	0.551	0.742	191	114	0.115	0.219
Literacy rate among young women	7.1	0.9657	0.00941	0.010	0.619	0.787	389	233	0.947	0.984
Marriage before age 18	8.7	0.2476	0.01888	0.076	1.181	1.087	1,033	618	0.210	0.285
Polygyny	8.9	0.0273	0.00727	0.267	0.875	0.935	735	440	0.013	0.042
Comprehensive knowledge about HIV prevention among young people	9.2	0.3820	0.03709	0.097	1.352	1.163	389	233	0.308	0.456
Knowledge of mother- to-child transmission of HIV	9.3	0.5300	0.02219	0.042	1.479	1.216	1,252	749	0.486	0.574
Accepting attitudes towards people living with HIV	9.4	0.1962	0.01380	0.070	0.891	0.944	1,235	739	0.169	0.224
Women who have been tested for HIV and know the results	9.6	0.1936	0.01331	0.069	0.849	0.921	1,252	749	0.167	0.220
Sexually active young women who have been tested for HIV and know the results	9.7	0.3190	0.05172	0.162	1.416	1.190	194	116	0.216	0.422
Sex before age 15 among young women	9.11	0.0687	0.01593	0.232	0.920	0.959	389	233	0.037	0.101
Condom use with non-regular partners	9.16	0.5072	0.04060	0.080	0.448	0.670	115	69	0.426	0.588
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0562	0.01085	0.193	0.591	0.769	542	267	0.034	0.078
Stunting prevalence	2.2a	0.0973	0.01929	0.198	1.085	1.042	522	257	0.059	0.136
Wasting prevalence	2.3a	0.0506	0.01133	0.224	0.684	0.827	522	257	0.028	0.073
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	41	20	*	*
Age-appropriate breastfeeding	2.14	0.1417	0.03033	0.214	0.900	0.949	244	120	0.081	0.202
Received polio immunization	-	0.8310	0.02955	0.036	0.435	0.660	144	71	0.772	0.890
Received measles (MMR) immunization	-	0.7971	0.04270	0.054	0.767	0.876	140	69	0.712	0.883
Diarrhoea in the previous 2 weeks	-	0.1119	0.02110	0.189	1.317	1.148	599	295	0.070	0.154
Illness with a cough in the previous 2 weeks	-	0.0136	0.00836	0.617	1.537	1.240	599	295	0.000	0.030
Oral rehydration therapy with continued feeding	3.8	*	*	*	*	*	67	33	*	*
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	8	4	*	*
Support for learning	6.1	0.8034	0.04628	0.058	1.573	1.254	238	117	0.711	0.896
Attendance to early childhood education	6.7	0.3675	0.03218	0.088	0.517	0.719	238	117	0.303	0.432
Birth registration	8.1	0.9966	0.00338	0.003	0.995	0.998	599	295	0.990	1.000

**Table SE.9: Sampling errors: Nickerie**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deff*) and confidence intervals for selected indicators, Suriname, 2010

	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
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.9792	0.01645	0.017	10.449	3.233	2,081	789	0.946	1.000
Use of improved sanitation	4.3	0.9532	0.01357	0.014	3.249	1.803	2,081	789	0.926	0.980
Secondary school net attendance ratio (adjusted)	7.5	0.6476	0.05543	0.086	4.430	2.105	245	330	0.537	0.758
Child labour	8.2	0.0410	0.01683	0.410	3.577	1.891	374	498	0.007	0.075
Prevalence of children with one or both parents dead	9.18	0.0463	0.01085	0.234	2.358	1.536	649	886	0.025	0.068
Violent discipline	8.5	0.8138	0.03113	0.038	2.289	1.513	467	359	0.751	0.876
<b>Women</b>										
Contraceptive prevalence	5.3	0.5051	0.02417	0.048	1.103	1.050	326	473	0.457	0.553
Unmet need	5.4	0.1063	0.01869	0.176	1.737	1.318	326	473	0.069	0.144
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9826	0.00834	0.008	0.353	0.594	61	88	0.966	0.999
Antenatal care coverage - at least four times by any provider	5.5b	0.7806	0.03951	0.051	0.793	0.891	61	88	0.702	0.860
Skilled attendant at delivery	5.7	0.9913	0.00851	0.009	0.729	0.854	61	88	0.974	1.000
Institutional deliveries	5.8	0.9031	0.05545	0.061	3.058	1.749	61	88	0.792	1.000
Caesarean section	5.9	0.1584	0.04391	0.277	1.259	1.122	61	88	0.071	0.246
Literacy rate among young women	7.1	0.9196	0.02507	0.027	1.853	1.361	153	219	0.869	0.970
Marriage before age 18	8.7	0.2867	0.03096	0.108	2.574	1.604	388	550	0.225	0.349
Polygyny	8.9	0.0033	0.00234	0.721	0.800	0.894	326	473	0.000	0.008
Comprehensive knowledge about HIV prevention among young people	9.2	0.3487	0.02669	0.077	0.684	0.827	153	219	0.295	0.402
Knowledge of mother- to-child transmission of HIV	9.3	0.6071	0.01376	0.023	0.531	0.728	471	669	0.580	0.635
Accepting attitudes towards people living with HIV	9.4	0.1668	0.01574	0.094	1.149	1.072	455	645	0.135	0.198
Women who have been tested for HIV and know the results	9.6	0.1166	0.01350	0.116	1.181	1.087	471	669	0.090	0.144
Sexually active young women who have been tested for HIV and know the results	9.7	0.2298	0.04036	0.176	0.957	0.978	74	105	0.149	0.311
Sex before age 15 among young women	9.11	0.0873	0.03225	0.369	2.846	1.687	153	219	0.023	0.152
Condom use with non-regular partners	9.16	*	*	*	*	*	20	26	*	*
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0830	0.01849	0.223	0.907	0.953	174	203	0.046	0.120
Stunting prevalence	2.2a	0.0588	0.01535	0.261	0.827	0.909	167	195	0.028	0.089
Wasting prevalence	2.3a	0.0920	0.02007	0.218	0.912	0.955	164	190	0.052	0.132
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	15	19	*	*
Age-appropriate breastfeeding	2.14	0.2646	0.03567	0.135	0.615	0.784	79	95	0.193	0.336
Received polio immunization	-	0.9130	0.04452	0.049	1.248	1.117	45	51	0.824	1.000
Received measles (MMR) immunization	-	0.7499	0.04097	0.055	0.439	0.662	45	50	0.668	0.832
Diarrhoea in the previous 2 weeks	-	0.0767	0.01393	0.182	0.608	0.780	188	223	0.049	0.105
Illness with a cough in the previous 2 weeks	-	0.0314	0.01582	0.504	1.827	1.352	188	223	0.000	0.063
Oral rehydration therapy with continued feeding	3.8	*	*	*	*	*	14	14	*	*
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	6	5	*	*
Support for learning	6.1	0.9175	0.04189	0.046	1.716	1.310	64	75	0.834	1.000
Attendance to early childhood education	6.7	0.1753	0.03687	0.210	0.696	0.834	64	75	0.102	0.249
Birth registration	8.1	1.0000	0.00000	0.000	na	na	188	223	1.000	1.000

**Table SE.10: Sampling errors: Coronie**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deff*) and confidence intervals for selected indicators, Suriname, 2010

	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
<b>Household members</b>										
Use of improved drinking water sources	4.1	1.0000	0.00000	0.000	na	na	161	93	1.000	1.000
Use of improved sanitation	4.3	0.9558	0.02525	0.026	1.388	1.178	161	93	0.905	1.000
Secondary school net attendance ratio (adjusted)	7.5	*	*	*	*	*	18	33	*	*
Child labour	8.2	0.0746	0.03121	0.418	0.931	0.965	37	67	0.012	0.137
Prevalence of children with one or both parents dead	9.18	0.0291	0.02024	0.695	1.478	1.216	56	103	0.000	0.070
Violent discipline	8.5	*	*	*	*	*	44	42	*	*
<b>Women</b>										
Contraceptive prevalence	5.3	*	*	*	*	*	18	35	*	*
Unmet need	5.4	*	*	*	*	*	18	35	*	*
Antenatal care coverage - at least once by skilled personnel	5.5a	*	*	*	*	*	4	7	*	*
Antenatal care coverage - at least four times by any provider	5.5b	*	*	*	*	*	4	7	*	*
Skilled attendant at delivery	5.7	*	*	*	*	*	4	7	*	*
Institutional deliveries	5.8	*	*	*	*	*	4	7	*	*
Caesarean section	5.9	*	*	*	*	*	4	7	*	*
Literacy rate among young women	7.1	*	*	*	*	*	7	14	*	*
Marriage before age 18	8.7	0.1800	0.05308	0.295	0.935	0.967	26	50	0.074	0.286
Polygyny	8.9	*	*	*	*	*	18	35	*	*
Comprehensive knowledge about HIV prevention among young people	9.2	*	*	*	*	*	7	14	*	*
Knowledge of mother- to-child transmission of HIV	9.3	0.5862	0.03805	0.065	0.340	0.583	31	58	0.510	0.662
Accepting attitudes towards people living with HIV	9.4	0.2069	0.04880	0.236	0.827	0.910	31	58	0.109	0.304
Women who have been tested for HIV and know the results	9.6	0.1897	0.06330	0.334	1.486	1.219	31	58	0.063	0.316
Sexually active young women who have been tested for HIV and know the results	9.7	*	*	*	*	*	5	9	*	*
Sex before age 15 among young women	9.11	*	*	*	*	*	7	14	*	*
Condom use with non-regular partners	9.16	*	*	*	*	*	2	4	*	*
<b>Children under age 5</b>										
Underweight prevalence	2.1a	*	*	*	*	*	14	22	*	*
Stunting prevalence	2.2a	*	*	*	*	*	14	22	*	*
Wasting prevalence	2.3a	*	*	*	*	*	14	22	*	*
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	1	1	*	*
Age-appropriate breastfeeding	2.14	*	*	*	*	*	5	8	*	*
Received polio immunization	-	*	*	*	*	*	2	3	*	*
Received measles (MMR) immunization	-	*	*	*	*	*	1	2	*	*
Diarrhoea in the previous 2 weeks	-	*	*	*	*	*	14	22	*	*
Illness with a cough in the previous 2 weeks	-	*	*	*	*	*	14	22	*	*
Oral rehydration therapy with continued feeding	3.8	*	*	*	*	*	2	3	*	*
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	1	1	*	*
Support for learning	6.1	*	*	*	*	*	7	11	*	*
Attendance to early childhood education	6.7	*	*	*	*	*	7	11	*	*
Birth registration	8.1	*	*	*	*	*	14	22	*	*

**Table SE.11: Sampling errors: Saramacca**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deff*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect ( <i>deff</i> )	Square root of design effect ( <i>deff</i> )	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.9672	0.01057	0.011	1.565	1.251	920	445	0.946	0.988
Use of improved sanitation	4.3	0.8349	0.02628	0.031	2.225	1.492	920	445	0.782	0.887
Secondary school net attendance ratio (adjusted)	7.5	0.6374	0.04593	0.072	1.552	1.246	94	171	0.546	0.729
Child labour	8.2	0.0466	0.01460	0.313	1.540	1.241	176	322	0.017	0.076
Prevalence of children with one or both parents dead	9.18	0.0450	0.01398	0.310	2.519	1.587	304	555	0.017	0.073
Violent discipline	8.5	0.8374	0.02445	0.029	0.953	0.976	222	218	0.789	0.886
<b>Women</b>										
Contraceptive prevalence	5.3	0.5368	0.02370	0.044	0.641	0.801	151	285	0.489	0.584
Unmet need	5.4	0.1579	0.02314	0.147	1.144	1.070	151	285	0.112	0.204
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9298	0.02847	0.031	0.695	0.834	30	57	0.873	0.987
Antenatal care coverage - at least four times by any provider	5.5b	0.7719	0.03906	0.051	0.485	0.697	30	57	0.694	0.850
Skilled attendant at delivery	5.7	0.9649	0.01610	0.017	0.429	0.655	30	57	0.933	0.997
Institutional deliveries	5.8	0.9298	0.02438	0.026	0.510	0.714	30	57	0.881	0.979
Caesarean section	5.9	0.1228	0.02720	0.221	0.384	0.620	30	57	0.068	0.177
Literacy rate among young women	7.1	0.9725	0.01543	0.016	0.961	0.980	58	109	0.942	1.000
Marriage before age 18	8.7	0.2862	0.02798	0.098	1.242	1.114	172	325	0.230	0.342
Polygyny	8.9	0.0105	0.00763	0.725	1.587	1.260	151	285	0.000	0.026
Comprehensive knowledge about HIV prevention among young people	9.2	0.3853	0.05219	0.135	1.242	1.115	58	109	0.281	0.490
Knowledge of mother- to-child transmission of HIV	9.3	0.5067	0.03323	0.066	1.652	1.285	198	375	0.440	0.573
Accepting attitudes towards people living with HIV	9.4	0.2158	0.02217	0.103	1.060	1.029	193	366	0.172	0.260
Women who have been tested for HIV and know the results	9.6	0.1360	0.01832	0.135	1.069	1.034	198	375	0.099	0.173
Sexually active young women who have been tested for HIV and know the results	9.7	0.2712	0.03973	0.147	0.463	0.681	31	59	0.192	0.351
Sex before age 15 among young women	9.11	0.0642	0.02861	0.446	1.471	1.213	58	109	0.007	0.121
Condom use with non-regular partners	9.16	*	*	*	*	*	7	13	*	*
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0480	0.02169	0.452	1.277	1.130	82	125	0.005	0.091
Stunting prevalence	2.2a	0.0678	0.02046	0.302	0.775	0.880	77	118	0.027	0.109
Wasting prevalence	2.3a	0.0508	0.02796	0.550	1.895	1.377	77	118	0.000	0.107
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	8	13	*	*
Age-appropriate breastfeeding	2.14	0.1639	0.03792	0.231	0.629	0.793	40	61	0.088	0.240
Received polio immunization	-	*	*	*	*	*	20	31	*	*
Received measles (MMR) immunization	-	*	*	*	*	*	20	31	*	*
Diarrhoea in the previous 2 weeks	-	0.0643	0.01689	0.263	0.659	0.812	91	140	0.031	0.098
Illness with a cough in the previous 2 weeks	-	0.0071	0.00745	1.043	1.087	1.043	91	140	0.000	0.022
Oral rehydration therapy with continued feeding	3.8	*	*	*	*	*	6	9	*	*
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	1	1	*	*
Support for learning	6.1	0.7719	0.03446	0.045	0.378	0.615	37	57	0.703	0.841
Attendance to early childhood education	6.7	0.3509	0.06033	0.172	0.895	0.946	37	57	0.230	0.472
Birth registration	8.1	0.9929	0.00704	0.007	0.973	0.986	91	140	0.979	1.000

**Table SE.12: Sampling errors: Commewijne**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deff*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect ( <i>deff</i> )	Square root of design effect ( <i>deff</i> )	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.9669	0.01346	0.014	2.361	1.537	1,373	418	0.940	0.994
Use of improved sanitation	4.3	0.9009	0.02415	0.027	2.725	1.651	1,373	418	0.853	0.949
Secondary school net attendance ratio (adjusted)	7.5	0.6613	0.07373	0.111	3.786	1.946	142	157	0.514	0.809
Child labour	8.2	0.0488	0.01469	0.301	1.217	1.103	238	263	0.019	0.078
Prevalence of children with one or both parents dead	9.18	0.0218	0.01412	0.649	4.321	2.079	407	462	0.000	0.050
Violent discipline	8.5	0.8337	0.02816	0.034	1.098	1.048	297	193	0.777	0.890
<b>Women</b>										
Contraceptive prevalence	5.3	0.6155	0.02738	0.044	0.802	0.895	203	254	0.561	0.670
Unmet need	5.4	0.1360	0.02458	0.181	1.301	1.141	203	254	0.087	0.185
Antenatal care coverage - at least once by skilled personnel	5.5a	*	*	*	*	*	44	48	*	*
Antenatal care coverage - at least four times by any provider	5.5b	*	*	*	*	*	44	48	*	*
Skilled attendant at delivery	5.7	*	*	*	*	*	44	48	*	*
Institutional deliveries	5.8	*	*	*	*	*	44	48	*	*
Caesarean section	5.9	*	*	*	*	*	44	48	*	*
Literacy rate among young women	7.1	0.9561	0.01546	0.016	0.598	0.773	98	106	0.925	0.987
Marriage before age 18	8.7	0.2734	0.01327	0.049	0.259	0.509	238	293	0.247	0.300
Polygyny	8.9	0.0081	0.00792	0.977	1.973	1.405	203	254	0.000	0.024
Comprehensive knowledge about HIV prevention among young people	9.2	0.4117	0.04359	0.106	0.824	0.908	98	106	0.324	0.499
Knowledge of mother- to-child transmission of HIV	9.3	0.5625	0.01514	0.027	0.327	0.572	296	352	0.532	0.593
Accepting attitudes towards people living with HIV	9.4	0.2311	0.02784	0.120	1.492	1.221	290	343	0.175	0.287
Women who have been tested for HIV and know the results	9.6	0.1415	0.02710	0.192	2.122	1.457	296	352	0.087	0.196
Sexually active young women who have been tested for HIV and know the results	9.7	*	*	*	*	*	44	49	*	*
Sex before age 15 among young women	9.11	0.0055	0.00564	1.027	0.612	0.782	98	106	0.000	0.017
Condom use with non-regular partners	9.16	*	*	*	*	*	15	14	*	*
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0891	0.03296	0.370	1.365	1.168	104	103	0.023	0.155
Stunting prevalence	2.2a	0.0592	0.01972	0.333	0.628	0.792	90	91	0.020	0.099
Wasting prevalence	2.3a	0.1322	0.04672	0.353	1.731	1.316	90	92	0.039	0.226
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	7	9	*	*
Age-appropriate breastfeeding	2.14	0.2048	0.02635	0.129	0.213	0.462	55	51	0.152	0.257
Received polio immunization	-	*	*	*	*	*	27	25	*	*
Received measles (MMR) immunization	-	*	*	*	*	*	25	24	*	*
Diarrhoea in the previous 2 weeks	-	0.0874	0.04652	0.532	3.200	1.789	122	119	0.000	0.180
Illness with a cough in the previous 2 weeks	-	0.0328	0.03089	0.941	3.546	1.883	122	119	0.000	0.095
Oral rehydration therapy with continued feeding	3.8	*	*	*	*	*	11	10	*	*
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	4	2	*	*
Support for learning	6.1	*	*	*	*	*	47	47	*	*
Attendance to early childhood education	6.7	*	*	*	*	*	47	47	*	*
Birth registration	8.1	1.0000	0.00000	0.000	na	na	122	119	1.000	1.000

**Table SE.13: Sampling errors: Marowijne**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deff*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect ( <i>deff</i> )	Square root of design effect ( <i>deff</i> )	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.9114	0.03441	0.038	6.522	2.554	1,081	446	0.843	0.980
Use of improved sanitation	4.3	0.7219	0.03611	0.050	2.890	1.700	1,081	446	0.650	0.794
Secondary school net attendance ratio (adjusted)	7.5	0.4249	0.03425	0.081	1.306	1.143	138	273	0.356	0.493
Child labour	8.2	0.1319	0.01491	0.113	1.087	1.043	284	561	0.102	0.162
Prevalence of children with one or both parents dead	9.18	0.0358	0.00830	0.232	2.062	1.436	524	1,034	0.019	0.052
Violent discipline	8.5	0.8704	0.03734	0.043	3.413	1.847	376	277	0.796	0.945
<b>Women</b>										
Contraceptive prevalence	5.3	0.3925	0.04180	0.106	1.560	1.249	105	214	0.309	0.476
Unmet need	5.4	0.2664	0.03255	0.122	1.155	1.075	105	214	0.201	0.331
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9394	0.02822	0.030	1.833	1.354	65	132	0.883	0.996
Antenatal care coverage - at least four times by any provider	5.5b	0.6212	0.04961	0.080	1.370	1.170	65	132	0.522	0.720
Skilled attendant at delivery	5.7	0.9470	0.01998	0.021	1.041	1.020	65	132	0.907	0.987
Institutional deliveries	5.8	0.8409	0.03687	0.044	1.331	1.154	65	132	0.767	0.915
Caesarean section	5.9	0.1364	0.02487	0.182	0.688	0.829	65	132	0.087	0.186
Literacy rate among young women	7.1	0.9314	0.02686	0.029	1.965	1.402	86	175	0.878	0.985
Marriage before age 18	8.7	0.2931	0.01893	0.065	0.571	0.755	162	331	0.255	0.331
Polygyny	8.9	0.0514	0.01808	0.352	1.428	1.195	105	214	0.015	0.088
Comprehensive knowledge about HIV prevention among young people	9.2	0.3429	0.04924	0.144	1.873	1.368	86	175	0.244	0.441
Knowledge of mother-to-child transmission of HIV	9.3	0.5576	0.02704	0.048	1.257	1.121	208	425	0.504	0.612
Accepting attitudes towards people living with HIV	9.4	0.1651	0.01956	0.118	1.158	1.076	204	418	0.126	0.204
Women who have been tested for HIV and know the results	9.6	0.2847	0.02157	0.076	0.969	0.984	208	425	0.242	0.328
Sexually active young women who have been tested for HIV and know the results	9.7	0.3417	0.04858	0.142	1.249	1.117	59	120	0.245	0.439
Sex before age 15 among young women	9.11	0.1771	0.03325	0.188	1.320	1.149	86	175	0.111	0.244
Condom use with non-regular partners	9.16	0.4756	0.06832	0.144	1.516	1.231	40	82	0.339	0.612
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0513	0.01238	0.241	0.857	0.926	165	273	0.027	0.076
Stunting prevalence	2.2a	0.0913	0.02137	0.234	1.442	1.201	159	263	0.049	0.134
Wasting prevalence	2.3a	0.0269	0.01311	0.487	1.699	1.303	157	260	0.001	0.053
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	25	42	*	*
Age-appropriate breastfeeding	2.14	0.1351	0.03462	0.256	1.507	1.228	89	148	0.066	0.204
Received polio immunization	-	0.5286	0.06499	0.123	1.170	1.081	42	70	0.399	0.659
Received measles (MMR) immunization	-	0.4714	0.05447	0.116	0.822	0.906	42	70	0.362	0.580
Diarrhoea in the previous 2 weeks	-	0.0943	0.02000	0.212	1.483	1.218	192	318	0.054	0.134
Illness with a cough in the previous 2 weeks	-	0.0094	0.00542	0.575	0.998	0.999	192	318	0.000	0.020
Oral rehydration therapy with continued feeding	3.8	*	*	*	*	*	18	30	*	*
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	2	3	*	*
Support for learning	6.1	0.7222	0.05201	0.072	1.443	1.201	65	108	0.618	0.826
Attendance to early childhood education	6.7	0.0741	0.02577	0.348	1.036	1.018	65	108	0.023	0.126
Birth registration	8.1	0.9591	0.02661	0.028	5.723	2.392	192	318	0.906	1.000

**Table SE.14: Sampling errors: Para**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deff*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect ( <i>deff</i> )	Square root of design effect ( <i>deff</i> )	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.9652	0.02749	0.028	9.238	3.039	1,054	411	0.910	1.000
Use of improved sanitation	4.3	0.7461	0.03978	0.053	3.425	1.851	1,054	411	0.667	0.826
Secondary school net attendance ratio (adjusted)	7.5	0.4776	0.03169	0.066	0.982	0.991	145	245	0.414	0.541
Child labour	8.2	0.0996	0.02780	0.279	3.887	1.972	267	452	0.044	0.155
Prevalence of children with one or both parents dead	9.18	0.0380	0.00784	0.207	1.286	1.134	451	764	0.022	0.054
Violent discipline	8.5	0.9115	0.02272	0.025	1.459	1.208	334	229	0.866	0.957
<b>Women</b>										
Contraceptive prevalence	5.3	0.4241	0.04812	0.113	1.801	1.342	109	191	0.328	0.520
Unmet need	5.4	0.1885	0.02977	0.158	1.101	1.049	109	191	0.129	0.248
Antenatal care coverage - at least once by skilled personnel	5.5a	0.9545	0.01506	0.016	0.340	0.583	38	66	0.924	0.985
Antenatal care coverage - at least four times by any provider	5.5b	0.7727	0.05180	0.067	0.993	0.997	38	66	0.669	0.876
Skilled attendant at delivery	5.7	0.9242	0.02718	0.029	0.686	0.828	38	66	0.870	0.979
Institutional deliveries	5.8	0.9394	0.02278	0.024	0.593	0.770	38	66	0.894	0.985
Caesarean section	5.9	0.1818	0.05021	0.276	1.102	1.050	38	66	0.081	0.282
Literacy rate among young women	7.1	0.9250	0.01915	0.021	0.629	0.793	68	120	0.887	0.963
Marriage before age 18	8.7	0.3403	0.04037	0.119	2.083	1.443	164	288	0.260	0.421
Polygyny	8.9	0.0262	0.02153	0.822	3.454	1.859	109	191	0.000	0.069
Comprehensive knowledge about HIV prevention among young people	9.2	0.4833	0.04748	0.098	1.074	1.036	68	120	0.388	0.578
Knowledge of mother- to-child transmission of HIV	9.3	0.5861	0.03838	0.065	2.180	1.477	205	360	0.509	0.663
Accepting attitudes towards people living with HIV	9.4	0.2331	0.03108	0.133	1.918	1.385	203	356	0.171	0.295
Women who have been tested for HIV and know the results	9.6	0.2083	0.02368	0.114	1.221	1.105	205	360	0.161	0.256
Sexually active young women who have been tested for HIV and know the results	9.7	0.3239	0.06627	0.205	1.404	1.185	40	71	0.191	0.456
Sex before age 15 among young women	9.11	0.0833	0.03408	0.409	1.810	1.345	68	120	0.015	0.152
Condom use with non-regular partners	9.16	0.5200	0.05699	0.110	0.638	0.799	28	50	0.406	0.634
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0694	0.02183	0.314	1.054	1.027	101	144	0.026	0.113
Stunting prevalence	2.2a	0.1176	0.02701	0.230	0.949	0.974	96	136	0.064	0.172
Wasting prevalence	2.3a	0.0365	0.01824	0.500	1.287	1.134	96	137	0.000	0.073
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	10	14	*	*
Age-appropriate breastfeeding	2.14	0.1471	0.03676	0.250	0.722	0.850	48	68	0.074	0.221
Received polio immunization	-	*	*	*	*	*	28	40	*	*
Received measles (MMR) immunization	-	*	*	*	*	*	27	39	*	*
Diarrhoea in the previous 2 weeks	-	0.0920	0.02214	0.241	1.015	1.008	122	174	0.048	0.136
Illness with a cough in the previous 2 weeks	-	0.0172	0.01206	0.700	1.486	1.219	122	174	0.000	0.041
Oral rehydration therapy with continued feeding	3.8	*	*	*	*	*	11	16	*	*
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	2	3	*	*
Support for learning	6.1	0.8056	0.07272	0.090	2.397	1.548	51	72	0.660	0.951
Attendance to early childhood education	6.7	0.3472	0.05790	0.167	1.050	1.025	51	72	0.231	0.463
Birth registration	8.1	0.9828	0.01297	0.013	1.719	1.311	122	174	0.957	1.000

**Table SE.15: Sampling errors: Brokopondo**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value ( <i>r</i> )	Standard error ( <i>se</i> )	Coefficient of variation ( <i>se/r</i> )	Design effect ( <i>deff</i> )	Square root of design effect ( <i>deft</i> )	Weighted count	Unweighted count	Confidence limits	
									<i>r</i> - 2 <i>se</i>	<i>r</i> + 2 <i>se</i>
<b>Households</b>										
Household availability of insecticide-treated nets (ITNs)	3.12	0.6133	0.02458	0.040	1.111	1.054	186	437	0.564	0.662
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.8942	0.02492	0.028	2.862	1.692	774	437	0.844	0.944
Use of improved sanitation	4.3	0.3197	0.03048	0.095	1.862	1.365	774	437	0.259	0.381
Secondary school net attendance ratio (adjusted)	7.5	0.3773	0.03706	0.098	1.280	1.131	94	220	0.303	0.451
Child labour	8.2	0.1971	0.02172	0.110	1.616	1.271	232	543	0.154	0.240
Prevalence of children with one or both parents dead	9.18	0.0404	0.00965	0.239	2.379	1.543	423	991	0.021	0.060
Violent discipline	8.5	0.9029	0.02262	0.025	1.617	1.272	321	278	0.858	0.948
<b>Women</b>										
Pregnant women	-	0.0634	0.01167	0.184	0.756	0.869	132	331	0.040	0.087
Pregnant women sleeping under insecticide-treated nets (ITNs)	3.19	*	*	*	*	*	8	20	*	*
Contraceptive prevalence	5.3	0.2560	0.03399	0.133	1.013	1.007	67	168	0.188	0.324
Unmet need	5.4	0.3333	0.03968	0.119	1.183	1.088	67	168	0.254	0.413
Antenatal care coverage - at least once by skilled personnel	5.5a	0.6617	0.06031	0.091	2.145	1.464	53	133	0.541	0.782
Antenatal care coverage - at least four times by any provider	5.5b	0.5865	0.04914	0.084	1.314	1.147	53	133	0.488	0.685
Skilled attendant at delivery	5.7	0.7594	0.04724	0.062	1.612	1.270	53	133	0.665	0.854
Institutional deliveries	5.8	0.8421	0.04962	0.059	2.444	1.563	53	133	0.743	0.941
Caesarean section	5.9	0.1429	0.03132	0.219	1.057	1.028	53	133	0.080	0.205
Literacy rate among young women	7.1	0.7826	0.05029	0.064	1.695	1.302	46	115	0.682	0.883
Marriage before age 18	8.7	0.4519	0.04356	0.096	2.061	1.436	108	270	0.365	0.539
Polygyny	8.9	0.1131	0.01969	0.174	0.646	0.804	67	168	0.074	0.152
Comprehensive knowledge about HIV prevention among young people	9.2	0.3391	0.04662	0.137	1.105	1.051	46	115	0.246	0.432
Knowledge of mother-to-child transmission of HIV	9.3	0.5468	0.03620	0.066	1.745	1.321	132	331	0.474	0.619
Accepting attitudes towards people living with HIV	9.4	0.1546	0.01973	0.128	0.941	0.970	126	317	0.115	0.194
Women who have been tested for HIV and know the results	9.6	0.3233	0.02777	0.086	1.163	1.079	132	331	0.268	0.379
Sexually active young women who have been tested for HIV and know the results	9.7	0.3478	0.06359	0.183	1.622	1.274	37	92	0.221	0.475
Sex before age 15 among young women	9.11	0.3565	0.05745	0.161	1.640	1.281	46	115	0.242	0.471
Condom use with non-regular partners	9.16	*	*	*	*	*	19	47	*	*
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0567	0.01487	0.262	1.017	1.009	124	247	0.027	0.086
Stunting prevalence	2.2a	0.0751	0.01765	0.235	1.130	1.063	127	253	0.040	0.110
Wasting prevalence	2.3a	0.0328	0.01191	0.363	1.086	1.042	123	244	0.009	0.057
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	22	44	*	*
Age-appropriate breastfeeding	2.14	0.1000	0.03247	0.325	1.628	1.276	70	140	0.035	0.165
Received polio immunization	-	0.8167	0.02517	0.031	0.250	0.500	30	60	0.766	0.867
Received measles (MMR) immunization	-	0.7091	0.07722	0.109	1.561	1.249	28	55	0.555	0.864
Diarrhoea in the previous 2 weeks	-	0.1261	0.01948	0.154	1.143	1.069	167	333	0.087	0.165
Illness with a cough in the previous 2 weeks	-	0.0270	0.01403	0.519	2.485	1.576	167	333	0.000	0.055
Fever in last two weeks	-	0.1892	0.02575	0.136	1.435	1.198	167	333	0.138	0.241
Oral rehydration therapy with continued feeding	3.8	*	*	*	*	*	21	42	*	*
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	5	9	*	*
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.4038	0.03453	0.086	1.565	1.251	159	317	0.335	0.473
Anti-malarial treatment of children under age 5	3.18	0.0000	0.00000	0.000	na	na	32	63	0.000	0.000
Support for learning	6.1	0.4758	0.05878	0.124	1.704	1.305	62	124	0.358	0.593
Attendance to early childhood education	6.7	0.1935	0.05019	0.259	1.985	1.409	62	124	0.093	0.294
Birth registration	8.1	0.9880	0.00393	0.004	0.433	0.658	167	333	0.980	0.996



**Table SE.16: Sampling errors: Sipaliwini**Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deff*) and confidence intervals for selected indicators, Suriname, 2010

	MICS Indicator	Value ( <i>r</i> )	Standard error ( <i>se</i> )	Coefficient of variation ( <i>se/r</i> )	Design effect ( <i>deff</i> )	Square root of design effect ( <i>deff</i> )	Weighted count	Unweighted count	Confidence limits	
									<i>r</i> - 2 <i>se</i>	<i>r</i> + 2 <i>se</i>
<b>Households</b>										
Household availability of insecticide-treated nets (ITNs)	3.12	0.6020	0.01754	0.029	1.830	1.353	619	1,427	0.567	0.637
<b>Household members</b>										
Use of improved drinking water sources	4.1	0.6450	0.02801	0.043	4.885	2.210	2,341	1,427	0.589	0.701
Use of improved sanitation	4.3	0.2478	0.02624	0.106	5.268	2.295	2,341	1,427	0.195	0.300
Secondary school net attendance ratio (adjusted)	7.5	0.1444	0.01567	0.109	1.099	1.048	240	554	0.113	0.176
Child labour	8.2	0.2946	0.01972	0.067	3.010	1.735	698	1,609	0.255	0.334
Prevalence of children with one or both parents dead	9.18	0.0362	0.00556	0.154	2.602	1.613	1,273	2,932	0.025	0.047
Violent discipline	8.5	0.9153	0.01134	0.012	1.514	1.231	989	913	0.893	0.938
<b>Women</b>										
Pregnant women	-	0.0819	0.00763	0.093	0.877	0.937	461	1,135	0.067	0.097
Pregnant women sleeping under insecticide-treated nets (ITNs)	3.19	0.5165	0.05403	0.105	1.052	1.026	37	91	0.408	0.625
Contraceptive prevalence	5.3	0.2515	0.02475	0.098	1.666	1.291	208	513	0.202	0.301
Unmet need	5.4	0.3392	0.02606	0.077	1.551	1.245	208	513	0.287	0.391
Antenatal care coverage - at least once by skilled personnel	5.5a	0.7889	0.02869	0.036	1.775	1.332	146	360	0.732	0.846
Antenatal care coverage - at least four times by any provider	5.5b	0.5750	0.02793	0.049	1.146	1.070	146	360	0.519	0.631
Skilled attendant at delivery	5.7	0.7750	0.03622	0.047	2.702	1.644	146	360	0.703	0.847
Institutional deliveries	5.8	0.8694	0.02798	0.032	2.476	1.574	146	360	0.813	0.925
Caesarean section	5.9	0.0972	0.01530	0.157	0.957	0.978	146	360	0.067	0.128
Literacy rate among young women	7.1	0.4629	0.04362	0.094	2.571	1.603	137	337	0.376	0.550
Marriage before age 18	8.7	0.5021	0.01683	0.034	1.072	1.036	385	948	0.468	0.536
Polygyny	8.9	0.2437	0.02397	0.098	1.596	1.264	208	513	0.196	0.292
Comprehensive knowledge about HIV prevention among young people	9.2	0.2077	0.02151	0.104	0.945	0.972	137	337	0.165	0.251
Knowledge of mother-to-child transmission of HIV	9.3	0.5656	0.01626	0.029	1.221	1.105	461	1,135	0.533	0.598
Accepting attitudes towards people living with HIV	9.4	0.0856	0.01049	0.123	1.476	1.215	427	1,051	0.065	0.107
Women who have been tested for HIV and know the results	9.6	0.2106	0.01360	0.065	1.261	1.123	461	1,135	0.183	0.238
Sexually active young women who have been tested for HIV and know the results	9.7	0.2636	0.02472	0.094	0.809	0.900	105	258	0.214	0.313
Sex before age 15 among young women	9.11	0.3264	0.02538	0.078	0.984	0.992	137	337	0.276	0.377
Condom use with non-regular partners	9.16	0.2903	0.04063	0.140	1.234	1.111	63	155	0.209	0.372
<b>Children under age 5</b>										
Underweight prevalence	2.1a	0.0493	0.00647	0.131	0.778	0.882	446	872	0.036	0.062
Stunting prevalence	2.2a	0.1709	0.01391	0.081	1.133	1.064	425	831	0.143	0.199
Wasting prevalence	2.3a	0.0310	0.00512	0.165	0.730	0.854	429	838	0.021	0.041
Exclusive breastfeeding under 6 months	2.6	0.0233	0.02300	0.989	1.980	1.407	44	86	0.000	0.069
Age-appropriate breastfeeding	2.14	0.1830	0.02794	0.153	2.079	1.442	204	399	0.127	0.239
Received polio immunization	-	0.8059	0.02104	0.026	0.668	0.817	121	237	0.764	0.848
Received measles (MMR) immunization	-	0.8289	0.02210	0.027	0.782	0.884	117	228	0.785	0.873
Diarrhoea in the previous 2 weeks	-	0.1276	0.01388	0.109	1.816	1.347	537	1,050	0.100	0.155
Illness with a cough in the previous 2 weeks	-	0.0352	0.00648	0.184	1.297	1.139	537	1,050	0.022	0.048
Fever in last two weeks	-	0.1638	0.01703	0.104	2.222	1.491	537	1,050	0.130	0.198
Oral rehydration therapy with continued feeding	3.8	0.6194	0.03935	0.064	0.874	0.935	69	134	0.541	0.698
Antibiotic treatment of suspected pneumonia	3.10	*	*	*	*	*	19	37	*	*
Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.4430	0.02654	0.060	2.801	1.674	502	982	0.390	0.496
Anti-malarial treatment of children under age 5	3.18	0.0000	0.00000	0.000	na	na	88	172	0.000	0.000
Support for learning	6.1	0.4468	0.02955	0.066	1.523	1.234	221	432	0.388	0.506
Attendance to early childhood education	6.7	0.1644	0.02618	0.159	2.150	1.466	221	432	0.112	0.217
Birth registration	8.1	0.9705	0.00583	0.006	1.245	1.116	537	1,050	0.959	0.982

## Appendix D. Data Quality Tables

<b>Table DQ.1: Age distribution of household population</b>													
Single-year age distribution of household population by sex, Suriname, 2010													
	Males		Females		Missing		Age	Males		Females		Missing	
	Number	Percent	Number	Percent	Number	Percent		Number	Percent	Number	Percent	Number	Percent
0	298	2.1	264	1.8	0	0.0	43	171	1.2	203	1.4	0	0.0
1	332	2.4	320	2.2	1	40.5	44	177	1.3	169	1.2	0	0.0
2	296	2.1	269	1.9	0	0.0	45	171	1.2	224	1.6	0	0.0
3	292	2.1	314	2.2	0	0.0	46	179	1.3	196	1.4	0	0.0
4	240	1.7	283	2.0	0	0.0	47	190	1.4	167	1.2	0	0.0
5	285	2.0	226	1.6	0	0.0	48	186	1.3	159	1.1	0	0.0
6	237	1.7	258	1.8	0	0.0	49	189	1.3	170	1.2	0	0.0
7	315	2.2	304	2.1	0	0.0	50	161	1.1	138	1.0	0	0.0
8	308	2.2	285	2.0	0	0.0	51	158	1.1	161	1.1	0	0.0
9	315	2.2	278	1.9	0	0.0	52	111	0.8	160	1.1	0	0.0
10	297	2.1	248	1.7	0	0.0	53	115	0.8	123	0.9	0	0.0
11	300	2.1	259	1.8	0	0.0	54	110	0.8	128	0.9	0	0.0
12	311	2.2	259	1.8	0	0.0	55	109	0.8	134	0.9	0	0.0
13	333	2.4	273	1.9	0	0.0	56	100	0.7	108	0.7	0	0.0
14	278	2.0	238	1.7	0	0.0	57	113	0.8	106	0.7	0	0.0
15	217	1.5	229	1.6	0	0.0	58	102	0.7	113	0.8	0	0.0
16	229	1.6	237	1.6	0	0.0	59	102	0.7	127	0.9	0	0.0
17	235	1.7	278	1.9	0	0.0	60	101	0.7	97	0.7	0	0.0
18	238	1.7	299	2.1	0	0.0	61	99	0.7	84	0.6	0	29.8
19	214	1.5	256	1.8	0	0.0	62	92	0.7	78	0.5	0	0.0
20	261	1.9	258	1.8	0	0.0	63	54	0.4	84	0.6	0	0.0
21	212	1.5	240	1.7	0	0.0	64	84	0.6	88	0.6	0	0.0
22	215	1.5	259	1.8	0	0.0	65	69	0.5	74	0.5	0	0.0
23	214	1.5	218	1.5	0	0.0	66	63	0.4	79	0.5	0	0.0
24	229	1.6	235	1.6	0	0.0	67	50	0.4	60	0.4	0	0.0
25	196	1.4	278	1.9	0	0.0	68	69	0.5	73	0.5	0	0.0
26	221	1.6	225	1.6	0	0.0	69	42	0.3	80	0.6	0	0.0
27	249	1.8	225	1.6	0	0.0	70	48	0.3	77	0.5	0	29.8
28	189	1.4	206	1.4	0	0.0	71	49	0.3	52	0.4	0	0.0
29	191	1.4	226	1.6	0	0.0	72	58	0.4	44	0.3	0	0.0
30	201	1.4	184	1.3	0	0.0	73	55	0.4	55	0.4	0	0.0
31	183	1.3	173	1.2	0	0.0	74	43	0.3	74	0.5	0	0.0
32	161	1.1	166	1.2	0	0.0	75	35	0.3	47	0.3	0	0.0
33	157	1.1	190	1.3	0	0.0	76	29	0.2	40	0.3	0	0.0
34	169	1.2	234	1.6	0	0.0	77	31	0.2	33	0.2	0	0.0
35	182	1.3	190	1.3	0	0.0	78	32	0.2	30	0.2	0	0.0
36	171	1.2	230	1.6	0	0.0	79	43	0.3	37	0.3	0	0.0
37	211	1.5	185	1.3	0	0.0	80+	118	0.8	197	1.4	0	0.0
38	166	1.2	207	1.4	0	0.0	DK/ Missing	213	1.5	75	0.5	0	0.0
39	195	1.4	173	1.2	0	0.0							
40	201	1.4	193	1.3	0	0.0							
41	196	1.4	193	1.3	0	0.0							
42	158	1.1	186	1.3	0	0.0	<b>Total</b>	<b>14,021</b>	<b>100.0</b>	<b>14,398</b>	<b>100.0</b>	<b>1</b>	<b>100.0</b>

Figure DQ.1: Number of household population by single ages, Suriname, 2010



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, Suriname, 2010

Age	Household population of women age 10-54 years	Interviewed women age 15-49 years		Percentage of eligible women interviewed (Completion rate)
	Number	Number	Percent	
10-14	1,276	na	na	na
15-19	1,299	1,104	17.2	85.0
20-24	1,210	1,009	15.7	83.4
25-29	1,160	991	15.5	85.4
30-34	947	831	13.0	87.8
35-39	985	868	13.5	88.1
40-44	945	847	13.2	89.6
45-49	915	756	11.8	82.6
50-54	711	na	na	na
<b>Total (15-49)</b>	<b>7,461</b>	<b>6,406</b>	<b>100.0</b>	<b>85.9</b>
Ratio of 50-54 to 45-49	0.78			

**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, Suriname, 2010

	<b>Household population of children 0-7 years</b>	<b>Interviewed under-5 children</b>		Percentage of eligible under-5s interviewed (Completion rate)
	Number	Number	Percent	
<b>Age</b>				
0	562	537	19.4	95.4
1	653	623	22.6	95.5
2	565	534	19.3	94.6
3	606	580	21.0	95.7
4	523	489	17.7	93.5
5	511	na	na	na
6	495	na	na	na
7	619	na	na	na
<b>Total (0-4)</b>	<b>2,908</b>	<b>2,763</b>	<b>100.0</b>	<b>95.0</b>
Ratio of 5 to 4	0.98			

**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, Suriname, 2010

	Household population of women age 15-49 years		Interviewed women age 15-49 years		Percent of eligible women interviewed (Completion rates)
	Number	Percent	Number	Percent	
<b>Region</b>					
Paramaribo	3,661	49.1	3,060	47.8	83.6
Wanica	1,442	19.3	1,261	19.7	87.5
Nickerie	545	7.3	483	7.5	88.6
Coronie	35	0.5	32	0.5	90.6
Saramacca	230	3.1	205	3.2	89.3
Commewijne	347	4.7	302	4.7	86.9
Marowijne	246	3.3	215	3.4	87.6
Para	251	3.4	213	3.3	84.7
Brokopondo	165	2.2	141	2.2	85.5
Sipaliwini	538	7.2	493	7.7	91.6
<b>Area</b>					
Urban	5,480	73.4	4,655	72.7	85.0
Rural Coastal	1,278	17.1	1,117	17.4	87.4
Rural interior	703	9.4	634	9.9	90.2
Total Rural	1,981	26.6	1,751	27.3	88.4
<b>Household size</b>					
1-3	1,894	25.4	1,700	26.5	89.8
4-6	3,994	53.5	3,423	53.4	85.7
7+	1,572	21.1	1,282	20.0	81.5
<b>Education of household head</b>					
None	653	8.8	562	8.8	86.0
Primary	2,173	29.1	1,891	29.5	87.0
Secondary +	4,146	55.6	3,551	55.4	85.6
Other/Non-standard	104	1.4	89	1.4	85.7
Missing/DK	385	5.2	313	4.9	81.3
<b>Wealth index quintiles</b>					
Poorest	1,310	17.6	1,166	18.2	89.0
Second	1,463	19.6	1,252	19.5	85.5
Middle	1,510	20.2	1,292	20.2	85.6
Fourth	1,577	21.1	1,344	21.0	85.2
Richest	1,601	21.5	1,352	21.1	84.5
<b>Ethnicity of household head</b>					
Indigenous/Amerindian	282	3.8	254	4.0	90.0
Maroon	1,818	24.4	1,560	24.4	85.8
Creole	1,294	17.3	1,067	16.7	82.5
Hindustani	2,149	28.8	1,876	29.3	87.3
Javanese	1,025	13.7	882	13.8	86.1
Mixed	733	9.8	628	9.8	85.7
Others	153	2.1	133	2.1	86.6
Missing/DK	6	0.1	5	0.1	80.3
<b>Total</b>	<b>7,461</b>	<b>100.0</b>	<b>6,406</b>	<b>100.0</b>	<b>85.9</b>

**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, Suriname, 2010

	Household population of under-5 children		Interviewed under-5 children		Percent of eligible under-5s with completed under-5 questionnaires (Completion rates)
	Number	Percent	Number	Percent	
<b>Region</b>					
Paramaribo	1,127	38.7	1,057	38.2	93.8
Wanica	527	18.1	497	18.0	94.2
Nickerie	161	5.5	157	5.7	97.6
Coronie	13	0.4	12	0.4	95.7
Saramacca	80	2.8	77	2.8	95.9
Commewijne	105	3.6	102	3.7	96.8
Marowijne	169	5.8	161	5.8	95.5
Para	108	3.7	103	3.7	95.1
Brokopondo	151	5.2	142	5.1	93.8
Sipaliwini	468	16.1	456	16.5	97.4
<b>Area</b>					
Urban	1,759	60.5	1,659	60.0	94.3
Rural Coastal	530	18.2	506	18.3	95.5
Rural interior	619	21.3	598	21.6	96.5
Total Rural	1,149	39.5	1,104	40.0	96.0
<b>Household size</b>					
1-3	394	13.5	385	13.9	97.6
4-6	1,539	52.9	1,477	53.5	95.9
7+	975	33.5	901	32.6	92.4
<b>Education of household head</b>					
None	459	15.8	441	16.0	96.1
Primary	919	31.6	860	31.1	93.5
Secondary +	1,323	45.5	1,265	45.8	95.6
Other/Non-standard	34	1.2	32	1.2	95.1
Missing/DK	173	6.0	165	6.0	95.0
<b>Wealth index quintiles</b>					
Poorest	1,007	34.6	960	34.7	95.3
Second	591	20.3	562	20.4	95.2
Middle	502	17.2	468	17.0	93.4
Fourth	441	15.2	416	15.1	94.4
Richest	369	12.7	356	12.9	96.5
<b>Ethnicity of household head</b>					
Indigenous/Amerindian	129	4.4	128	4.6	99.1
Maroon	1,238	42.6	1,167	42.2	94.2
Creole	376	12.9	355	12.9	94.5
Hindustani	561	19.3	535	19.4	95.4
Javanese	304	10.5	288	10.4	94.5
Mixed	262	9.0	256	9.3	97.5
Others	35	1.2	31	1.1	89.0
Missing/DK	3	0.1	3	0.1	100.0
<b>Total</b>	<b>2,908</b>	<b>100.0</b>	<b>2,763</b>	<b>100.0</b>	<b>95.0</b>

**Table DQ.6: Completeness of reporting**

Percentage of observations that are missing information for selected questions and indicators, Suriname, 2010

Questionnaire and type of missing information	Reference group	Percent with missing/incomplete information*	Number of cases
<b>Household</b>			
Age	All household members	1.4	28,783
Starting time of interview	All households interviewed	1.7	7,407
Ending time of interview	All households interviewed	2.0	7,407
<b>Women</b>			
Woman's date of birth	All women age 15-49		
Only month		0.1	6,290
Both month and year		0.0	6,290
Date of last birth	All women age 15-49 with a live birth in last 2 years		
Only month		0.4	4,078
Both month and year		0.2	4,078
Date of first marriage/union	All ever married women age 15-49		
Only month		18.5	4,292
Both month and year		19.3	4,292
Age at first marriage/union	All ever married women age 15-49 with year of first marriage not known	2.9	4,292
Age at first intercourse	All women age 15-24 who have ever had sex	1.3	1,284
Time since last intercourse	All women age 15-24 who have ever had sex	1.6	1,284
Starting time of interview	All women interviewed	1.3	6,290
Ending time of interview	All women interviewed	1.9	6,290
<b>Under-5</b>			
Date of birth	All under-5 children		
Only month		0.3	3,308
Both month and year		0.0	3,308
Anthropometric measurements	All under-5 children		
Weight		12.8	3,308
Height		16.3	3,308
Both weight and height		12.6	3,308
Starting time of interview	All under-5 children	2.5	3,308
Ending time of interview	All under-5 children	3.3	3,308

\* Includes "Don't know" responses

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

Distribution of children under 5 by completeness of information for anthropometric indicators, Suriname, 2010

	Valid weight and date of birth	Reason for exclusion from analysis					Total	Percent of children excluded from analysis	Number of children under 5
		Weight not measured	Incomplete date of birth	Weight measured, incomplete of birth	and not date	Flagged cases (outliers)			
<b>Weight by age</b>									
<6 months	84.5	14.8	0.0	0.0		0.7	100.0	15.5	304
6-11 months	89.7	9.7	0.3	0.0		0.3	100.0	10.3	351
12-23 months	87.5	12.1	0.1	0.1		0.1	100.0	12.5	711
24-35 months	83.3	16.1	0.5	0.0		0.2	100.0	16.7	657
36-47 months	82.3	16.6	0.6	0.3		0.3	100.0	17.7	699
48-59 months	84.6	14.2	0.9	0.3		0.0	100.0	15.4	586
<b>Total</b>	<b>85.0</b>	<b>14.2</b>	<b>0.4</b>	<b>0.2</b>		<b>0.2</b>	<b>100.0</b>	<b>15.0</b>	<b>3,308</b>
	Valid height and date of birth	Reason for exclusion from analysis					Total	Percent of children excluded from analysis	Number of children under 5
		Height not measured	Incomplete date of birth	Height measured, incomplete of birth	and not date	Flagged cases (outliers)			
<b>Height by age</b>									
<6 months	77.3	21.1	0.0	0.0		1.6	100.0	22.7	304
6-11 months	87.2	11.4	0.3	0.0		1.1	100.0	12.8	351
12-23 months	82.0	17.4	0.1	0.1		0.3	100.0	18.0	711
24-35 months	78.1	21.0	0.3	0.2		0.5	100.0	21.9	657
36-47 months	81.3	17.3	0.6	0.3		0.6	100.0	18.7	699
48-59 months	84.0	14.8	0.9	0.3		0.0	100.0	16.0	586
<b>Total</b>	<b>81.5</b>	<b>17.4</b>	<b>0.4</b>	<b>0.2</b>		<b>0.5</b>	<b>100.0</b>	<b>18.5</b>	<b>3,308</b>
	Valid weight and height	Reason for exclusion from analysis					Total	Percent of children excluded from analysis	Number of children under 5
		Weight not measured	Height not measured	Weight height measured	and not	Flagged cases (outliers)			
<b>Weight by height</b>									
<6 months	74.3	0.3	6.6	14.5		4.3	100.0	25.7	304
6-11 months	86.9	0.0	1.7	9.7		1.4	100.0	12.8	351
12-23 months	81.3	0.4	5.8	11.7		0.7	100.0	18.6	711
24-35 months	78.1	0.3	5.2	15.8		0.3	100.0	21.6	657
36-47 months	79.8	0.9	1.6	15.7		1.4	100.0	19.6	699
48-59 months	83.6	0.2	0.9	14.0		0.7	100.0	15.7	586
<b>Total</b>	<b>80.7</b>	<b>0.4</b>	<b>3.5</b>	<b>13.8</b>		<b>1.2</b>	<b>100.0</b>	<b>18.9</b>	<b>3,308</b>



**Table DQ.8: Heaping in anthropometric measurements**

Distribution of weight and height/length measurements by digits reported for decimals, Suriname, 2010

Digits	Weight		Height or length	
	Number	Percent	Number	Percent
0	299	10.6	784	27.5
1	286	10.1	230	8.1
2	252	8.9	278	9.8
3	292	10.3	288	10.1
4	291	10.3	272	9.6
5	309	10.9	316	11.1
6	293	10.3	225	7.9
7	260	9.2	171	6.0
8	282	10.0	126	4.4
9	269	9.5	156	5.5
0 or 5	608	21.5	1,100	38.7
<b>Total</b>	<b>2,833</b>	<b>100.0</b>	<b>2,846</b>	<b>100.0</b>

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

Percentage of bednets in all households interviewed observed by the interviewer (in Brokopondo and Sipaliwini only), and percentage of places for handwashing observed by the interviewer in all interviewed households, Suriname, 2010

	Percentage of bednets observed by interviewer	Total number of bednets	Place for handwashing				Total	Number of households interviewed
			Observed	Not observed	Not in the dwelling, plot, or yard	No permission to see		
<b>Region</b>								
Paramaribo	na	na	76.3	7.3	11.9	4.3	100.0	2,184
Wanica	na	na	75.2	8.6	10.0	5.8	100.0	757
Nickerie	na	na	86.1	2.7	2.3	9.0	100.0	789
Coronie	na	na	77.4	6.5	10.8	5.4	100.0	93
Saramacca	na	na	67.0	14.2	14.8	3.6	100.0	445
Commewijne	na	na	67.2	11.7	12.2	8.9	100.0	418
Marowijne	na	na	76.2	14.8	4.9	3.8	100.0	446
Para	na	na	60.3	27.0	9.7	2.7	100.0	411
Brokopondo	38.2	531	61.1	29.7	2.1	7.1	100.0	437
Sipaliwini	31.2	2,030	56.5	33.7	1.0	8.8	100.0	1,427
<b>Area</b>								
Urban	na	na	76.0	7.4	11.2	5.2	100.0	3,176
Rural Coastal	na	na	73.5	12.9	7.9	5.5	100.0	2,367
Rural interior	32.9	2,561	57.6	32.8	1.2	8.4	100.0	1,864
Total Rural	na	na	66.5	21.7	4.9	6.8	100.0	4,231
<b>Wealth index quintiles</b>								
Poorest	32.2	2,246	58.8	30.9	2.6	7.6	100.0	2,457
Second	37.1	263	70.2	15.9	9.1	4.5	100.0	1,423
Middle	44.4	44	77.8	6.7	10.1	5.3	100.0	1,272
Fourth	80.0	5	78.8	4.4	10.7	5.8	100.0	1,181
Richest	0.0	3	80.3	2.8	10.8	6.0	100.0	1,074
<b>Total</b>	<b>32.9</b>	<b>2,561</b>	<b>70.6</b>	<b>15.6</b>	<b>7.6</b>	<b>6.1</b>	<b>100.0</b>	<b>7,407</b>

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

Percent distribution of women with a live birth in the last 2 years by presence of a health card, and the percentage of health cards seen by the interviewers, Suriname, 2010

	Woman does not have health card	Woman has health card			Total	Percent of health cards seen by the interviewer (1)/(1+2)*100	Number of women with a live birth in the last two years
		Seen by the interviewer (1)	Not seen by the interviewer (2)	Missing/DK			
<b>Region</b>							
Paramaribo	34.2	19.6	43.8	2.3	100.0	30.9	260
Wanica	33.3	15.8	48.2	2.6	100.0	24.7	114
Nickerie	35.2	17.0	46.6	1.1	100.0	26.8	88
Coronie	28.6	14.3	57.1	0.0	100.0	20.0	7
Saramacca	12.3	22.8	64.9	0.0	100.0	26.0	57
Commewijne	27.1	18.8	52.1	2.1	100.0	26.5	48
Marowijne	34.8	5.3	56.1	3.8	100.0	8.6	132
Para	31.8	9.1	57.6	1.5	100.0	13.6	66
Brokopondo	60.9	4.5	33.1	1.5	100.0	12.0	133
Sipaliwini	53.3	8.1	34.4	4.2	100.0	19.0	360
<b>Area</b>							
Urban	33.3	18.4	46.2	2.2	100.0	28.5	403
Rural Coastal	30.6	12.5	54.7	2.2	100.0	18.5	369
Rural interior	55.4	7.1	34.1	3.4	100.0	17.2	493
Total Rural	44.8	9.4	42.9	2.9	100.0	18.0	862
<b>Wealth index quintiles</b>							
Poorest	51.3	8.1	37.4	3.3	100.0	17.7	645
Second	30.7	18.1	46.0	5.1	100.0	28.3	215
Middle	30.2	16.6	52.7	0.6	100.0	23.9	169
Fourth	29.5	17.4	53.0	0.0	100.0	24.7	132
Richest	31.7	12.5	54.8	1.0	100.0	18.6	104
<b>Total</b>	<b>41.1</b>	<b>12.3</b>	<b>44.0</b>	<b>2.7</b>	<b>100.0</b>	<b>21.8</b>	<b>1,265</b>

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

Percent distribution of children under 5 by presence of birth certificates, and percentage of birth calendar seen, Suriname, 2010

	Child does not have birth certificate	Child has birth certificate			Total	Percent of birth certificates seen by the interviewer (1)/(1+2)*100	Number of children under age 5
		Seen by the interviewer (1)	Not seen by the interviewer (2)	Don't know/Missing			
<b>Region</b>							
Paramaribo	2.2	51.3	45.9	0.6	100.0	52.8	634
Wanica	2.4	47.5	49.8	0.3	100.0	48.8	295
Nickerie	5.8	45.7	47.5	0.9	100.0	49.0	223
Coronie	9.1	40.9	50.0	0.0	100.0	45.0	22
Saramacca	3.6	40.0	56.4	0.0	100.0	41.5	140
Commewijne	5.9	47.1	47.1	0.0	100.0	50.0	119
Marowijne	13.5	34.3	51.9	0.3	100.0	39.8	318
Para	6.3	41.4	51.1	1.1	100.0	44.7	174
Brokopondo	7.2	48.6	43.2	0.9	100.0	52.9	333
Sipaliwini	8.7	52.9	38.1	0.4	100.0	58.1	1,050
<b>Area</b>							
Urban	2.3	49.6	47.5	0.5	100.0	51.1	993
Rural Coastal	8.5	40.3	50.6	0.5	100.0	44.3	932
Rural interior	8.3	51.8	39.3	0.5	100.0	56.9	1,383
Total Rural	8.4	47.2	43.9	0.5	100.0	51.8	2,315
<b>Child's age</b>							
0	7.2	53.8	38.7	0.3	100.0	58.2	649
1	5.4	50.4	44.0	0.1	100.0	53.4	716
2	6.2	49.5	43.9	0.3	100.0	53.0	658
3	7.0	41.8	50.2	1.0	100.0	45.4	697
4	7.0	44.0	48.1	0.9	100.0	47.8	588
<b>Total</b>	<b>6.6</b>	<b>47.9</b>	<b>45.0</b>	<b>0.5</b>	<b>100.0</b>	<b>51.6</b>	<b>3,308</b>

**Table DQ.12: Observation of vaccination cards**

Percent distribution of children under 5 by presence of a vaccination card, and the percentage of vaccination cards seen by the interviewers, Suriname, 2010

	Child does not have vaccination card		Child has vaccination card			Total	Percent of vaccination cards seen by the interviewer (1)/(1+2)*100	Number of children under age 5
	Had vaccination card previously	Never had vaccination card	Seen by the interviewer (1)	Not seen by the interviewer (2)	Don't know/Missing			
<b>Region</b>								
Paramaribo	0.3	3.5	77.3	18.8	0.2	100.0	80.5	634
Wanica	0.3	2.4	80.7	16.6	0.0	100.0	82.9	295
Nickerie	0.9	1.8	88.8	8.5	0.0	100.0	91.2	223
Coronie	4.5	4.5	86.4	4.5	0.0	100.0	95.0	22
Saramacca	0.7	5.0	75.0	19.3	0.0	100.0	79.5	140
Commewijne	0.8	2.5	82.4	14.3	0.0	100.0	85.2	119
Marowijne	1.3	9.7	59.1	29.6	0.3	100.0	66.7	318
Para	0.0	1.1	79.9	19.0	0.0	100.0	80.8	174
Brokopondo	0.9	7.5	64.6	27.0	0.0	100.0	70.5	333
Sipaliwini	0.7	3.4	74.3	21.3	0.3	100.0	77.7	1,050
<b>Area</b>								
Urban	0.3	2.9	79.2	17.5	0.1	100.0	81.9	993
Rural Coastal	1.0	5.2	73.9	19.8	0.1	100.0	78.8	932
Rural interior	0.7	4.4	71.9	22.7	0.2	100.0	76.0	1,383
Total Rural	0.8	4.7	72.7	21.6	0.2	100.0	77.1	2,315
<b>Child's age</b>								
0	1.5	18.6	65.8	13.9	0.2	100.0	82.6	649
1	0.3	1.3	81.8	16.3	0.3	100.0	83.4	716
2	0.8	0.2	77.7	21.3	0.2	100.0	78.5	658
3	0.1	0.6	73.5	25.7	0.1	100.0	74.1	697
4	0.7	0.5	73.8	25.0	0.0	100.0	74.7	588
<b>Total</b>	<b>0.7</b>	<b>4.2</b>	<b>74.7</b>	<b>20.3</b>	<b>0.2</b>	<b>100.0</b>	<b>78.6</b>	<b>3,308</b>

**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, Suriname, 2010

Age	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	Father interviewed	Other adult female interviewed	Other adult male interviewed		
0	97.5	0.1	0.2	0.0	0.0	2.2	0.0	100.0	562
1	93.6	0.3	0.2	0.3	0.1	5.5	0.0	100.0	653
2	92.5	0.1	0.5	0.0	0.0	6.7	0.2	100.0	565
3	90.0	0.2	0.1	0.3	0.2	8.9	0.4	100.0	606
4	90.9	0.1	0.4	0.0	0.2	8.4	0.0	100.0	523
<b>Total</b>	<b>92.9</b>	<b>0.1</b>	<b>0.3</b>	<b>0.1</b>	<b>0.1</b>	<b>6.3</b>	<b>0.1</b>	<b>100.0</b>	<b>2,908</b>

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

Percent of households with at least two children age 2-14 years where correct selection of one child for the child discipline module was performed, Suriname, 2010

	Percent of households where correct selection was performed	Number of households with 2 or more children age 2-14 years
<b>Region</b>		
Paramaribo	89.5	486
Wanica	91.3	229
Nickerie	97.3	183
Coronie	100.0	22
Saramacca	91.4	116
Commewijne	91.3	92
Marowijne	81.7	202
Para	87.3	158
Brokopondo	89.3	196
Sipaliwini	88.7	630
<b>Area</b>		
Urban	90.7	778
Rural Coastal	88.9	710
Rural interior	88.9	826
Total Rural	88.9	1,536
<b>Number of children age 2-14 years</b>		
2	92.0	1,117
3	90.8	622
4	83.1	575
<b>Total</b>	<b>89.5</b>	<b>2,314</b>

**Table DQ.15: School attendance by single age**

Distribution of household population age 5-24 by educational level and grade attended in the current (or most recent) school year, Suriname, 2010

Age at beginning of school year	Currently attending													Number of household members														
	Primary school						Secondary school						Other, not regular		Missing/DK	Total												
	Not attending school		Grade				Junior education (MULO, LBGO, Grade)		LTS		Senior education (HAVO, VWO, IMEO, NATIN) Grade						Higher education	Special education										
	Preschool	1	2	3	4	5	6	DK	Special education	1	2	3							4	DK	1	2	3	4	DK			
5	4.9	68.4	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	100.0	477		
6	3.9	5.9	70.5	16.7	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	100.0	611	
7	2.3	0.1	20.6	60.9	13.0	0.8	0.1	0.2	0.2	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	100.0	590	
8	2.3	0.3	4.3	23.3	56.0	11.8	0.2	0.0	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	100.0	601	
9	1.9	0.1	2.3	11.9	27.1	44.9	10.0	0.4	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	100.0	554	
10	2.8	0.1	0.8	6.6	17.7	19.9	40.8	8.8	0.6	0.6	0.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	100.0	555	
11	1.4	0.2	0.2	1.9	10.6	17.3	24.3	36.4	0.2	0.7	0.4	0.5	0.5	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	100.0	571	
12	3.7	0.0	0.1	1.1	5.1	9.0	20.0	24.1	0.1	1.5	25.1	8.6	0.7	0.0	0.3	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	100.0	602	
13	5.3	0.0	0.4	0.3	2.0	7.3	14.5	21.6	0.1	1.6	17.2	22.5	5.9	0.6	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	100.0	529	
14	11.2	0.0	0.0	0.2	1.3	2.0	9.0	9.2	0.0	0.7	25.5	19.0	15.9	4.4	0.0	0.1	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.5	100.0	457
15	16.0	0.0	0.1	0.0	0.8	0.8	2.5	6.6	0.0	0.9	13.7	19.1	18.2	15.4	0.1	2.6	0.9	0.4	0.5	0.0	0.4	0.0	0.0	0.0	1.1	100.0	457	
16	21.5	0.0	0.0	0.0	0.1	0.3	1.5	0.5	0.0	0.3	8.5	15.1	15.7	18.1	0.7	13.6	2.1	1.0	0.1	0.0	0.5	0.0	0.0	0.0	0.4	100.0	495	
17	28.5	0.0	0.0	0.0	0.0	0.1	0.5	0.5	0.0	0.3	3.7	6.8	13.5	17.8	0.0	10.8	11.3	2.9	1.2	0.0	0.0	0.0	0.0	0.9	0.8	100.0	550	
18	28.8	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.0	0.0	1.4	5.8	9.9	17.0	0.0	12.1	13.0	7.4	2.7	0.4	0.0	0.0	1.0	0.0	0.0	100.0	440	
19	43.7	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	1.8	2.1	6.6	9.8	0.0	11.3	8.6	4.1	4.1	0.1	0.0	6.4	0.7	0.3	100.0	531		
20	55.4	0.0	0.0	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.2	1.5	2.4	5.9	0.0	6.8	7.1	7.9	2.4	0.1	0.0	7.0	1.6	0.9	100.0	458		
21	59.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	1.3	5.4	0.4	4.0	5.4	5.7	3.0	0.5	0.1	13.0	0.7	0.5	100.0	457		
22	68.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.1	1.0	4.5	0.0	4.8	5.8	1.3	1.7	0.1	0.0	10.8	0.7	0.0	100.0	418		
23	67.9	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.8	0.8	0.0	3.3	5.1	2.4	1.8	0.0	0.0	15.2	1.0	0.0	100.0	497		
24	76.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.1	3.1	0.0	0.0	14.0	0.0	0.0	100.0	470		

## Appendix E. Suriname MICS4 Indicators: Numerators and Denominators

MICS4 INDICATOR		Numerator	Denominator	MDG <sup>28</sup>
<b>2. NUTRITION</b>				
2.1a	Underweight prevalence	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
2.1b				
2.2a	Stunting prevalence	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	
2.2b				
2.3a	Wasting prevalence	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	
2.3b				
2.4	Children ever breastfed	Number of women with a live birth in the 2 years preceding the survey who breastfed the child at any time	Total number of women with a live birth in the 2 years preceding the survey	
2.5	Early initiation of breastfeeding	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	Number of infants under 6 months of age who are exclusively breastfed	Total number of infants under 6 months of age	
2.7	Continued breastfeeding at 1 year	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	Number of children age 20-23 months who are currently breastfeeding	Total number of children age 20-23 months	
2.9	Predominant breastfeeding under 6 months	Number of infants under 6 months of age who received breast milk as the predominant source of nourishment during the previous day	Total number of infants under 6 months of age	
2.10	Duration of breastfeeding	The age in months when 50 percent of children age 0-35 months did not receive breast milk during the previous day		
2.11	Bottle feeding	Number of children age 0-23 months who were fed with a bottle during the previous day	Total number of children age 0-23 months	

<sup>28</sup> MDG indicators as of February 2010

MICS4 INDICATOR		Numerator	Denominator	MDG <sup>28</sup>
2.12	Introduction of solid, semi-solid or soft foods	Number of infants age 6-8 months who received solid, semi-solid or soft foods during the previous day	Total number of infants age 6-8 months	
2.13	Minimum meal frequency	Number of children age 6-23 months receiving solid, semi-solid and soft foods (plus milk feeds for non-breastfed children) the minimum times or more, according to breastfeeding status, during the previous day	Total number of children age 6-23 months	
2.14	Age-appropriate breastfeeding	Number of children age 0-23 months appropriately fed during the previous day	Total number of children age 0-23 months	
2.15	Milk feeding frequency for non-breastfed children	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	
2.18	Low-birthweight infants	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	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	
<b>3. CHILD HEALTH</b>				
3.2	Polio immunization coverage	Number of children age 12-23 months who received OPV3 vaccine before their first birthday	Total number of children age 12-23 months	
3.4	Measles (MMR) immunization coverage	Number of children age 12-23 months who received measles (MMR) vaccine before their first birthday	Total number of children age 12-23 months	MDG 4.3
3.6	Yellow fever immunization coverage	Number of children age 12-23 months who received yellow fever vaccine before their first birthday	Total number of children age 12-23 months	
3.7	Neonatal tetanus protection	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 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	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	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	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	Number of household members in households that use solid fuels as the primary source of domestic energy to cook	Total number of household members	



MICS4 INDICATOR		Numerator	Denominator	MDG <sup>28</sup>
3.12	Household availability of insecticide-treated nets (ITNs)	Number of households with at least one insecticide treated net (ITN)	Total number of households	
3.13	Households protected by a vector control method	Number of households with at least one insecticide-treated net (ITN) or that received spraying through an IRS campaign in the last 12 months preceding the survey	Total number of households	
3.14	Children under age 5 sleeping under any type of mosquito net	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)	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
3.16	Malaria diagnostics usage	Number of children under age 5 reported to have had fever in the previous 2 weeks who had a finger or heel stick for malaria testing	Total number of children under age 5 reported to have had fever in the previous 2 weeks	
3.17	Anti-malarial treatment of children under age 5 the same or next day	Number of children under age 5 reported to have had fever in the previous 2 weeks who were treated with any anti-malarial drug within the same or next day of onset of symptoms	Total number of children under age 5 reported to have had fever in the previous 2 weeks	
3.18	Anti-malarial treatment of children under age 5	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)	Number of pregnant women who slept under an insecticide-treated net (ITN) the previous night	Total number of pregnant women	
<b>4. WATER AND SANITATION</b>				
4.1	Use of improved drinking water sources	Number of household members using improved sources of drinking water	Total number of household members	MDG 7.8
4.2	Water treatment	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	Number of household members using improved sanitation facilities which are not shared	Total number of household members	MDG 7.9
4.4	Safe disposal of child's faeces	Number of children age 0-2 years whose last stools were disposed of safely	Total number of children age 0-2 years	
4.5	Place for handwashing	Number of households with a specific place for hand washing where water and soap are present	Total number of households	
4.6	Availability of soap	Number of households with soap anywhere in the dwelling	Total number of households	
<b>5. REPRODUCTIVE HEALTH</b>				

MICS4 INDICATOR		Numerator	Denominator	MDG <sup>28</sup>
5.3	Contraceptive prevalence rate	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	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	Number of women age 15-49 years who were attended during pregnancy in the 2 years preceding the survey (a) at least once by skilled personnel (b) at least four times by any provider	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	MDG 5.5
5.6	Content of antenatal care	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who had their blood pressure measured and gave urine and blood samples during the last pregnancy	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
5.7	Skilled attendant at delivery	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	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who delivered in a health facility	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
5.9	Caesarean section	Number of last live births in the 2 years preceding the survey who were delivered by caesarean section	Total number of last live births in the 2 years preceding the survey	
<b>6. CHILD DEVELOPMENT</b>				
6.1	Support for learning	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	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	Number of children under age 5 who have three or more children's books	Total number of children under age 5	
6.4	Learning materials: playthings	Number of children under age 5 with two or more playthings	Total number of children under age 5	
6.5	Inadequate care	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	

MICS4 INDICATOR		Numerator	Denominator	MDG <sup>28</sup>
6.6	Early child development index	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	Number of children age 36-59 months who are attending an early childhood education programme	Total number of children age 36-59 months	
<b>7. LITERACY AND EDUCATION</b>				
7.1	Literacy rate among young women	Number of women age 15-24 years who are able to read a short simple statement about everyday life or who attended secondary or higher education	Total number of women age 15-24 years	MDG 2.3
7.2	School readiness	Number of children in first grade of primary school who attended pre-school during the previous school year	Total number of children attending the first grade of primary school	
7.3	Net intake rate in primary education	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)	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)	Number of children of secondary school age currently attending secondary school or higher	Total number of children of secondary school age	
7.6	Children reaching last grade of primary	Proportion of children entering the first grade of primary school who eventually reach last grade		MDG 2.2
7.7	Primary completion rate	Number of children attending the last grade of primary school (excluding repeaters)	Total number of children of primary school completion age (age appropriate to final grade of primary school)	
7.8	Transition rate to secondary school	Number of children attending the last grade of primary school during the previous school year who are in the first grade of secondary school during the current school year	Total number of children attending the last grade of primary school during the previous school year	
7.9	Gender parity index (primary school)	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)	Secondary school net attendance ratio (adjusted) for girls	Secondary school net attendance ratio (adjusted) for boys	MDG 3.1
<b>8. CHILD PROTECTION</b>				
8.1	Birth registration	Number of children under age 5 whose births are reported registered	Total number of children under age 5	
8.2	Child labour	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	Number of children age 5-14 years who are involved in child labour and are currently attending school	Total number of children age 5-14 years involved in child labour	

MICS4 INDICATOR		Numerator	Denominator	MDG <sup>28</sup>
8.4	Child labour among students	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	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	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	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	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	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	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	
8.14	Attitudes towards domestic violence	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	
<b>9. HIV/AIDS, SEXUAL BEHAVIOUR AND ORPHANS</b>				
9.1	Comprehensive knowledge about HIV prevention	Number of women age 15-49 years who correctly identify two ways of preventing HIV infection, 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	Number of women age 15-24 years who correctly identify two ways of preventing HIV infection <sup>12</sup> , 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	Number of women age 15-49 years who correctly identify all three means of mother-to-child transmission of HIV	Total number of women age 15-49 years	
9.4	Accepting attitudes towards people living with HIV	Number of women age 15-49 years expressing accepting attitudes on all four questions toward people living with HIV	Total number of women age 15-49 years who have heard of HIV	

MICS4 INDICATOR		Numerator	Denominator	MDG <sup>28</sup>
9.5	Women who know where to be tested for HIV	Number of women age 15-49 years who state knowledge of a place to be tested for HIV	Total number of women age 15-49 years	
9.6	Women who have been tested for HIV and know the results	Number of women age 15-49 years who have been tested for HIV in the 12 months preceding the survey and who know their results	Total number of women age 15-49 years	
9.7	Sexually active young women who have been tested for HIV and know the results	Number of women age 15-24 years who have had sex in the 12 months preceding the survey, who have been tested for HIV in the 12 months preceding the survey and who know their results	Total number of women age 15-24 years who have had sex in the 12 months preceding the survey	
9.8	HIV counselling during antenatal care	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	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	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	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	Number of women age 15-24 years who had sex in the 12 months preceding the survey with a partner who was 10 or more years older	Total number of women age 15-24 years who have had sex in the 12 months preceding the survey	
9.13	Sex with multiple partners	Number of women age 15-49 years who have had sexual intercourse with more than one partner in the 12 months preceding the survey	Total number of women age 15-49 years	
9.14	Condom use during sex with multiple partners	Number of women age 15-49 years who report having had more than one sexual partner in the 12 months preceding the survey who also reported that a condom was used the last time they had sex	Total number of women age 15-49 years who reported having had more than one sexual partner in the 12 months preceding the survey	
9.15	Sex with non-regular partners	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	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	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 one or both parents dead	Number of children age 0-17 years with one or both parents dead	Total number of children age 0-17 years	

MICS4 INDICATOR		Numerator	Denominator	MDG <sup>28</sup>
9.20	School attendance of non-orphans	Number of children age 10-14 years, whose parents are alive, who are living with one or both parents, and who are attending school	Total number of children age 10-14 years, whose parents are alive, and who are living with one or both parents	MDG 6.4
<b>10. ACCESS TO MASS MEDIA AND USE OF INFORMATION/COMMUNICATION TECHNOLOGY</b>				
MT.1	Exposure to mass media	Number of women age 15-49 years who, at least once a week, read a newspaper or magazine, listen to the radio, and watch television	Total number of women age 15-49 years	
MT.2	Use of computers	Number of young women age 15-24 years who used a computer during the last 12 months	Total number of women age 15-24 years	
MT.3	Use of internet	Number of young women age 15-24 who used the internet during the last 12 months	Total number of women age 15-24 years	

## Appendix F. Questionnaires



## HOUSEHOLD QUESTIONNAIRE

[SURINAME]

HOUSEHOLD INFORMATION PANEL		HH
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 ..... 1 Rural coastal..... 2 Rural Interior..... 3	HH7. Region: Paramaribo..... 01 Wanica..... 02 Nickerie..... 03 Coronie..... 04 Saramacca..... 05 Commewijne..... 06 Marowijne..... 07 Para..... 08 Brokopondo..... 09 Sipaliwini..... 10	

WE ARE FROM THE **General Bureau of Statistics**. IN COOPERATION WITH THE MINISTRY OF SOCIAL AFFAIRS AND HOUSING WE ARE WORKING ON A PROJECT CONCERNED WITH FAMILY HEALTH AND EDUCATION. I WOULD LIKE TO TALK TO YOU ABOUT THESE SUBJECTS. THE INTERVIEW WILL TAKE ABOUT **35** MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE SHARED WITH ANYONE OTHER THAN OUR PROJECT TEAM.

MAY I START NOW?

- Yes, permission is given ⇨ Go to HH18 to record the time and then begin the interview.
- No, permission is not given ⇨ Complete HH9. Discuss this result with your supervisor.

<i>After all questionnaires for the household have been completed, fill in the following information:</i>	
HH8. Name of head of household: _____	
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 Number: _____
HH12. Number of women age 15-49 years: _____	HH11. Total number of household members: _____
	HH13. Number of woman's questionnaires completed: _____

MICS4HH.1





HH18. Record the time. Hour..... Minutes.....		HOUSEHOLD LISTING FORM												HL			
FIRST, PLEASE TELL ME THE NAME OF EACH PERSON WHO USUALLY LIVES HERE, STARTING WITH THE HEAD OF THE HOUSEHOLD. List the head of the household in line 01. List all household members (HL2), their relationship to the household head (HL3), and their sex (HL4). Then ask: ARE THERE ANY OTHERS WHO LIVE HERE, EVEN IF THEY ARE NOT AT HOME NOW? If yes, complete listing for questions HL2-HL4. Then, ask questions starting with HL5 for each person at a time. Use an additional questionnaire if all rows in the household listing form have been used.																	
		For women age 15-49			For children age 5-14		For children under age 5		For all household members			For children age 0-17 years					
HL1. Line number	HL2. Name	HL3. WHAT IS THE RELATIONSHIP OF THE HEAD OF HOUSEHOLD?	HL4. IS (name) MALE OR FEMALE? 1 Male 2 Female	HL5. WHAT IS (name)'S DATE OF BIRTH? 98 DK 9998 DK	HL6. HOW OLD IS (name)? Record in completed years. If age is 95 or above, record '.95'	HL7. Circle line number if woman is age 15-49	HL8. WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD?	HL9. WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD?	HL10. DID (name) STAY HERE LAST NIGHT? 1 Yes 2 No	HL11. IS (name)'S NATURAL MOTHER ALIVE? 1 Yes 2 No 8 DK HL13	HL12. DOES (name)'S NATURAL MOTHER LIVE IN THIS HOUSEHOLD? Record line number of mother or 00 for "No"	HL13. IS (name)'S NATURAL FATHER ALIVE? 1 Yes 2 No 8 DK Next Line	HL14. DOES (name)'S NATURAL FATHER LIVE IN THIS HOUSEHOLD? Record line number of father or 00 for "No"				
Line	Name	Relation*	M	F	Month	Year	Age	Mother	Mother	Y	N	DK	Mother	Y	N	DK	Father
01		0 1	1	2	---	---	01	---	---	1	2	1 2 8	---	---	---	---	---
02		---	1	2	---	---	02	---	---	1	2	1 2 8	---	---	---	---	---
03		---	1	2	---	---	03	---	---	1	2	1 2 8	---	---	---	---	---
04		---	1	2	---	---	04	---	---	1	2	1 2 8	---	---	---	---	---
05		---	1	2	---	---	05	---	---	1	2	1 2 8	---	---	---	---	---
06		---	1	2	---	---	06	---	---	1	2	1 2 8	---	---	---	---	---
07		---	1	2	---	---	07	---	---	1	2	1 2 8	---	---	---	---	---
08		---	1	2	---	---	08	---	---	1	2	1 2 8	---	---	---	---	---
09		---	1	2	---	---	09	---	---	1	2	1 2 8	---	---	---	---	---
10		---	1	2	---	---	10	---	---	1	2	1 2 8	---	---	---	---	---
11		---	1	2	---	---	11	---	---	1	2	1 2 8	---	---	---	---	---

MICS4.HH.3

HL1. Line number	HL2. Name	HL3. WHAT IS THE RELATION SHIP OF (name) TO THE HEAD OF HOUSE- HOLD?	HL4. IS (name) MALE OR FEMALE?  1 Male 2 Female	HL5. WHAT IS (name)'S DATE OF BIRTH?  98 DK 9998 DK	HL6. HOW OLD IS (name)?  Record in completed years. If age is 95 or above, record '95'	HL7.  Circle line number if woman is age 15-49	HL8. WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD?  Record line number of mother/ caretaker	HL9. WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD?  Record line number of mother/ caretaker	HL10. DID (name) STAY HERE LAST NIGHT?  1 Yes 2 No	HL11. IS (name)'S NATURAL MOTHER ALIVE?  1 Yes 2 No 3 8 DK 9 HL13	HL12. DOES (name)'S NATURAL MOTHER LIVE IN THIS HOUSEHOLD?  Record line number of mother or 00 for "No"	HL13. IS (name)'S NATURAL FATHER ALIVE?  1 Yes 2 No 3 8 DK 9 Next Line	HL14. DOES (name)'S NATURAL FATHER LIVE IN THIS HOUSEHOLD?  Record line number of father or 00 for "No"
Line	Name	Relation*	M F	Month	Year	Age	Mother	Mother	Y N	DK	Mother	Y N DK	Father
12			1 2			12			1 2	1 2 8		1 2 8	
13			1 2			13			1 2	1 2 8		1 2 8	
14			1 2			14			1 2	1 2 8		1 2 8	
15			1 2			15			1 2	1 2 8		1 2 8	

Tick here if additional questionnaire used

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 a separate Individual 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 a separate 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	06 Parent	11 Niece / Nephew
02 Wife / Husband	07 Parent-in-Law	12 Other relative
03 Son / Daughter	08 Brother / Sister	13 Adopted / Foster / Stepchild
04 Son-in-Law / Daughter-in-Law	09 Brother-in-Law / Sister-in-Law	14 Not related
05 Grandchild	10 Uncle / Aunt	98 Don't know

EDUCATION		For household members age 5 and above				For household members age 5-24 years	
ED1. Line number	ED2. Name and age Copy from Household Listing Form, HL2 and HL6	ED3. HAS (name) EVER ATTENDED SCHOOL OR PRE-SCHOOL?	ED4. WHAT IS THE HIGHEST LEVEL OF SCHOOL (name) ATTENDED? WHAT IS THE HIGHEST GRADE (name) COMPLETED AT THIS LEVEL?	ED5. DURING THE (2009-2010) SCHOOL YEAR, DID (name) ATTEND SCHOOL OR PRESCHOOL AT ANY TIME?	ED6. DURING THIS/THAT SCHOOL YEAR, WHICH LEVEL AND GRADE IS/AS (name) ATTENDING?	ED7. DURING THE PREVIOUS SCHOOL YEAR, THAT IS (2008-2009), DID (name) ATTEND SCHOOL OR PRESCHOOL AT ANY TIME?	ED8. DURING THAT PREVIOUS SCHOOL YEAR, WHICH LEVEL AND GRADE DID (name) ATTEND?
		1 Yes 2 No ☺ Next Line	Level: 0 Preschool 1 Primary school 2 Primary education Special education (MLK, ZMLK, MYTHYL) 3 Secondary junior education (MULO, LBGO, LTS) 4 Secondary Senior education (HAVO, VWO, IMEO, NATIN) Special education 6 Higher education 7 Other, not regular 8 DK If level=0, skip to ED5	1 Yes 2 No ☺ ED7	Level: 0 Preschool 01 Primary school 2 Primary education Special education (MLK, ZMLK, MYTHYL) 3 Secondary junior education (MULO, LBGO, LTS) 4 Secondary Senior education (HAVO, VWO, IMEO, NATIN) 5 Secondary Special education 6 Higher education 7 Other, not regular 8 DK If level=0, skip to ED7	1 Yes 2 No ☺ 8 DK ☺ Next Line Next Line	Level: 0 Preschool 1 Primary school 2 Primary Special education (MLK, ZMLK, MYTHYL) 3 Secondary junior education (MULO, LBGO, LTS) 4 Secondary Senior education (HAVO, VWO, IMEO, NATIN) 5 Secondary Special education 6 Higher education 7 Other, not regular 8 DK If level=0, go to next person

MICS4.HH.5

Line	Name	Age	Yes	No	Level	Grade	Yes	No	Level	Grade	Y	N	DK	Level	Grade
01		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
02		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
03		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
04		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
05		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
06		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
07		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
08		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
09		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
10		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
11		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
12		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
13		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
14		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---
15		---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	0 1 2 3 4 5 6 7 8	---	1	2	8	0 1 2 3 4 5 6 7 8	---

WATER AND SANITATION		WS
WS1. WHAT IS THE <u>MAIN</u> SOURCE OF DRINKING WATER FOR MEMBERS OF YOUR HOUSEHOLD?	Piped water Piped into dwelling ..... 11 Piped into compound, yard or plot ..... 12 Piped to neighbour ..... 13 Public tap / standpipe ..... 14 Tube Well, Borehole ..... 21 Dug well Protected well ..... 31 Unprotected well ..... 32 Water from spring Protected spring ..... 41 Unprotected spring ..... 42 Rainwater collection ..... 51 Tanker-truck ..... 61 Cart with small tank / drum ..... 71 Surface water (river, stream, dam, lake, pond, canal, irrigation channel) ..... 81 Bottled water ..... 91 Other ( <i>specify</i> ) ..... 96	11⇒WS6 12⇒WS6 13⇒WS6 14⇒WS3 21⇒WS3 31⇒WS3 32⇒WS3 41⇒WS3 42⇒WS3 51⇒WS3 61⇒WS3 71⇒WS3 81⇒WS3 96⇒WS3
WS2. WHAT IS THE <u>MAIN</u> SOURCE OF WATER USED BY YOUR HOUSEHOLD FOR OTHER PURPOSES SUCH AS COOKING AND HANDWASHING?	Piped water Piped into dwelling ..... 11 Piped into compound, yard or plot ..... 12 Piped to neighbour ..... 13 Public tap / standpipe ..... 14 Tube Well, Borehole ..... 21 Dug well Protected well ..... 31 Unprotected well ..... 32 Water from spring Protected spring ..... 41 Unprotected spring ..... 42 Rainwater collection ..... 51 Tanker-truck ..... 61 Cart with small tank / drum ..... 71 Surface water (river, stream, dam, lake, pond, canal, irrigation channel) ..... 81 Other ( <i>specify</i> ) ..... 96	11⇒WS6 12⇒WS6 13⇒WS6
WS3. WHERE IS THAT WATER SOURCE LOCATED?	In own dwelling ..... 1 In own yard / plot ..... 2 Elsewhere ..... 3	1⇒WS6 2⇒WS6
WS4. HOW LONG DOES IT TAKE TO GO THERE, GET WATER, AND COME BACK?	Number of minutes ..... ___ ___ DK ..... 998	

MICS4HH.7

WS5. 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 (age 15+ years) ..... 1 Adult man (age 15+ years) ..... 2 Female child (under 15) ..... 3 Male child (under 15) ..... 4  DK ..... 8	
WS6. DO YOU DO ANYTHING TO THE WATER TO MAKE IT SAFER TO DRINK?	Yes ..... 1 No ..... 2  DK ..... 8	2⇒WS8  8⇒WS8
WS7. WHAT DO YOU USUALLY DO TO MAKE THE WATER 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 ( <i>specify</i> ) ..... X DK ..... Z	
WS8. 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 Pit latrine 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 facility, Bush, Field ..... 95 Other ( <i>specify</i> ) ..... 96	95⇒Next Module
WS9. DO YOU SHARE THIS FACILITY WITH OTHERS WHO ARE NOT MEMBERS OF YOUR HOUSEHOLD?	Yes ..... 1 No ..... 2	2⇒Next Module
WS10. DO YOU SHARE THIS FACILITY ONLY WITH MEMBERS OF OTHER HOUSEHOLDS THAT YOU KNOW, OR IS THE FACILITY OPEN TO THE USE OF THE GENERAL PUBLIC?	Other households only (not public) ..... 1 Public facility ..... 2	2⇒Next Module
WS11. HOW MANY HOUSEHOLDS IN TOTAL USE THIS TOILET FACILITY, INCLUDING YOUR OWN HOUSEHOLD?	Number 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?	<i>Christianity</i> ..... 1 <i>Hinduism</i> ..... 2 <i>Islam</i> ..... 3 Traditional religion..... 4  Other religion ( <i>specify</i> ) _____ 6  No religion ..... 7  DK ..... 8	
HC1B. WHAT IS THE MOTHER TONGUE/NATIVE LANGUAGE OF THE HEAD OF THIS HOUSEHOLD?	Dutch ..... 01 Sranan Tongo ..... 02 Sarnami Hindi..... 03 Javaans..... 04 Arowak..... 05 Caraib..... 06 Saramaccaans..... 07 Aucaans..... 08 Paramaccaans..... 09 Chinese..... 10 Portuguese..... 11 English..... 12 French..... 13  Other language ( <i>specify</i> ) _____ 96	
HC1C. TO WHAT ETHNIC GROUP DOES THE HEAD OF THIS HOUSEHOLD BELONG?	Indigenous/Amerindian ..... 01 Maroon ..... 02 Creole..... 03 Indian..... 04 Javanese..... 05 Chinese..... 06 White..... 07 Mixed ethnicity..... 08  Other ethnic group ( <i>specify</i> ) _____ 96	
HC2. HOW MANY ROOMS IN THIS HOUSEHOLD ARE USED FOR SLEEPING?	Number of rooms ..... _ _	
HC3. <i>Main material of the dwelling floor.</i>  <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 ..... 32 Ceramic tiles ..... 33 Cement..... 34 Carpet..... 35  Other ( <i>specify</i> ) _____ 96	
HC4. <i>Main material of the roof.</i>  <i>Record observation.</i>	No Roof ..... 11 Natural roofing Thatch / Palm leaf ..... 12 Sod..... 13 Rudimentary Roofing	

MICS4HH.9



	Rustic mat ..... 21 Palm / Bamboo..... 22 Wood planks ..... 23 Cardboard ..... 24 Finished roofing Metal..... 31 Wood..... 32 Calamine / Cement fibre ..... 33 Ceramic tiles ..... 34 Cement..... 35 Roofing shingles..... 36 Other ( <i>specify</i> ) ..... 96	
HC5 <i>Main material of the exterior walls.</i>  <i>Record observation.</i>	No walls..... 11 Natural walls 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	
HC6 WHAT TYPE OF FUEL DOES YOUR HOUSEHOLD <u>MAINLY</u> USE FOR COOKING?	Electricity ..... 01 Liquefied Petroleum Gas (LPG)..... 02 Natural gas..... 03 Biogas ..... 04 Kerosene ..... 05 Coal / Lignite ..... 06 Charcoal..... 07 Wood..... 08 Straw / Shrubs / Grass ..... 09 Agricultural crop residue ..... 11 No food cooked in household ..... 95 Other ( <i>specify</i> ) ..... 96	01⇔HC8 02⇔HC8 03⇔HC8 04⇔HC8 05⇔HC8 95⇔HC8
HC7. IS THE COOKING USUALLY DONE IN THE HOUSE, IN A SEPARATE BUILDING, OR OUTDOORS?  <i>If 'In the house', probe: IS IT DONE IN A            SEPARATE ROOM USED AS A KITCHEN?</i>	In the house In a separate room used as kitchen..... 1 Elsewhere in the house..... 2 In a separate building..... 3 Outdoors ..... 4 Other ( <i>specify</i> ) ..... 6	

MICS4.HH.10

HC8. DOES YOUR HOUSEHOLD HAVE:	Yes No	
[A] ELECTRICITY?	Electricity ..... 1 2	
[B] A RADIO?	Radio ..... 1 2	
[C] A TELEVISION?	Television ..... 1 2	
[D] A NON-MOBILE TELEPHONE?	Non-mobile telephone ..... 1 2	
[E] A REFRIGERATOR?	Refrigerator ..... 1 2	
HC9. DOES ANY MEMBER OF YOUR HOUSEHOLD OWN:	Yes No	
[A] A WATCH?	Watch ..... 1 2	
[B] A MOBILE TELEPHONE?	Mobile telephone ..... 1 2	
[C] A BICYCLE?	Bicycle ..... 1 2	
[D] A MOTORCYCLE OR SCOOTER?	Motorcycle / Scooter ..... 1 2	
[E] AN ANIMAL-DRAWN CART?	Animal drawn-cart ..... 1 2	
[F] A CAR OR TRUCK?	Car / Truck ..... 1 2	
[G] A BOAT WITH A MOTOR?	Boat with motor ..... 1 2	
HC10. DO YOU OR SOMEONE LIVING IN THIS HOUSEHOLD OWN THIS DWELLING?  <i>If "No", then ask: DO YOU RENT THIS DWELLING FROM SOMEONE NOT LIVING IN THIS HOUSEHOLD?  <i>If "Rented from someone else", circle "2". For other responses, circle "6".</i></i>	Own ..... 1 Rent ..... 2  Other (Not owned or rented) ..... 6	
HC11. DOES ANY MEMBER OF THIS HOUSEHOLD OWN ANY LAND THAT CAN BE USED FOR AGRICULTURE?	Yes ..... 1 No ..... 2	2⇨HC13
HC12. HOW MANY HECTARES OF AGRICULTURAL LAND DO MEMBERS OF THIS HOUSEHOLD OWN?  <i>If less than 1, record "00". If 95 or more, record '95'. If unknown, record '98'.</i>	Hectares ..... ____ ____	
HC13. DOES THIS HOUSEHOLD OWN ANY LIVESTOCK, HERDS, OTHER FARM ANIMALS, OR POULTRY?	Yes ..... 1 No ..... 2	2⇨HC15
HC14. HOW MANY OF THE FOLLOWING ANIMALS DOES THIS HOUSEHOLD HAVE?		
[A] CATTLE, MILK COWS, OR BULLS?	Cattle, milk cows, or bulls ..... ____ ____	
[B] HORSES, DONKEYS, OR MULES?	Horses, donkeys, or mules ..... ____ ____	
[C] GOATS?	Goats ..... ____ ____	
[D] SHEEP?	Sheep ..... ____ ____	

MICS4.HH.11

[E] CHICKENS? [F] PIGS? [G] DUCKS?  <i>If none, record '00'.</i> <i>If 95 or more, record '95'.</i> <i>If unknown, record '98'.</i>	Chickens ..... __ __ Pigs ..... __ __ Ducks ..... __ __	
HC15. DOES ANY MEMBER OF THIS HOUSEHOLD HAVE A BANK ACCOUNT?	Yes ..... 1 No ..... 2	

INSECTICIDE TREATED NETS		TN
Check Household Information Panel, HH7= 09 -10?		
<input type="checkbox"/> Yes ⇒ Continue with TN1. <input type="checkbox"/> No ⇒ Go to Next Module.		
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?	Number of nets..... ____	
TN3. Ask the respondent to show you the nets in the household. If more than 3 nets, use additional questionnaire(s).		

	1 <sup>st</sup> Net	2 <sup>nd</sup> Net	3 <sup>rd</sup> Net
TN4. Mosquito net observed?	Observed ..... 1 Not observed ..... 2	Observed ..... 1 Not observed ..... 2	Observed ..... 1 Not observed ..... 2
TN5. Observe or ask the brand/type of mosquito net.  <i>If brand is unknown and you cannot observe the net, show pictures of typical net types/brands to respondent.</i>	Long-lasting treated nets Yes ..... 1 No ..... 2 DK brand ..... 8  Other net (specify) ..... 31 DK brand / type ..... 98	Long-lasting treated nets Yes ..... 1 No ..... 2 DK brand ..... 8  Other net (specify) ..... 31 DK brand / type ..... 98	Long-lasting treated nets Yes ..... 1 No ..... 2 DK brand ..... 8  Other net (specify) ..... 31 DK brand / type ..... 98
TN6. HOW MANY MONTHS AGO DID YOUR HOUSEHOLD GET THE MOSQUITO NET?  <i>If less than one month, record "00"</i>	Months ago ..... ____ More than 36 mo. ago ... 95 DK / Not sure ..... 98	Months ago ..... ____ More than 36 mo. ago ... 95 DK / Not sure ..... 98	Months ago ..... ____ More than 36 mo. ago ... 95 DK / Not sure ..... 98
TN7. Check TN5 for type of net	<input type="checkbox"/> Long-lasting (1-2) ⇒ TN11  <input type="checkbox"/> Else ⇒ Continue	<input type="checkbox"/> Long-lasting (1-2) ⇒ TN11  <input type="checkbox"/> Else ⇒ Continue	<input type="checkbox"/> Long-lasting (1-2) ⇒ TN11  <input type="checkbox"/> Else ⇒ Continue
TN9. SINCE YOU GOT THE NET, WAS IT EVER SOAKED OR DIPPED IN A LIQUID TO KILL OR REPEL MOSQUITOES?	Yes ..... 1 No ..... 2 DK / Not sure ..... 8 ..... ⇒ TN11	Yes ..... 1 No ..... 2 DK / Not sure ..... 8 ..... ⇒ TN11	Yes ..... 1 No ..... 2 DK / Not sure ..... 8 ..... ⇒ TN11
TN10. 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 DK / Not sure ..... 98	Months ago ..... ____ More than 24 mo. ago ... 95 DK / Not sure ..... 98	Months ago ..... ____ More than 24 mo. ago ... 95 DK / Not sure ..... 98
TN11. DID ANYONE SLEEP UNDER THIS MOSQUITO NET LAST NIGHT?	Yes ..... 1 No ..... 2 DK / Not sure ..... 8 ..... ⇒ TN13	Yes ..... 1 No ..... 2 DK / Not sure ..... 8 ..... ⇒ TN13	Yes ..... 1 No ..... 2 DK / Not sure ..... 8 ..... ⇒ TN13

MICS4.HH.13

<p>TN12. WHO SLEPT UNDER THIS MOSQUITO NET LAST NIGHT?</p> <p><i>Record the person's line number from the household listing form</i></p> <p><i>If someone not in the household list slept under the mosquito net, record "00"</i></p>	<p>Name _____</p> <p>Line number..... ____</p> <p>Name _____</p> <p>Line number..... ____</p> <p>Name _____</p> <p>Line number..... ____</p> <p>Name _____</p> <p>Line number..... ____</p>	<p>Name _____</p> <p>Line number..... ____</p> <p>Name _____</p> <p>Line number..... ____</p> <p>Name _____</p> <p>Line number..... ____</p> <p>Name _____</p> <p>Line number..... ____</p>	<p>Name _____</p> <p>Line number..... ____</p> <p>Name _____</p> <p>Line number..... ____</p> <p>Name _____</p> <p>Line number..... ____</p> <p>Name _____</p> <p>Line number..... ____</p>
<p>TN13.</p>	<p><i>Go back to TN4 for next net. If no more nets, go to next module</i></p>	<p><i>Go back to TN4 for next net. If no more nets, go to next module</i></p>	<p><i>Go back to TN4 in first column of a new questionnaire for next net. If no more nets, go to next module</i></p>
<p><i>Tick here if additional questionnaire used</i> <input type="checkbox"/></p>			

INDOOR RESIDUAL SPRAYING		IR
IR1. AT ANY TIME IN THE PAST 12 MONTHS, HAS ANYONE COME INTO YOUR DWELLING TO SPRAY THE INTERIOR WALLS AGAINST MOSQUITOES?	Yes ..... 1 No ..... 2 DK ..... 8	2⇒Next Module 8⇒Next Module
IR2. WHO SPRAYED THE DWELLING?  <i>Circle all that apply.</i>	Government worker / program ..... A Private company ..... B Non-governmental organization ..... C Other ( <i>specify</i> ) ..... X DK ..... Z	

MICS4.HH.15

CHILD LABOUR												CL	
To be administered for children in the household age 5-14 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.													
Line number	Name and Age	CL1.	CL2.	CL3.	CL4.	CL5.	CL6.	CL7.	CL8.	CL9.	CL10.		
		During the past week, did (name) do any kind of work for someone who is not a member of this household?	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?	During the past week, did (name) collect firewood for household use?	Since last (day of the week), about how many hours did he/she fetch water or collect firewood for household use?	During the past week, did (name) do any paid or unpaid work on a family farm or in a family business or selling goods in the street?	Since last (day of the week), about how many hours did he/she fetch water or collect firewood for household use?	During the past week, did (name) do any paid or unpaid work on a family farm or in a family business or selling goods in the street?	Since last (day of the week), about how many hours did he/she do this work for his/her family or himself/herself?	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?	Since last (day of the week), about how many hours did he/she spend doing these chores?	Yes	No
		If yes: For pay in cash or kind? 1 Yes, for pay (cash or kind) 2 Yes, unpaid 3 No ⇨ CL5	If more than one job, include all hours at all jobs.	1 Yes 2 No ⇨ CL7	Number of hours	1 Yes 2 No ⇨ CL9	Number of hours	1 Yes 2 No ⇨ CL9	Number of hours	1 Yes 2 No ⇨ Next Line	Number of hours	Yes	No
01		1 2 3		1 2		1 2		1 2		1 2		1	2
02		1 2 3		1 2		1 2		1 2		1 2		1	2
03		1 2 3		1 2		1 2		1 2		1 2		1	2
04		1 2 3		1 2		1 2		1 2		1 2		1	2
05		1 2 3		1 2		1 2		1 2		1 2		1	2
06		1 2 3		1 2		1 2		1 2		1 2		1	2
07		1 2 3		1 2		1 2		1 2		1 2		1	2
08		1 2 3		1 2		1 2		1 2		1 2		1	2
09		1 2 3		1 2		1 2		1 2		1 2		1	2
10		1 2 3		1 2		1 2		1 2		1 2		1	2
11		1 2 3		1 2		1 2		1 2		1 2		1	2
12		1 2 3		1 2		1 2		1 2		1 2		1	2
13		1 2 3		1 2		1 2		1 2		1 2		1	2
14		1 2 3		1 2		1 2		1 2		1 2		1	2
15		1 2 3		1 2		1 2		1 2		1 2		1	2

MICS4.HH.16

## CHILD DISCIPLINE

CD

**Table 1: Children Aged 2-14 Years Eligible for Child Discipline Questions**

- List each of the children aged 2-14 years below in the order they appear in the Household Listing Form. 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 (CD6).

CD1. Rank number	CD2. Line number from HL1	CD3. Name from HL2	CD4. Sex from HL4		CD5. Age from HL6
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	___
CD6.	Total children age 2-14 years				___

- If there is only one child age 2-14 years in the household, then skip table 2 and go to CD8; write down '1' and continue with CD9

**Table 2: Selection of Random Child for Child Discipline Questions**

- Use Table 2 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.
- Check the last digit of the household number (HH2) 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 CD6 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 (CD1) about whom the questions will be asked.

CD7. Last digit of household number (HH2)	Total Number of Eligible Children in the Household (CD6)							
	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

CD8. Record the rank number of the selected child..... \_\_\_\_\_

MICS4.HH.17



CD9. Write the name and line number of the child selected for the module from CD3 and CD2, based on the rank number in CD8.	Name _____ Line number ..... _ _	
CD10. 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 <u>YOU OR ANYONE ELSE IN YOUR HOUSEHOLD</u> HAS USED THIS METHOD WITH <i>(name)</i> IN THE PAST MONTH.		
CD11. TOOK AWAY PRIVILEGES, FORBADE SOMETHING <i>(name)</i> LIKED OR DID NOT ALLOW HIM/HER TO LEAVE HOUSE.	Yes..... 1 No ..... 2	
CD12. EXPLAINED WHY <i>(name)</i> 'S BEHAVIOR WAS WRONG.	Yes..... 1 No ..... 2	
CD13. SHOOK HIM/HER.	Yes..... 1 No ..... 2	
CD14. SHOUTED, YELLED AT OR SCREAMED AT HIM/HER.	Yes..... 1 No ..... 2	
CD15. GAVE HIM/HER SOMETHING ELSE TO DO.	Yes..... 1 No ..... 2	
CD16. SPANKED, HIT OR SLAPPED HIM/HER ON THE BOTTOM WITH BARE HAND.	Yes..... 1 No ..... 2	
CD17. 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	
CD18. CALLED HIM/HER DUMB, LAZY OR ANOTHER NAME LIKE THAT.	Yes..... 1 No ..... 2	
CD19. HIT OR SLAPPED HIM/HER ON THE FACE, HEAD OR EARS.	Yes..... 1 No ..... 2	
CD20. HIT OR SLAPPED HIM/HER ON THE HAND, ARM, OR LEG.	Yes..... 1 No ..... 2	
CD21. BEAT HIM/HER UP, THAT IS HIT HIM/HER OVER AND OVER AS HARD AS ONE COULD.	Yes..... 1 No ..... 2	
CD22. DO YOU BELIEVE THAT IN ORDER TO BRING UP, RAISE, OR EDUCATE A CHILD PROPERLY, THE CHILD NEEDS TO BE PHYSICALLY PUNISHED?	Yes..... 1 No ..... 2 Don't know / No opinion..... 8	

MICS4.HH.18

HANDWASHING		HW
HW1. PLEASE SHOW ME WHERE MEMBERS OF YOUR HOUSEHOLD MOST OFTEN WASH THEIR HANDS.	Observed..... 1 Not observed Not in dwelling / plct / yard ..... 2 No permission to see..... 3 Other reason..... 6	2 ⇨ HW4 3 ⇨ HW4 6 ⇨ HW4
HW2. <i>Observe presence of water at the specific place for handwashing.</i>  <i>Verify by checking the tap/pump, or basin, bucket, water container or similar objects for presence of water.</i>	Water is available ..... 1 Water is not available..... 2	
HW3. <i>Record if soap or detergent is present at the specific place for handwashing.</i>  <i>Circle all that apply.</i>  <i>Skip to HH19 if any soap or detergent code (A, B, C or D) is circled. If "None" (Y) is circled, continue with HW4.</i>	Bar soap ..... A Detergent (Powder / Liquid / Paste) ..... B Liquid soap ..... C Ash / Mud / Sand ..... D None ..... Y	A ⇨ HH19 B ⇨ HH19 C ⇨ HH19 D ⇨ HH19
HW4. DO YOU HAVE ANY SOAP OR DETERGENT ( <b>or other locally used cleansing agent</b> ) IN YOUR HOUSEHOLD FOR WASHING HANDS?	Yes ..... 1 No ..... 2	2 ⇨ HH19
HW5. 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 Ash / Mud / Sand ..... D Not able / Does not want to show ..... Y	

MICS4.HH.19

HH19. Record the time.	Hour and minutes ..... : .....	
------------------------	--------------------------------	--

<p>HH20. Does any eligible woman age 15-49 reside in the household?</p> <p><i>Check Household Listing Form, column HL7 for any eligible woman. You should have a questionnaire with the Information Panel filled in for each eligible woman.</i></p> <p><input type="checkbox"/> Yes ⇒ Go to <i>QUESTIONNAIRE FOR INDIVIDUAL WOMEN</i> to administer the questionnaire to the first eligible woman.</p> <p><input type="checkbox"/> No ⇒ Continue.</p>
<p>HH21. Does any child under the age of 5 reside in the household?</p> <p><i>Check Household Listing Form, column HL9 for any eligible child under age 5. You should have a questionnaire with the Information Panel filled in for each eligible child.</i></p> <p><input type="checkbox"/> Yes ⇒ Go to <i>QUESTIONNAIRE FOR CHILDREN UNDER FIVE</i> to administer the questionnaire to mother or caretaker of the first eligible child.</p> <p><input type="checkbox"/> No ⇒ End the interview by thanking the respondent for his/her cooperation. Gather together all questionnaires for this household and complete HH8 to HH15 on the cover page.</p>

MICS4.HH.20



**QUESTIONNAIRE FOR INDIVIDUAL WOMEN**  
**[SURINAME]**

<b>WOMAN'S INFORMATION PANEL</b>	<b>WM</b>
<i>This questionnaire is to be administered to all women age 15 through 49 (see Household Listing Form, column HL7). A separate questionnaire should be used for each eligible woman.</i>	
WM1. Cluster number: _____	WM2. Household number: _____
WM3. Woman's name: Name _____	WM4. Woman's line number: _____
WM5. Interviewer name and number: Name _____	WM6. Day / Month / Year of interview: ____ / ____ / _____

*Repeat greeting if not already read to this woman:*

WE ARE FROM THE **General Bureau of Statistics**. IN COOPERATION WITH THE MINISTRY OF SOCIAL AFFAIRS AND HOUSING WE ARE WORKING ON A PROJECT CONCERNED WITH FAMILY HEALTH AND EDUCATION. I WOULD LIKE TO TALK TO YOU ABOUT THESE SUBJECTS. THE INTERVIEW WILL TAKE ABOUT **35** MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE SHARED WITH ANYONE OTHER THAN OUR PROJECT TEAM.

*If greeting at the beginning of the household questionnaire has already been read to this woman, then read the following:*

NOW I WOULD LIKE TO TALK TO YOU MORE ABOUT YOUR HEALTH AND OTHER TOPICS. THIS INTERVIEW WILL TAKE ABOUT **35** MINUTES. AGAIN, ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE SHARED WITH ANYONE OTHER THAN OUR PROJECT TEAM.

MAY I START NOW?

- Yes, permission is given* ⇒ Go to WM10 to record the time and then begin the interview.
- No, permission is not given* ⇒ Complete WM7. Discuss this result with your supervisor.

WM7. Result of woman's interview	Completed .....01 Not at home .....02 Refused .....03 Partly completed .....04 Incapacitated .....05 Other ( <i>specify</i> ) _____ 96
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WM8. Field edited by (Name and number): Name _____	WM9. Data entry clerk (Name and number): Name _____
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MICS4.WM.1

WM10. Record the time.	Hour and minutes..... ____ : ____	
<b>WOMAN'S BACKGROUND</b>		<b>WB</b>
WB1. IN WHAT MONTH AND YEAR WERE YOU BORN?	Date of birth Month..... ____ DK month ..... 98  Year ..... ____ DK year ..... 9998	
WB2. HOW OLD ARE YOU?  <i>Probe: HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?</i>  <i>Compare and correct WB1 and/or WB2 if inconsistent</i>	Age (in completed years)..... ____	
WB3. HAVE YOU EVER ATTENDED SCHOOL OR PRESCHOOL?	Yes ..... 1 No ..... 2	2⇒WB7
WB4. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Preschool ..... 0 Primary school..... 1 Primary Special education (MLK, ZMLK, MYTHYL) ..... 2 Secondary junior education (MULO, LBGO, LTS) ..... 3 Secondary Senior education (HAVO, VWO, IMEO, NATIN) ..... 4 Secondary Special education ..... 5 Higher education ..... 6 Other, not regular ..... 7 DK ..... 8	0⇒WB7
WB5. WHAT IS THE HIGHEST GRADE YOU COMPLETED AT THAT LEVEL?  <i>If less than 1 grade, enter "00"</i>	Grade..... ____	
WB6. Check WB4:		
<input type="checkbox"/> Secondary or higher. ⇒ Go to Next Module <input type="checkbox"/> Primary ⇒ Continue with WB7		
WB7. NOW I WOULD LIKE YOU TO READ THIS SENTENCE TO ME.  <i>Show sentence on the card to the respondent. If respondent cannot read whole sentence, probe:</i>  CAN YOU READ PART OF THE SENTENCE TO ME?	Cannot read at all..... 1 Able to read only parts of sentence ..... 2 Able to read whole sentence ..... 3  No sentence in required language..... 4 <i>(specify language)</i>  Blind / mute, visually / speech impaired ..... 5	

MICS4.WM2

ACCESS TO MASS MEDIA AND USE OF INFORMATION/COMMUNICATION TECHNOLOGY		MT
MT1. Check WB7: <input type="checkbox"/> Question left blank (Respondent has secondary or more education) ⇒ Continue with MT2 <input type="checkbox"/> Able to read or no sentence in required language (codes 2, 3 or 4) ⇒ Continue with MT2 <input type="checkbox"/> Cannot read at all or blind (codes 1 or 5) ⇒ Go to MT3		
MT2. HOW OFTEN DO YOU READ A NEWSPAPER OR MAGAZINE? ALMOST EVERY DAY, AT LEAST ONCE A WEEK, LESS THAN ONCE A WEEK OR NOT AT ALL?	Almost every day..... 1 At least once a week ..... 2 Less than once a week ..... 3 Not at all ..... 4	
MT3. HOW OFTEN DO YOU LISTEN TO THE RADIO? ALMOST EVERY DAY, AT LEAST ONCE A WEEK, LESS THAN ONCE A WEEK OR NOT AT ALL?	Almost every day..... 1 At least once a week ..... 2 Less than once a week ..... 3 Not at all ..... 4	
MT4. HOW OFTEN DO YOU WATCH TELEVISION? WOULD YOU SAY THAT YOU WATCH ALMOST EVERY DAY, AT LEAST ONCE A WEEK, LESS THAN ONCE A WEEK OR NOT AT ALL?	Almost every day..... 1 At least once a week ..... 2 Less than once a week ..... 3 Not at all ..... 4	
MT5. Check WB2: Age of respondent between 15 and 24? <input type="checkbox"/> Age 25-49 ⇒ Go to Next Module <input type="checkbox"/> Age 15-24 ⇒ Continue with MT6		
MT6. HAVE YOU EVER USED A COMPUTER?	Yes ..... 1 No ..... 2	2⇒ MT9
MT7. HAVE YOU USED A COMPUTER FROM ANY LOCATION IN THE LAST 12 MONTHS?	Yes ..... 1 No ..... 2	2⇒ MT9
MT8. DURING THE LAST ONE MONTH, HOW OFTEN DID YOU USE A COMPUTER? ALMOST EVERY DAY, AT LEAST ONCE A WEEK, LESS THAN ONCE A WEEK OR NOT AT ALL?	Almost every day..... 1 At least once a week ..... 2 Less than once a week ..... 3 Not at all ..... 4	
MT9. HAVE YOU EVER USED THE INTERNET?	Yes ..... 1 No ..... 2	2⇒ MT12
MT10. IN THE LAST 12 MONTHS, HAVE YOU USED THE INTERNET?  <i>If necessary, probe for use from any location, with any device.</i>	Yes ..... 1 No ..... 2	2⇒ MT12
MT11. DURING THE LAST ONE MONTH, HOW OFTEN DID YOU USE THE INTERNET? ALMOST EVERY DAY, AT LEAST ONCE A WEEK, LESS THAN ONCE A WEEK OR NOT AT ALL?	Almost every day..... 1 At least once a week ..... 2 Less than once a week ..... 3 Not at all ..... 4	
MT12. DO YOU OWN A CELL PHONE THAT WORKS?	Yes ..... 1 No ..... 2	
MT13. DURING THE LAST 7 DAYS, HOW OFTEN DID YOU USE A CELL PHONE TO MAKE AND/OR RECEIVE CALLS? ALMOST EVERY DAY, AT LEAST ONCE A WEEK, OR NOT AT ALL?	Almost every day..... 1 At least once a week ..... 2 Not at all ..... 3	

MICS4.WM3

<p>MT14A. DURING THE LAST 7 DAYS, HOW OFTEN DID YOU USE A CELL PHONE TO SEND A TEXT MESSAGE? ALMOST EVERY DAY, AT LEAST ONCE A WEEK, OR NOT AT ALL?</p>	<p>Almost every day..... 1                  At least once a week ..... 2                  Not at all ..... 3</p>	
<p>MT14B. DURING THE LAST 7 DAYS, HOW OFTEN DID YOU USE A CELL PHONE TO RECEIVE A TEXT MESSAGE? ALMOST EVERY DAY, AT LEAST ONCE A WEEK, OR NOT AT ALL?</p>	<p>Almost every day..... 1                  At least once a week ..... 2                  Not at all ..... 3</p>	
<p>MT15. DURING THE LAST 7 DAYS, HOW OFTEN DID YOU USE A CELL PHONE TO ACCESS THE INTERNET? ALMOST EVERY DAY, AT LEAST ONCE A WEEK, OR NOT AT ALL?</p>	<p>Almost every day..... 1                  At least once a week ..... 2                  Not at all ..... 3</p>	

MICS4.WM.4

DESIRE FOR LAST BIRTH		DB
<i>This module is to be administered to all women with a live birth in the 2 years preceding date of interview.</i>		
CM1. NOW I WOULD LIKE TO ASK ABOUT ALL THE BIRTHS YOU HAVE HAD DURING YOUR LIFE. HAVE YOU EVER GIVEN BIRTH?	Yes ..... 1 No ..... 2	2⇒ GO TO ILLNESS SYMPTOMS MODULE
CM12. WHEN DID YOU DELIVER YOUR LAST BIRTH (EVEN IF HE OR SHE HAS DIED)?  <i>Month and year must be recorded.</i>	Date of last birth Day ..... DK day ..... 98  Month .....  Year .....	
<p>CM13. Check CM12: Last birth occurred within the last 2 years, that is, since (day and month of interview) in <b>2008</b></p> <p><input type="checkbox"/> No live birth in last 2 years. ⇒ Go to ILLNESS SYMPTOMS Module.</p> <p><input type="checkbox"/> One or more live births in last 2 years. ⇒ Ask for the name of the child</p> <p style="text-align: center;">Name of child _____</p> <p><i>If child has died, take special care when referring to this child by name in the following modules.</i></p> <p><i>Continue with the next module.</i></p>		
DB1. WHEN YOU GOT PREGNANT WITH ( <i>name</i> ), DID YOU WANT TO GET PREGNANT AT THAT TIME?	Yes ..... 1 No ..... 2	1⇒ Next Module
DB2. DID YOU WANT TO HAVE A BABY LATER ON, OR DID YOU NOT WANT ANY (MORE) CHILDREN?	Later ..... 1 No more ..... 2	2⇒ Next Module
DB3. HOW MUCH LONGER DID YOU WANT TO WAIT?	Months ..... 1 ____ Years ..... 2 ____ DK ..... 998	

MICS4.WM.5



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 Desire for Last Birth module CM13 and record name of last-born child here _____.</i>  <i>Use this child's name in the following questions, where indicated.</i></p>														
MN1. DID YOU SEE ANYONE FOR ANTENATAL CARE DURING YOUR PREGNANCY WITH (name)?	Yes ..... 1 No ..... 2	2⇒ MN5												
MN2. WHOM DID YOU SEE?  <i>Probe:</i> ANYONE ELSE?  <i>Probe for the type of person seen and circle all answers given.</i>	Health professional: Doctor ..... A Nurse / Midwife ..... B Auxiliary midwife ..... C Other person Traditional birth attendant ..... F Community health worker ..... G  Other (specify) ..... X													
MN3. HOW MANY TIMES DID YOU RECEIVE ANTENATAL CARE DURING THIS PREGNANCY?	Number of times ..... _ _  DK ..... 98													
MN4. AS PART OF YOUR ANTENATAL CARE DURING THIS PREGNANCY, WERE ANY OF THE FOLLOWING DONE AT LEAST ONCE:  [A] WAS YOUR BLOOD PRESSURE MEASURED?  [B] DID YOU GIVE A URINE SAMPLE  [C] DID YOU GIVE A BLOOD SAMPLE?	<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> </tr> </thead> <tbody> <tr> <td>Blood pressure .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Urine sample .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Blood sample .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> </tbody> </table>		Yes	No	Blood pressure .....	1	2	Urine sample .....	1	2	Blood sample .....	1	2	
	Yes	No												
Blood pressure .....	1	2												
Urine sample .....	1	2												
Blood sample .....	1	2												
MN5. DO YOU HAVE A CARD OR OTHER DOCUMENT WITH YOUR OWN IMMUNIZATIONS LISTED?  MAY I SEE IT PLEASE?  <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													
MN6. WHEN YOU WERE PREGNANT WITH (name), DID YOU RECEIVE ANY INJECTION IN THE ARM OR SHOULDER TO PREVENT THE BABY FROM GETTING TETANUS, THAT IS CONVULSIONS AFTER BIRTH?	Yes ..... 1 No ..... 2  DK ..... 8	2⇒ MN9  8⇒ MN9												
MN7. HOW MANY TIMES DID YOU RECEIVE THIS TETANUS INJECTION DURING YOUR PREGNANCY WITH (name)?  <i>If 7 or more times, record '7'.</i>	Number of times ..... _  DK ..... 8	8⇒ MN9												
MN8. How many tetanus injections during last pregnancy were reported in MN7?  <input type="checkbox"/> At least two tetanus injections during last pregnancy. ⇒ Go to MN17  <input type="checkbox"/> Fewer than two tetanus injections during last pregnancy. ⇒ Continue with MN9														

MICS4.WM.6



<p>MN22. HOW MUCH DID <i>(name)</i> WEIGH?</p> <p><i>Record weight from health card, if available.</i></p>	<p>From card ..... 1 (kg) ___ . ___ ___</p> <p>From recall ..... 2 (kg) ___ . ___ ___</p> <p>DK ..... 99998</p>	
<p>MN23. HAS YOUR MENSTRUAL PERIOD RETURNED SINCE THE BIRTH OF <i>(name)</i>?</p>	<p>Yes ..... 1</p> <p>No ..... 2</p>	
<p>MN24. DID YOU EVER BREASTFEED <i>(name)</i>?</p>	<p>Yes ..... 1</p> <p>No ..... 2</p>	2⇒Next Module
<p>MN25. HOW LONG AFTER BIRTH DID YOU FIRST PUT <i>(name)</i> TO THE BREAST?</p> <p><i>If less than 1 hour, record '00' hours.</i></p> <p><i>If less than 24 hours, record hours.</i></p> <p><i>Otherwise, record days.</i></p>	<p>Immediately ..... 000</p> <p>Hours ..... 1 ___</p> <p>Days ..... 2 ___</p> <p>Don't know / remember ..... 998</p>	
<p>MN26. IN THE FIRST THREE DAYS AFTER DELIVERY, WAS <i>(name)</i> GIVEN ANYTHING TO DRINK OTHER THAN BREAST MILK?</p>	<p>Yes ..... 1</p> <p>No ..... 2</p>	2⇒Next Module
<p>MN27. WHAT WAS <i>(name)</i> GIVEN TO DRINK?</p> <p><i>Probe:</i></p> <p>ANYTHING ELSE?</p>	<p>Milk (other than breast milk) ..... A</p> <p>Plain water ..... B</p> <p>Sugar or glucose water ..... C</p> <p>Gripe water ..... D</p> <p>Sugar-salt-water solution ..... E</p> <p>Fruit juice ..... F</p> <p>Infant formula ..... G</p> <p>Tea / Infusions ..... H</p> <p>Honey ..... I</p> <p>Other (<i>specify</i>) ..... X</p>	

MICS4.WM.8

ILLNESS SYMPTOMS		IS
<p>IS1. Check Household Listing, column HL9</p> <p>Is the respondent the mother or caretaker of any child under age 5?</p> <p><input type="checkbox"/> Yes ⇒ Continue with IS2.</p> <p><input type="checkbox"/> No ⇒ Go to Next Module.</p>		
<p>IS2. SOMETIMES CHILDREN HAVE SEVERE ILLNESSES AND SHOULD BE TAKEN IMMEDIATELY TO A HEALTH FACILITY. WHAT TYPES OF SYMPTOMS WOULD CAUSE YOU TO TAKE YOUR CHILD TO A HEALTH FACILITY RIGHT AWAY?</p> <p><i>Probe:</i> ANY OTHER SYMPTOMS?</p> <p><i>Keep asking for more signs or symptoms until the mother/caretaker cannot recall any additional symptoms.</i></p> <p><i>Circle all symptoms mentioned, but do NOT prompt with any suggestions</i></p>	<p>Child not able to drink or breastfeed ..... A</p> <p>Child becomes sicker ..... B</p> <p>Child develops a fever ..... C</p> <p>Child has fast breathing ..... D</p> <p>Child has difficult breathing ..... E</p> <p>Child has blood in stool ..... F</p> <p>Child is drinking poorly ..... G</p> <p>Other (<i>specify</i>) ..... X</p> <p>Other (<i>specify</i>) ..... Y</p> <p>Other (<i>specify</i>) ..... Z</p>	

MICS4.WM19

CONTRACEPTION		CP
CP1. I WOULD LIKE TO TALK WITH YOU ABOUT ANOTHER SUBJECT – FAMILY PLANNING.	Yes, currently pregnant..... 1	1⇒Next Module
ARE YOU PREGNANT NOW?	No..... 2	
	Unsure or DK..... 8	
CP2. COUPLES USE VARIOUS WAYS OR METHODS TO DELAY OR AVOID A PREGNANCY.	Yes..... 1	2⇒Next Module
ARE YOU CURRENTLY DOING SOMETHING OR USING ANY METHOD TO DELAY OR AVOID GETTING PREGNANT?	No..... 2	
CP3. WHAT ARE YOU DOING TO DELAY OR AVOID A PREGNANCY?  <i>Do not prompt. If more than one method is mentioned, circle each one.</i>	Female sterilization.....A Male sterilization.....B IUD.....C Injectables.....D Implants.....E Pill.....F Male condom.....G Female condom.....H Diaphragm/pessarium/ring.....I Foam / Jelly.....J Lactational amenorrhoea method (LAM).....K Periodic abstinence / Rhythm.....L Withdrawal.....M  Other ( <i>specify</i> ).....X	

MICS4.WM10

UNMET NEED		UN
UN1. Check CP1. Currently pregnant?		
<input type="checkbox"/> Yes, currently pregnant ⇒ Continue with UN2 <input type="checkbox"/> No, unsure or DK ⇒ Go to UN5		
UN2. Now I would like to talk to you about your current pregnancy. When you got pregnant, did you want to get pregnant at that time?	Yes ..... 1 No ..... 2	1⇒UN4
UN3. Did you want to have a baby later on or did you not want any (more) children?	Later ..... 1 No more ..... 2	
UN4. Now I would like to ask some questions about the future. After the child you are now expecting, would you like to have another child, or would you prefer not to have any more children?	Have another child ..... 1 No more / None ..... 2 Undecided / Don't know ..... 8	1⇒UN7 2⇒UN13 8⇒UN13
UN5. Check CP3. Currently using "Female sterilization"?		
<input type="checkbox"/> Yes ⇒ Go to UN13 <input type="checkbox"/> No ⇒ Continue with UN6		
UN6. Now I would like to ask you some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children?	Have (a/another) child ..... 1 No more / None ..... 2 Says she cannot get pregnant ..... 3 Undecided / Don't know ..... 8	2⇒UN9 3⇒UN11 8⇒UN9
UN7. How long would you like to wait before the birth of (a/another) child?	Months ..... 1 ____ Years ..... 2 ____ Soon / Now ..... 993 Says she cannot get pregnant ..... 994 After marriage ..... 995 Other ..... 996 Don't know ..... 998	994⇒UN11
UN8. Check CP1. Currently pregnant?		
<input type="checkbox"/> Yes, currently pregnant ⇒ Go to UN13 <input type="checkbox"/> No, unsure or DK ⇒ Continue with UN9		

MICS4.WM11

UN9. Check CP2. Currently using a method? <input type="checkbox"/> Yes ⇒ Go to UN13 <input type="checkbox"/> No ⇒ Continue with UN10		
UN10. DO YOU THINK YOU ARE PHYSICALLY ABLE TO GET PREGNANT AT THIS TIME?	Yes ..... 1 No ..... 2 DK ..... 8	1 ⇒ UN13  8 ⇒ UN13
UN11. WHY DO YOU THINK YOU ARE NOT PHYSICALLY ABLE TO GET PREGNANT?	Infrequent sex / No sex ..... A Menopausal ..... B Never menstruated ..... C Hysterectomy (surgical removal of uterus) ..... D Has been trying to get pregnant for 2 years or more without result ..... E Postpartum amenorrhic ..... F Breastfeeding ..... G Too old ..... H Fatalistic ..... I Other (specify) ..... X Don't know ..... Z	
UN12. Check UN11. "Never menstruated" mentioned? <input type="checkbox"/> Mentioned ⇒ Go to Next Module <input type="checkbox"/> Not mentioned ⇒ Continue with UN13		
UN13. WHEN DID YOUR LAST MENSTRUAL PERIOD START?	Days ago ..... 1 ___ Weeks ago ..... 2 ___ Months ago ..... 3 ___ Years ago ..... 4 ___ In menopause / Has had hysterectomy ..... 994 Before last birth ..... 995 Never menstruated ..... 996	

MICS4.WM12

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

MICS4.WM13



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⇒MA5
MA2. HOW OLD IS YOUR HUSBAND/PARTNER?  <i>Probe:</i> HOW OLD WAS YOUR HUSBAND/PARTNER ON HIS LAST BIRTHDAY?	Age in years ..... __ __ DK..... 98	
MA3. BESIDES YOURSELF, DOES YOUR HUSBAND/PARTNER HAVE ANY OTHER WIVES OR PARTNERS OR DOES HE LIVE WITH OTHER WOMEN AS IF MARRIED?	Yes ..... 1 No..... 2	2⇒MA7
MA4. HOW MANY OTHER WIVES OR PARTNERS DOES HE HAVE?	Number ..... __ __ DK..... 98	⇒MA7 98⇒MA7
MA5. HAVE YOU EVER BEEN MARRIED OR LIVED TOGETHER WITH A MAN AS IF MARRIED?	Yes, formerly married ..... 1 Yes, formerly lived with a man ..... 2 No..... 3	3 ⇒ Next Module
MA6. WHAT IS YOUR MARITAL STATUS NOW: ARE YOU WIDOWED, DIVORCED OR SEPARATED?	Widowed..... 1 Divorced ..... 2 Separated..... 3	
MA7. HAVE YOU BEEN MARRIED OR LIVED WITH A MAN ONLY ONCE OR MORE THAN ONCE?	Only once ..... 1 More than once..... 2	
MA8. IN WHAT MONTH AND YEAR DID YOU FIRST MARRY OR START LIVING WITH A MAN AS IF MARRIED?	Date of first marriage Month..... __ __ DK month ..... 98  Year ..... __ __ __ __ DK year ..... 9998	⇒ Next Module
MA9. HOW OLD WERE YOU WHEN YOU STARTED LIVING WITH YOUR FIRST HUSBAND/PARTNER?	Age in years ..... __ __	

MICS4.WM14

SEXUAL BEHAVIOUR		SB
<i>Check for the presence of others. Before continuing, ensure privacy.</i>		
SB1. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT SEXUAL ACTIVITY IN ORDER TO GAIN A BETTER UNDERSTANDING OF SOME IMPORTANT LIFE ISSUES.  THE INFORMATION YOU SUPPLY WILL REMAIN STRICTLY CONFIDENTIAL.  HOW OLD WERE YOU WHEN YOU HAD SEXUAL INTERCOURSE FOR THE VERY FIRST TIME?	Never had intercourse..... 00 Age in years..... First time when started living with (first) husband/partner ..... 95	00⇒Next Module
SB2. THE FIRST TIME YOU HAD SEXUAL INTERCOURSE, WAS A CONDOM USED?	Yes..... 1 No ..... 2 DK / Don't remember ..... 8	
SB3. WHEN WAS THE LAST TIME YOU HAD SEXUAL INTERCOURSE?  <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⇒SB15
SB4. THE LAST TIME YOU HAD SEXUAL INTERCOURSE, WAS A CONDOM USED?	Yes..... 1 No ..... 2	
SB5. WHAT WAS YOUR RELATIONSHIP TO THIS PERSON WITH WHOM YOU LAST HAD SEXUAL INTERCOURSE?  <i>Probe to ensure that the response refers to the relationship at the time of sexual intercourse</i>  <i>If 'boyfriend', then ask: WERE YOU LIVING TOGETHER AS IF MARRIED? If 'yes', circle '2'. If 'no', circle '3'.</i>	Husband..... 1 Cohabiting partner ..... 2 Boyfriend ..... 3 Casual acquaintance ..... 4 Other (specify) ..... 6	3⇒SB7 4⇒SB7 6⇒SB7
SB6. Check MA1:  <input type="checkbox"/> Currently married or living with a man (MA1 = 1 or 2) ⇒ Go to SB8  <input type="checkbox"/> Not married / Not in union (MA1 = 3) ⇒ Continue with SB7		
SB7. HOW OLD IS THIS PERSON?  <i>If response is DK, probe: ABOUT HOW OLD IS THIS PERSON?</i>	Age of sexual partner ..... DK ..... 98	
SB8. HAVE YOU HAD SEXUAL INTERCOURSE WITH ANY OTHER PERSON IN THE LAST 12 MONTHS?	Yes..... 1 No ..... 2	2⇒SB15
SB9. THE LAST TIME YOU HAD SEXUAL INTERCOURSE WITH THIS OTHER PERSON, WAS A CONDOM USED?	Yes..... 1 No ..... 2	

MICS4.WM15

<p>SB10. WHAT WAS YOUR RELATIONSHIP TO THIS PERSON?</p> <p><i>Probe to ensure that the response refers to the relationship at the time of sexual intercourse</i></p> <p><i>If 'boyfriend' then ask:</i> WERE YOU LIVING TOGETHER AS IF MARRIED? <i>If 'yes', circle '2'. If 'no', circle '3'.</i></p>	<p>Husband..... 1 Cohabiting partner..... 2 Boyfriend..... 3 Casual acquaintance..... 4</p> <p>Other (<i>specify</i>)..... 6</p>	<p>3⇒SB12 4⇒SB12 6⇒SB12</p>
<p>SB11. Check MA1 and MA7:</p> <p><input type="checkbox"/> Currently married or living with a man (MA1 = 1 or 2) AND Married only once or lived with a man only once (MA7 = 1) ⇒ Go to SB13</p> <p><input type="checkbox"/> Else ⇒ Continue with SB12</p>		
<p>SB12. 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..... _ _</p> <p>DK..... 98</p>	
<p>SB13. OTHER THAN THESE TWO PERSONS, HAVE YOU HAD SEXUAL INTERCOURSE WITH ANY OTHER PERSON IN THE LAST 12 MONTHS?</p>	<p>Yes..... 1 No..... 2</p>	<p>2⇒SB15</p>
<p>SB14. IN TOTAL, WITH HOW MANY DIFFERENT PEOPLE HAVE YOU HAD SEXUAL INTERCOURSE IN THE LAST 12 MONTHS?</p>	<p>Number of partners..... _ _</p>	
<p>SB15. IN TOTAL, WITH HOW MANY DIFFERENT PEOPLE HAVE YOU HAD SEXUAL INTERCOURSE IN YOUR LIFETIME?</p> <p><i>If a non-numeric answer is given, probe to get an estimate.</i></p> <p><i>If number of partners is 95 or more, write '95'.</i></p>	<p>Number of lifetime partners..... _ _</p> <p>DK..... 98</p>	

MICS4.WM16

HIV/AIDS		HA																
HA1. NOW I WOULD LIKE TO TALK WITH YOU ABOUT SOMETHING ELSE.  HAVE YOU EVER HEARD OF AN ILLNESS CALLED AIDS?	Yes ..... 1 No ..... 2 DK ..... 8	2⇒WM11																
HA2. CAN PEOPLE REDUCE THEIR CHANCE OF GETTING THE AIDS VIRUS BY HAVING JUST ONE UNINFECTED SEX PARTNER WHO HAS NO OTHER SEX PARTNERS?	Yes ..... 1 No ..... 2 DK ..... 8																	
HA3. CAN PEOPLE GET THE AIDS VIRUS BECAUSE OF WITCHCRAFT OR OTHER SUPERNATURAL MEANS?	Yes ..... 1 No ..... 2 DK ..... 8																	
HA4. CAN PEOPLE REDUCE THEIR CHANCE OF GETTING THE AIDS VIRUS BY USING A CONDOM EVERY TIME THEY HAVE SEX?	Yes ..... 1 No ..... 2 DK ..... 8																	
HA5. CAN PEOPLE GET THE AIDS VIRUS FROM MOSQUITO BITES?	Yes ..... 1 No ..... 2 DK ..... 8																	
HA6. CAN PEOPLE GET THE AIDS VIRUS BY SHARING FOOD WITH A PERSON WHO HAS THE AIDS VIRUS?	Yes ..... 1 No ..... 2 DK ..... 8																	
HA7. IS IT POSSIBLE FOR A HEALTHY-LOOKING PERSON TO HAVE THE AIDS VIRUS?	Yes ..... 1 No ..... 2 DK ..... 8																	
HA8. CAN THE VIRUS THAT CAUSES AIDS BE TRANSMITTED FROM A MOTHER TO HER BABY:  [A] DURING PREGNANCY? [B] DURING DELIVERY? [C] BY BREASTFEEDING?	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> <th style="text-align: center;">DK</th> </tr> </thead> <tbody> <tr> <td>During pregnancy.....</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>During delivery.....</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>By breastfeeding.....</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	During pregnancy.....	1	2	8	During delivery.....	1	2	8	By breastfeeding.....	1	2	8	
	Yes	No	DK															
During pregnancy.....	1	2	8															
During delivery.....	1	2	8															
By breastfeeding.....	1	2	8															
HA9. IN YOUR OPINION, IF A FEMALE TEACHER HAS THE AIDS VIRUS BUT IS NOT SICK, SHOULD SHE BE ALLOWED TO CONTINUE TEACHING IN SCHOOL?	Yes ..... 1 No ..... 2 DK / Not sure / Depends ..... 8																	
HA10. WOULD YOU BUY FRESH VEGETABLES FROM A SHOPKEEPER OR VENDOR IF YOU KNEW THAT THIS PERSON HAD THE AIDS VIRUS?	Yes ..... 1 No ..... 2 DK / Not sure / Depends ..... 8																	
HA11. IF A MEMBER OF YOUR FAMILY GOT INFECTED WITH THE AIDS VIRUS, WOULD YOU WANT IT TO REMAIN A SECRET?	Yes ..... 1 No ..... 2 DK / Not sure / Depends ..... 8																	
HA12. IF A MEMBER OF YOUR FAMILY BECAME SICK WITH AIDS, WOULD YOU BE WILLING TO CARE FOR HER OR HIM IN YOUR OWN HOUSEHOLD?	Yes ..... 1 No ..... 2 DK / Not sure / Depends ..... 8																	

MICS4.WM17

<p>HA13. Check CM1: Ever given birth?</p> <p><input type="checkbox"/> No ⇒ Go to HA24</p> <p><input type="checkbox"/> Yes ⇒ Continue with the following check</p> <p>Check CM13: Any live birth in last 2 years?</p> <p><input type="checkbox"/> No live birth in last 2 years ⇒ Go to HA24</p> <p><input type="checkbox"/> One or more live births in last 2 years ⇒ Continue with HA14</p>																						
<p>HA14. Check MN1: Received antenatal care?</p> <p><input type="checkbox"/> Received antenatal care ⇒ Continue with HA15</p> <p><input type="checkbox"/> Did not receive antenatal care ⇒ Go to HA24</p>																						
<p>HA15. DURING ANY OF THE ANTENATAL VISITS FOR YOUR PREGNANCY WITH (name),</p> <p>WERE YOU GIVEN ANY INFORMATION ABOUT:</p> <p>[A] BABIES GETTING THE AIDS VIRUS FROM THEIR MOTHER?</p> <p>[B] THINGS THAT YOU CAN DO TO PREVENT GETTING THE AIDS VIRUS?</p> <p>[C] GETTING TESTED FOR THE AIDS VIRUS?</p> <p>WERE YOU:</p> <p>[D] OFFERED A TEST FOR THE AIDS VIRUS?</p>	<table border="1"> <thead> <tr> <th></th> <th>Y</th> <th>N</th> <th>DK</th> </tr> </thead> <tbody> <tr> <td>AIDS from mother .....</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Things to do .....</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Tested for AIDS .....</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Offered a test .....</td> <td>1</td> <td>2</td> <td>8</td> </tr> </tbody> </table>		Y	N	DK	AIDS from mother .....	1	2	8	Things to do .....	1	2	8	Tested for AIDS .....	1	2	8	Offered a test .....	1	2	8	
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Offered a test .....	1	2	8																			
<p>HA16. I DON'T WANT TO KNOW THE RESULTS, BUT WERE YOU TESTED FOR THE AIDS VIRUS AS PART OF YOUR ANTENATAL CARE?</p>	<p>Yes .....</p> <p>No .....</p> <p>DK .....</p>	<p>1</p> <p>2</p> <p>8</p> <p>2⇒HA19</p> <p>8⇒HA19</p>																				
<p>HA17. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?</p>	<p>Yes .....</p> <p>No .....</p> <p>DK .....</p>	<p>1</p> <p>2</p> <p>8</p> <p>2⇒HA22</p> <p>8⇒HA22</p>																				
<p>HA18. REGARDLESS OF THE RESULT, ALL WOMEN WHO ARE TESTED ARE SUPPOSED TO RECEIVE COUNSELING AFTER GETTING THE RESULT.</p> <p>AFTER YOU WERE TESTED, DID YOU RECEIVE COUNSELLING?</p>	<p>Yes .....</p> <p>No .....</p> <p>DK .....</p>	<p>1</p> <p>2</p> <p>8</p> <p>1⇒HA22</p> <p>2⇒HA22</p> <p>8⇒HA22</p>																				
<p>HA19. Check MN17: Birth delivered by health professional (A, B or C)?</p> <p><input type="checkbox"/> Yes, birth delivered by health professional ⇒ Continue with HA20</p> <p><input type="checkbox"/> No, birth not delivered by health professional ⇒ Go to HA24</p>																						
<p>HA20. I DON'T WANT TO KNOW THE RESULTS, BUT WERE YOU TESTED FOR THE AIDS VIRUS BETWEEN THE TIME YOU WENT FOR DELIVERY BUT BEFORE THE BABY WAS BORN?</p>	<p>Yes .....</p> <p>No .....</p>	<p>1</p> <p>2</p> <p>2⇒HA24</p>																				

MICS4.WM18

HA21. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes ..... 1 No ..... 2	
HA22. HAVE YOU BEEN TESTED FOR THE AIDS VIRUS SINCE THAT TIME YOU WERE TESTED DURING YOUR PREGNANCY?	Yes ..... 1 No ..... 2	1⇒HA25
HA23. WHEN WAS THE MOST RECENT TIME YOU WERE TESTED FOR THE AIDS VIRUS?	Less than 12 months ago ..... 1 12-23 months ago ..... 2 2 or more years ago ..... 3	1⇒WM11 2⇒WM11 3⇒WM11
HA24. I DON'T WANT TO KNOW THE RESULTS, BUT HAVE YOU EVER BEEN TESTED TO SEE IF YOU HAVE THE AIDS VIRUS?	Yes ..... 1 No ..... 2	2⇒HA27
HA25. WHEN WAS THE MOST RECENT TIME YOU WERE TESTED?	Less than 12 months ago ..... 1 12-23 months ago ..... 2 2 or more years ago ..... 3	
HA26. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes ..... 1 No ..... 2 DK ..... 8	1⇒WM11 2⇒WM11 8⇒WM11
HA27. DO YOU KNOW OF A PLACE WHERE PEOPLE CAN GO TO GET TESTED FOR THE AIDS VIRUS?	Yes ..... 1 No ..... 2	

WM11. Record the time.	Hour and minutes..... ____ : ____	
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WM12. Check Household Listing Form, column HL9.  
Is the respondent the mother or caretaker of any child age 0-4 living in this household?

- Yes ⇒ Go to QUESTIONNAIRE FOR CHILDREN UNDER FIVE for that child and start the interview with this respondent.
- No ⇒ End the interview with this respondent by thanking her for her cooperation.  
Check for the presence of any other eligible woman or children under-5 in the household.

MICS4.WM19



QUESTIONNAIRE FOR CHILDREN UNDER FIVE  
[SURINAME]

UNDER-FIVE CHILD INFORMATION PANEL		UF
<p><i>This questionnaire is to be administered to all mothers or caretakers (see Household Listing Form, column HL9) who care for a child that lives with them and is under the age of 5 years (see Household Listing Form, column HL6). A separate questionnaire should be used for each eligible child.</i></p>		
UF1. Cluster number: _____	UF2. Household number: _____	
UF3. Child's name: Name _____	UF4. Child's line number: _____	
UF5. Mother's / Caretaker's name: Name _____	UF6. Mother's / Caretaker's line number: _____	
UF7. Interviewer name and number: Name _____	UF8. Day / Month / Year of interview: ____ / ____ / _____	

Repeat greeting if not already read to this respondent:

WE ARE FROM THE **General Bureau of Statistics**. IN COOPERATION WITH THE MINISTRY OF SOCIAL AFFAIRS AND HOUSING WE ARE WORKING ON A PROJECT CONCERNED WITH FAMILY HEALTH AND EDUCATION. I WOULD LIKE TO TALK TO YOU ABOUT THESE SUBJECTS. THE INTERVIEW WILL TAKE ABOUT **35** MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE SHARED WITH ANYONE OTHER THAN OUR PROJECT TEAM.

If greeting at the beginning of the household questionnaire has already been read to this woman, then read the following:

NOW I WOULD LIKE TO TALK TO YOU MORE ABOUT (**child's name from UF3**)'S HEALTH AND OTHER TOPICS. THIS INTERVIEW WILL TAKE ABOUT **35** MINUTES. AGAIN, ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE SHARED WITH ANYONE OTHER THAN OUR PROJECT TEAM.

MAY I START NOW?

- Yes, permission is given ⇒ Go to UF12 to record the time and then begin the interview.
- No, permission is not given ⇒ Complete UF9. Discuss this result with your supervisor

UF9. Result of interview for children under 5  <i>Codes refer to mother/caretaker.</i>	Completed .....01 Not at home .....02 Refused .....03 Partly completed .....04 Incapacitated .....05 Other ( <i>specify</i> ) .....96
UF10. Field edited by (Name and number): Name _____	UF11. Data entry clerk (Name and number): Name _____

.MICS4.U5.1

UF12. Record the time.	Hour and minutes ..... : ..	
------------------------	-----------------------------	--

AGE	AG	
<p>AG1. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT THE HEALTH OF (name).</p> <p>IN WHAT MONTH AND YEAR WAS (name) BORN?</p> <p><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><i>Month and year must be recorded.</i></p>	<p>Date of birth</p> <p>Day ..... _ _</p> <p>DK day ..... 98</p> <p>Month ..... _ _</p> <p>Year ..... _ _ _ _</p>	
<p>AG2. HOW OLD IS (name)?</p> <p><i>Probe:</i> HOW OLD WAS (name) AT HIS / HER LAST BIRTHDAY?</p> <p><i>Record age in completed years.</i></p> <p><i>Record '0' if less than 1 year.</i></p> <p><i>Compare and correct AG1 and/or AG2 if inconsistent.</i></p>	<p>Age (in completed years) ..... _</p>	

MICS4.U5.2



BIRTH REGISTRATION		BR
BR1. DOES ( <i>name</i> ) HAVE A BIRTH CERTIFICATE?  <i>If yes, ask:</i> MAY I SEE IT?	Yes, seen..... 1	1⇒Next Module
	Yes, not seen ..... 2	
	No ..... 3	2⇒Next Module
	DK..... 8	
BR2. HAS ( <i>name</i> )'S BIRTH BEEN REGISTERED WITH THE CIVIL AUTHORITIES?	Yes ..... 1	1⇒Next Module
	No ..... 2	
	DK..... 8	
BR3. DO YOU KNOW HOW TO REGISTER YOUR CHILD'S BIRTH?	Yes ..... 1	
	No ..... 2	
BR4. WHY IS ( <i>name</i> )'S BIRTH NOT REGISTERED?	Costs too much..... 1	
	Must travel too far..... 2	
	Did not know it should be registered ..... 3	
	Did not want to pay fine ..... 4	
	Does not know where to register ..... 5	
	Other (specify) _____ 6	
DK..... 8		

.MICS4.U5.3

EARLY CHILDHOOD DEVELOPMENT		EC
EC1. HOW MANY CHILDREN'S BOOKS OR PICTURE BOOKS DO YOU HAVE FOR <i>(name)</i> ?	None .....00 Number of children's books .....0__ Ten or more books .....10	
EC2. I AM INTERESTED IN LEARNING ABOUT THE THINGS THAT <i>(name)</i> PLAYS WITH WHEN HE/SHE IS AT HOME.  DOES HE/SHE PLAY WITH:  [A] HOMEMADE TOYS (SUCH AS DOLLS, CARS, OR OTHER TOYS MADE AT HOME)?  [B] TOYS FROM A SHOP OR MANUFACTURED TOYS?  [C] HOUSEHOLD OBJECTS (SUCH AS BOWLS OR POTS) OR OBJECTS FOUND OUTSIDE (SUCH AS STICKS, ROCKS, ANIMAL SHELLS OR LEAVES)?  <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>	Y N DK Homemade toys .....1 2 8 Toys from a shop .....1 2 8 Household objects or outside objects .....1 2 8	
EC3. SOMETIMES ADULTS TAKING CARE OF CHILDREN HAVE TO LEAVE THE HOUSE TO GO SHOPPING, WASH CLOTHES, OR FOR OTHER REASONS AND HAVE TO LEAVE YOUNG CHILDREN.  ON HOW MANY DAYS IN THE PAST WEEK WAS <i>(name)</i> :  [A] LEFT ALONE FOR MORE THAN AN HOUR?  [B] LEFT IN THE CARE OF ANOTHER CHILD, THAT IS, SOMEONE LESS THAN 10 YEARS OLD, FOR MORE THAN AN HOUR?  <i>If 'none' enter '0'. If 'don't know' enter '8'</i>	Number of days left alone for more than an hour.....__ Number of days left with other child for more than an hour.....__	
EC4. Check AG2: Age of child  <input type="checkbox"/> Child age 3 or 4 ⇒ Continue with EC5  <input type="checkbox"/> Child age 0, 1 or 2 ⇒ Go to Next Module		
EC5. 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⇒ EC7 8⇒ EC7
EC6. WITHIN THE LAST SEVEN DAYS, ABOUT HOW MANY HOURS DID <i>(name)</i> ATTEND?	Number of hours.....__ __	

MICS4.U5.4

<p>EC7. 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>If yes, ask:</i> WHO ENGAGED IN THIS ACTIVITY WITH <i>(name)</i>?</p> <p><i>Circle all that apply.</i></p> <p>[A] READ BOOKS TO OR LOOKED AT PICTURE BOOKS WITH <i>(name)</i>?</p> <p>[B] TOLD STORIES TO <i>(name)</i>?</p> <p>[C] SANG SONGS TO <i>(name)</i> OR WITH <i>(name)</i>, INCLUDING LULLABIES?</p> <p>[D] TOOK <i>(name)</i> OUTSIDE THE HOME, COMPOUND, YARD OR ENCLOSURE?</p> <p>[E] PLAYED WITH <i>(name)</i>?</p> <p>[F] NAMED, COUNTED, OR DREW THINGS TO OR 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>Read books</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Told stories</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Sang songs</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Took outside</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Played with</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Named/counted</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> </tbody> </table>		Mother	Father	Other	No one	Read books	A	B	X	Y	Told stories	A	B	X	Y	Sang songs	A	B	X	Y	Took outside	A	B	X	Y	Played with	A	B	X	Y	Named/counted	A	B	X	Y	
	Mother	Father	Other	No one																																	
Read books	A	B	X	Y																																	
Told stories	A	B	X	Y																																	
Sang songs	A	B	X	Y																																	
Took outside	A	B	X	Y																																	
Played with	A	B	X	Y																																	
Named/counted	A	B	X	Y																																	
<p>EC8. 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 OR NAME AT LEAST TEN LETTERS OF THE ALPHABET?</p>	<p>Yes ..... 1</p> <p>No ..... 2</p> <p>DK..... 8</p>																																				
<p>EC9. CAN <i>(name)</i> READ AT LEAST FOUR SIMPLE, POPULAR WORDS?</p>	<p>Yes ..... 1</p> <p>No ..... 2</p> <p>DK..... 8</p>																																				
<p>EC10. DOES <i>(name)</i> KNOW THE NAME AND RECOGNIZE THE SYMBOL OF ALL NUMBERS FROM 1 TO 10?</p>	<p>Yes ..... 1</p> <p>No ..... 2</p> <p>DK..... 8</p>																																				
<p>EC11. CAN <i>(name)</i> PICK UP A SMALL OBJECT WITH TWO FINGERS, LIKE A STICK OR A ROCK FROM THE GROUND?</p>	<p>Yes ..... 1</p> <p>No ..... 2</p> <p>DK..... 8</p>																																				
<p>EC12. IS <i>(name)</i> SOMETIMES TOO SICK TO PLAY?</p>	<p>Yes ..... 1</p> <p>No ..... 2</p> <p>DK..... 8</p>																																				
<p>EC13. DOES <i>(name)</i> FOLLOW SIMPLE DIRECTIONS ON HOW TO DO SOMETHING CORRECTLY?</p>	<p>Yes ..... 1</p> <p>No ..... 2</p> <p>DK..... 8</p>																																				

.MICS4.U5.5

EC14. WHEN GIVEN SOMETHING TO DO, IS <i>(name)</i> ABLE TO DO IT INDEPENDENTLY?	Yes ..... 1 No ..... 2 DK..... 8	
EC15. DOES <i>(name)</i> GET ALONG WELL WITH OTHER CHILDREN?	Yes ..... 1 No ..... 2 DK..... 8	
EC16. DOES <i>(name)</i> KICK, BITE, OR HIT OTHER CHILDREN OR ADULTS?	Yes ..... 1 No ..... 2 DK..... 8	
EC17. DOES <i>(name)</i> GET DISTRACTED EASILY?	Yes ..... 1 No ..... 2 DK..... 8	

MICS4.U5.6

BREASTFEEDING		BF
BF1. HAS ( <i>name</i> ) EVER BEEN BREASTFED?	Yes ..... 1 No ..... 2 DK ..... 8	2⇒BF3 8⇒BF3
BF2. IS HE/SHE STILL BEING BREASTFED?	Yes ..... 1 No ..... 2 DK ..... 8	
BF3. I WOULD LIKE TO ASK YOU ABOUT LIQUIDS THAT ( <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.  DID ( <i>name</i> ) DRINK PLAIN WATER YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2 DK ..... 8	
BF4. DID ( <i>name</i> ) DRINK INFANT FORMULA YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2 DK ..... 8	2⇒BF6 8⇒BF6
BF5. HOW MANY TIMES DID ( <i>name</i> ) DRINK INFANT FORMULA?	Number of times ..... _ _	
BF6. DID ( <i>name</i> ) DRINK MILK, SUCH AS TINNED, POWDERED OR FRESH ANIMAL MILK YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2 DK ..... 8	2⇒BF8 8⇒BF8
BF7. HOW MANY TIMES DID ( <i>name</i> ) DRINK TINNED, POWDERED OR FRESH ANIMAL MILK?	Number of times ..... _ _	
BF8. DID ( <i>name</i> ) DRINK JUICE OR JUICE DRINKS YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2 DK ..... 8	
BF9. DID ( <i>name</i> ) DRINK BOUILLON SOEP OF ANDERE HELDERE SOEP YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2 DK ..... 8	
BF10. DID ( <i>name</i> ) DRINK OR EAT VITAMIN OR MINERAL SUPPLEMENTS OR ANY MEDICINES YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2 DK ..... 8	
BF11. DID ( <i>name</i> ) DRINK ORS (ORAL REHYDRATION SOLUTION) YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2 DK ..... 8	

.MICS4.U5.7

BF12. DID ( <i>name</i> ) DRINK ANY OTHER LIQUIDS YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2  DK ..... 8	
BF13. DID ( <i>name</i> ) DRINK OR EAT YOGURT YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2  DK ..... 8	2⇒BF15  8⇒BF15
BF14. HOW MANY TIMES DID ( <i>name</i> ) DRINK OR EAT YOGURT YESTERDAY, DURING THE DAY OR NIGHT?	Number of times ..... ___	
BF15. DID ( <i>name</i> ) EAT THIN PORRIDGE YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2  DK ..... 8	
BF16. DID ( <i>name</i> ) EAT SOLID OR SEMI-SOLID (SOFT, MUSHY) FOOD YESTERDAY, DURING THE DAY OR NIGHT?	Yes ..... 1 No ..... 2  DK ..... 8	2⇒BF18  8⇒BF18
BF17. HOW MANY TIMES DID ( <i>name</i> ) EAT SOLID OR SEMI-SOLID (SOFT, MUSHY) FOOD YESTERDAY, DURING THE DAY OR NIGHT?	Number of times ..... ___	
BF18. YESTERDAY, DURING THE DAY OR NIGHT, DID ( <i>name</i> ) DRINK ANYTHING FROM A BOTTLE WITH A NIPPLE?	Yes ..... 1 No ..... 2  DK ..... 8	

MICS4.U5.8

CARE OF ILLNESS		CA
CA1. IN THE LAST TWO WEEKS, HAS ( <i>name</i> ) HAD DIARRHOEA?	Yes ..... 1 No ..... 2 DK ..... 8	2⇒CA7 8⇒CA7
CA2. I WOULD LIKE TO KNOW HOW MUCH ( <i>name</i> ) WAS GIVEN TO DRINK DURING THE DIARRHOEA (INCLUDING BREASTMILK).  DURING THE TIME ( <i>name</i> ) HAD DIARRHOEA, WAS HE/SHE GIVEN LESS THAN USUAL TO DRINK, ABOUT THE SAME AMOUNT, OR MORE THAN USUAL?  <i>If less, probe:</i> WAS HE/SHE GIVEN MUCH LESS THAN USUAL TO DRINK, OR SOMEWHAT LESS?	Much less ..... 1 Somewhat less ..... 2 About the same ..... 3 More ..... 4 Nothing to drink ..... 5 DK ..... 8	
CA3. DURING THE TIME ( <i>name</i> ) HAD DIARRHOEA, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT?  <i>If "less", probe:</i> WAS HE/SHE GIVEN MUCH LESS THAN USUAL TO EAT OR SOMEWHAT LESS?	Much less ..... 1 Somewhat less ..... 2 About the same ..... 3 More ..... 4 Stopped food ..... 5 Never gave food ..... 6 DK ..... 8	
CA4. DURING THE EPISODE OF DIARRHOEA, WAS ( <i>name</i> ) GIVEN TO DRINK ANY OF THE FOLLOWING:  <i>Read each item aloud and record response before proceeding to the next item.</i>		Y N DK
[A] A FLUID MADE FROM A SPECIAL PACKET CALLED DIO SOL?	Fluid from ORS packet ..... 1 2 8	
[C] RICE WATER?	<i>Rice water</i> ..... 1 2 8	
[D] EXTRACT OF LEAVES OF GUAVA FRUIT?	<i>Extract leaves of Guava fruit</i> ..... 1 2 8	
[E] TEA	<i>Tea</i> ..... 1 2 8	
CA5. WAS ANYTHING (ELSE) GIVEN TO TREAT THE DIARRHOEA?	Yes ..... 1 No ..... 2 DK ..... 8	2⇒CA7 8⇒CA7

.MICS4.U5.9

<p>CA6. WHAT (ELSE) WAS GIVEN TO TREAT THE DIARRHOEA?</p> <p><i>Probe:</i> ANYTHING ELSE?</p> <p><i>Record all treatments given. Write brand name(s) of all medicines mentioned.</i></p> <p>_____</p> <p style="text-align: center;"><i>(Name)</i></p>	<p>Pill or Syrup</p> <p>Antibiotic.....A</p> <p>Antimotility.....B</p> <p>Zinc.....C</p> <p>Other (Not antibiotic, antimotility or zinc).....G</p> <p>Unknown pill or syrup.....H</p> <p>Injection</p> <p>Antibiotic.....L</p> <p>Non-antibiotic.....M</p> <p>Unknown injection.....N</p> <p>Intravenous.....O</p> <p>Home remedy / Herbal medicine.....Q</p> <p>Other (<i>specify</i>).....X</p>	
<p>CA7. AT ANY TIME IN THE LAST TWO WEEKS, HAS (<i>name</i>) HAD AN ILLNESS WITH A COUGH?</p>	<p>Yes.....1</p> <p>No.....2</p> <p>DK.....8</p>	<p>2⇒CA14</p> <p>8⇒CA14</p>
<p>CA8. WHEN (<i>name</i>) HAD AN ILLNESS WITH A COUGH, DID HE/SHE BREATHE FASTER THAN USUAL WITH SHORT, RAPID BREATHS OR HAVE DIFFICULTY BREATHING?</p>	<p>Yes.....1</p> <p>No.....2</p> <p>DK.....8</p>	<p>2⇒CA14</p> <p>8⇒CA14</p>
<p>CA9. WAS THE FAST OR DIFFICULT BREATHING DUE TO A PROBLEM IN THE CHEST OR A BLOCKED OR RUNNY NOSE?</p>	<p>Problem in chest only.....1</p> <p>Blocked or runny nose only.....2</p> <p>Both.....3</p> <p>Other (<i>specify</i>).....6</p> <p>DK.....8</p>	<p>2⇒CA14</p> <p>6⇒CA14</p>
<p>CA10. DID YOU SEEK ANY ADVICE OR TREATMENT FOR THE ILLNESS FROM ANY SOURCE?</p>	<p>Yes.....1</p> <p>No.....2</p> <p>DK.....8</p>	<p>2⇒CA12</p> <p>8⇒CA12</p>
<p>CA11. FROM WHERE DID YOU SEEK ADVICE OR TREATMENT?</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>Probe to identify each type of source.</i></p> <p><i>If unable to determine if public or private sector, write the name of the place.</i></p> <p>_____</p> <p style="text-align: center;"><i>(Name of place)</i></p>	<p>Public sector</p> <p>Govt. hospital.....A</p> <p>Govt. health centre.....B</p> <p>Govt. health post.....C</p> <p>Village health worker.....D</p> <p>Mobile / Outreach clinic.....E</p> <p>Other public (<i>specify</i>).....H</p> <p>Private medical sector</p> <p>Private hospital / clinic.....I</p> <p>Private physician.....J</p> <p>Private pharmacy.....K</p> <p>Mobile clinic.....L</p> <p>Other private medical (<i>specify</i>).....O</p> <p>Other source</p> <p>Relative / Friend.....P</p> <p>Shop.....Q</p> <p>Traditional practitioner.....R</p> <p>Other (<i>specify</i>).....X</p>	

.MICS4.U5.10



<p>CA12. WAS (<i>name</i>) GIVEN ANY MEDICINE TO TREAT THIS ILLNESS?</p>	<p>Yes ..... 1                  No ..... 2                  DK ..... 8</p>	<p>2⇒CA14                  8⇒CA14</p>
<p>CA13. WHAT MEDICINE WAS (<i>name</i>) GIVEN?</p> <p><i>Probe:</i>                  ANY OTHER MEDICINE?</p> <p><i>Circle all medicines given. Write brand name(s) of all medicines mentioned.</i></p> <p>_____</p> <p>(<i>Names of medicines</i>)</p>	<p>Antibiotic                  Pill / Syrup .....A                  Injection .....B</p> <p>Anti-malarials ..... M</p> <p>Paracetamol / Panadol / Acetaminophen ....P                  Aspirin ..... Q                  Ibuprofen .....R</p> <p>Other (<i>specify</i>) _____X                  DK .....Z</p>	
<p>CA14. Check AG2: Child aged under 3?</p> <p><input type="checkbox"/> Yes ⇒ Continue with CA15</p> <p><input type="checkbox"/> No ⇒ Go to Next Module</p>		
<p>CA15. THE LAST TIME (<i>name</i>) PASSED STOOLS, WHAT WAS DONE TO DISPOSE OF THE STOOLS?</p>	<p>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</p> <p>Other (<i>specify</i>) _____96                  DK .....98</p>	

MICS4.U5.11

MALARIA		ML
Check Household Information Panel, HH7= 09 -10?  <input type="checkbox"/> Yes ⇒ Continue with ML1.  <input type="checkbox"/> No ⇒ Go to Next Module.		
ML1. IN THE LAST TWO WEEKS, HAS ( <i>name</i> ) BEEN ILL WITH A FEVER AT ANY TIME?	Yes ..... 1 No ..... 2  DK ..... 8	2⇒Next Module 8⇒Next Module
ML2. AT ANY TIME DURING THE ILLNESS, DID ( <i>name</i> ) HAVE BLOOD TAKEN FROM HIS/HER FINGER OR HEEL FOR TESTING?	Yes ..... 1 No ..... 2  DK ..... 8	
ML3. DID YOU SEEK ANY ADVICE OR TREATMENT FOR THE ILLNESS FROM ANY SOURCE?	Yes ..... 1 No ..... 2  DK ..... 8	2⇒ML8  8⇒ML8
ML4. WAS ( <i>name</i> ) TAKEN TO A HEALTH FACILITY DURING THIS ILLNESS?	Yes ..... 1 No ..... 2  DK ..... 8	2⇒ML8  8⇒ML8
ML5. WAS ( <i>name</i> ) GIVEN ANY MEDICINE FOR FEVER OR MALARIA AT THE HEALTH FACILITY?	Yes ..... 1 No ..... 2  DK ..... 8	2⇒ML7  8⇒ML7
ML6. WHAT MEDICINE WAS ( <i>name</i> ) GIVEN?  <i>Probe:</i> ANY OTHER MEDICINE?  <i>Circle all medicines mentioned. Write brand name(s) of all medicines, if given.</i>  _____ <i>(Name)</i>	Anti-malarials: SP / Fansidar.....A Chloroquine.....B Amodiaquine.....C Quinine.....D Combination with Artemisinin.....E Other anti-malarial ( <i>specify</i> ) _____H  Antibiotic drugs Pill / Syrup.....I Injection.....J  Other medications: Paracetamol/ Panadol /Acetaminophen..P Aspirin.....Q Ibuprofen.....R  Other ( <i>specify</i> ) _____X DK .....Z	
ML7. WAS ( <i>name</i> ) GIVEN ANY MEDICINE FOR THE FEVER OR MALARIA BEFORE BEING TAKEN TO THE HEALTH FACILITY?	Yes ..... 1 No ..... 2  DK ..... 8	1⇒ML9 2⇒ML10  8⇒ML10

.MICS4.U5.12

ML8. WAS ( <i>name</i> ) GIVEN ANY MEDICINE FOR FEVER OR MALARIA DURING THIS ILLNESS?	Yes ..... 1 No ..... 2 DK ..... 8	2⇒ML10 8⇒ML10
ML9. WHAT MEDICINE WAS ( <i>name</i> ) GIVEN?  <i>Probe:</i> ANY OTHER MEDICINE?  <i>Circle all medicines mentioned. Write brand name(s) of all medicines, if given.</i>  _____ (Name)	Anti-malarials: SP / Fansidar ..... A Chloroquine ..... B Amodiaquine ..... C Quinine ..... D Combination with Artemisinin ..... E Other anti-malarial ( <i>specify</i> ) ..... H  Antibiotic drugs Pill / Syrup ..... I Injection ..... J  Other medications: Paracetamol / Panadol / Acetaminophen .. P Aspirin ..... Q Ibuprofen ..... R  Other ( <i>specify</i> ) ..... X DK ..... Z	
ML10. Check ML6 and ML9: Anti-malarial mentioned (codes A - H)?  <input type="checkbox"/> Yes ⇒ Continue with ML11  <input type="checkbox"/> No ⇒ Go to Next Module		
ML11. HOW LONG AFTER THE FEVER STARTED DID ( <i>name</i> ) FIRST TAKE ( <i>name of anti-malarial from ML6 or ML9</i> )?  <i>If multiple anti-malarials mentioned in ML6 or ML9, name all anti-malarial medicines mentioned.</i>	Same day ..... 0 Next day ..... 1 2 days after the fever ..... 2 3 days after the fever ..... 3 4 or more days after the fever ..... 4 DK ..... 8	



<p>IM5. IN ADDITION TO WHAT IS RECORDED ON THIS BOOK, DID (<i>name</i>) RECEIVE ANY OTHER VACCINATIONS – INCLUDING VACCINATIONS RECEIVED IN CAMPAIGNS OR IMMUNIZATION DAYS?</p> <p><i>Record 'Yes' only if respondent mentions vaccines shown in the table above.</i></p>	<p>Yes ..... 1  <i>(Probe for vaccinations and write '66' in the corresponding day column for each vaccine mentioned. Then skip to IM19)</i></p> <p>No ..... 2  DK ..... 8</p>	<p>2⇒IM19  8⇒IM19</p>
<p>IM6. HAS (<i>name</i>) EVER RECEIVED ANY VACCINATIONS TO PREVENT HIM/HER FROM GETTING DISEASES, INCLUDING VACCINATIONS RECEIVED IN A CAMPAIGN OR IMMUNIZATION DAY?</p>	<p>Yes ..... 1</p> <p>No ..... 2  DK ..... 8</p>	<p>2⇒IM19  8⇒IM19</p>
<p>IM8. HAS (<i>name</i>) EVER RECEIVED ANY "VACCINATION DROPS IN THE MOUTH" TO PROTECT HIM/HER FROM GETTING DISEASES – THAT IS, POLIO?</p>	<p>Yes ..... 1</p> <p>No ..... 2  DK ..... 8</p>	<p>2⇒IM11  8⇒IM11</p>
<p>IM9. WAS THE FIRST POLIO VACCINE RECEIVED IN THE FIRST TWO WEEKS AFTER BIRTH OR LATER?</p>	<p>First two weeks ..... 1  Later ..... 2</p>	
<p>IM10. HOW MANY TIMES WAS THE POLIO VACCINE RECEIVED?</p>	<p>Number of times .....</p>	
<p>IM11. HAS (<i>name</i>) EVER RECEIVED A DPT VACCINATION – THAT IS, AN INJECTION IN THE THIGH OR BUTTOCKS – TO PREVENT HIM/HER FROM GETTING TETANUS, WHOOPING COUGH, OR DIPHTHERIA?</p> <p><i>Probe by indicating that DPT vaccination is sometimes given at the same time as Polio</i></p>	<p>Yes ..... 1</p> <p>No ..... 2  DK ..... 8</p>	<p>2⇒IM13  8⇒IM13</p>
<p>IM12. HOW MANY TIMES WAS A DPT VACCINE RECEIVED?</p>	<p>Number of times .....</p>	
<p>IM13. HAS (<i>name</i>) EVER BEEN GIVEN A HEPATITIS B VACCINATION – THAT IS, AN INJECTION IN THE THIGH OR BUTTOCKS – TO PREVENT HIM/HER FROM GETTING HEPATITIS B?</p> <p><i>Probe by indicating that the Hepatitis B vaccine is sometimes given at the same time as Polio and DPT vaccines</i></p>	<p>Yes ..... 1</p> <p>No ..... 2  DK ..... 8</p>	<p>2⇒IM16  8⇒IM16</p>
<p>IM14. WAS THE FIRST HEPATITIS B VACCINE RECEIVED WITHIN 24 HOURS AFTER BIRTH, OR LATER?</p>	<p>Within 24 hours ..... 1  Later ..... 2</p>	
<p>IM15. HOW MANY TIMES WAS A HEPATITIS B VACCINE RECEIVED?</p>	<p>Number of times .....</p>	
<p>IM16. HAS (<i>name</i>) EVER RECEIVED A MEASLES INJECTION OR AN MMR INJECTION – THAT IS, A SHOT IN THE ARM AT THE AGE OF 9 MONTHS OR OLDER - TO PREVENT HIM/HER FROM GETTING MEASLES?</p>	<p>Yes ..... 1</p> <p>No ..... 2  DK ..... 8</p>	
<p>IM17. HAS (<i>name</i>) EVER RECEIVED THE YELLOW FEVER VACCINATION – THAT IS, A SHOT IN THE ARM AT THE AGE OF 9 MONTHS OR OLDER - TO PREVENT HIM/HER FROM GETTING YELLOW</p>	<p>Yes ..... 1</p> <p>No ..... 2  DK ..... 8</p>	

.MICS4.U5.15

FEVER? <i>Probe by indicating that the yellow fever vaccine is sometimes given at the same time as the measles vaccine</i>		
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
[A] <b>Vaccination Week in the Americas in April 2010</b>	April 2010 .....	1 2 8
[B] <b>Vaccination Week in the Americas in April 2009</b>	April 2009 .....	1 2 8
[C] <b>Vaccination Week in the Americas in April 2008</b>	April 2008 .....	1 2 8
[D] <b>Vaccination Week in the Americas in April 2007</b>	April 2007 .....	1 2 8
[E] <b>Vaccination Week in the Americas in April 2006</b>	April 2006 .....	1 2 8

UF13. <i>Record the time.</i>	Hour and minutes..... __ __ : __ __	
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UF14. *Is the respondent the mother or caretaker of another child age 0-4 living in this household?*

*Yes* ⇒ *Indicate to the respondent that you will need to measure the weight and height of the child later. Go to the next QUESTIONNAIRE FOR CHILDREN UNDER FIVE to be administered to the same respondent*

*No* ⇒ *End the interview with this respondent by thanking him/her for his/her cooperation and tell her/him that you will need to measure the weight and height of the child*

*Check to see if there are other woman's or under-5 questionnaires to be administered in this household.*

*Move to another woman's or under-5 questionnaire, or start making arrangements for anthropometric measurements of all eligible children in the household.*

.MICS4.U5.16

ANTHROPOMETRY		AN
<p>After questionnaires for all children are complete, the measurer weighs and measures each child. Record weight and length/height below, taking care to record the measurements on the correct questionnaire for each child. Check the child's name and line number on the household listing before recording measurements.</p>		
AN1. Measurer's name and number:	Name _____	
AN2. Result of height / length and weight measurement	Either or both measured ..... 1 Child not present ..... 2    2⇒AN6 Child or caretaker refused ..... 3    3⇒AN6 Other (specify) _____ 6    6⇒AN6	
AN3. Child's weight	Kilograms (kg) ..... Weight not measured .....99.9	
AN4. Child's length or height	Check age of child in AG2: <input type="checkbox"/> Child under 2 years old. ⇒ Measure length (lying down). Length (cm) Lying down..... 1 <input type="checkbox"/> Child age 2 or more years. ⇒ Measure height (standing up). Height (cm) Standing up..... 2 Length / Height not measured..... 9999.9	
AN5. Oedema	Checked Oedema present ..... 1 Oedema not present..... 2 Unsure ..... 3 Not checked (specify reason) _____ 7	

AN6. 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.

.MICS4.U5.17

Suriname  
Multiple Indicator Cluster Survey  
2010