Republic of Macedonia

Montoring the situation of children and women

Multiple Indicator Cluster Survey 2011

Министерство за образование и наука

МТСП
МИНИСТЕРСТВО ЗА ТРУД И СОЦИЈАЛНА ПОЛИТИКА

Министерство за здравство

MICS

MICS

REPUBLIC OF MACEDONIA MULTIPLE INDICATOR CLUSTER SURVEY 2011

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The Macedonia Multiple Indicator Cluster Survey (MICS) was carried out in 2011 in cooperation between the Ministry of Health, Ministry of Education and Science, and Ministry of Labour and Social Policy of the Government of Republic of Macedonia. Data collection was conducted by private research company IPSOS Strategic Puls. Financial and technical support was provided by the United Nations Children's Fund (UNICEF), with additional financial support from the United Nations Population Fund (UNFPA).

MICS is an international household survey programme developed by UNICEF. The 2011 Macedonia 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.

Summary Table of Findings

MULTIPLE INDICATOR CLUSTER SURVEYS (MICS) AND MILLENNIUM DEVELOPMENT GOALS (MDG) INDICATORS, MACEDONIA, 2011

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value		
				Macedonia	Roma settlements	
CHILD MORTALITY						
Child Mortality	1.2	4.2	Infant mortality rate	N/A	13[1]	per thousand
	1.1	4.1	Under five mortality rate	N/A	14[2]	per thousand
NUTRITION						
Nutritional status		1.8	Underweight prevalence			
	2.1a		Moderate and Severe (- 2 SD)	1.3	7.6	percent
	2.1b		Severe (- 3 SD)	0.2	2.0	percent
			Stunting prevalence			
	2.2a		Moderate and Severe (- 2 SD)	4.9	16.5	percent
	2.2b		Severe (- 3 SD)	2.0	3.0	percent
			Wasting prevalence			
	2.3a		Moderate and Severe (- 2 SD)	1.8	4.5	percent
	2.3b		Severe (- 3 SD)	0.2	1.7	percent
Breastfeeding and infant feeding	2.4		Children ever breastfed	93.9	95.5	percent
	2.5		Early initiation of breastfeeding	21.0	38.6	percent
	2.6		Exclusive breastfeeding under 6 months	23.0	(32.1)	percent
	2.7		Continued breastfeeding at 1 year	33.8	(52.8)	percent
	2.8		Continued breastfeeding at 2 years	12.8	(54.7)	percent
	2.9		Predominant breastfeeding under 6 months	44.1	(67.6)	percent
	2.10		Duration of breastfeeding	10.0	17.9	months
	2.11		Bottle feeding	79.3	68.0	percent
	2.12		Introduction of solid, semi-solid or soft foods	40.5	(*)	percent
	2.13		Minimum meal frequency	65.2	62.5	percent
	2.14		Age-appropriate breastfeeding	22.4	42.9	percent
	2.15		Milk feeding frequency for non-breastfed children	92.0	76.1	percent
Low birth weight	2.18		Low-birth weight infants	5.5	11.2	percent
	2.19		Infants weighed at birth	96.3	94.0	percent
CHILD HEALTH						
Vaccinations	3.1		Tuberculosis immunization coverage	97.1	96.4	percent
	3.2		Polio immunization coverage	91.7	81.3	percent
	3.3		Immunization coverage for diphtheria, pertussis and tetanus (DPT)	91.9	77.9	percent
	3.4	4.3	Measles immunization coverage	91.6	88.9	percent
	3.5		Hepatitis B immunization coverage	90.6	85.3	percent
Solid fuel use	3.11		Solid fuels	33.6	33.0	percent

1 Rate refers to 2005
2 *Ibid*

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value		
				Macedonia	Roma settlements	
WATER AND SANITATION						
Water and sanitation	4.1	7.8	Use of improved drinking water sources	99.6	99.1	percent
	4.2		Water treatment	1.5	(15.1)	percent
	4.3	7.9	Use of improved sanitation	92.9	91.1	percent
	4.4		Safe disposal of child's faeces	17.3	25.0	percent
REPRODUCTIVE HEALTH						
Contraception and unmet need	5.1	5.4	Adolescent birth rate	12	(94)[3]	per 1,000
	5.2		Early childbearing	nd[4]	27.3	percent
	5.3	5.3	Contraceptive prevalence rate	40.2	37.0	percent
	5.4	5.6	Unmet need	12.1	21.1	percent
Maternal and newborn health	5.5a 5.5b	5.5	Antenatal care coverage At least once by skilled personnel At least four times by any provider	98.6 93.9	94.0 85.9	percent percent
	5.6		Content of antenatal care	94.1	82.7	percent
	5.7	5.2	Skilled attendant at delivery	98.3	99.5	percent
	5.8		Institutional deliveries	98.4	99.1	percent
	5.9		Caesarean section	24.9	13.1	percent
CHILD DEVELOPMENT						
Child development	6.1		Support for learning	91.5	61.8	percent
	6.2		Father's support for learning	71.1	56.8	percent
	6.3		Learning materials: children's books	52.4	27.1	percent
	6.4		Learning materials: playthings	70.7	62.1	percent
	6.5		Inadequate care	5.0	7.4	percent
	6.6		Early child development index	92.7	72.2	percent
	6.7		Attendance to early childhood education	21.8	3.9	percent
EDUCATION						
Literacy and education	7.1	2.3	Literacy rate among young women age 15-24 years	97.4	76.6	percent
	7.2		School readiness	40.0	36.1	percent
	7.3		Net intake rate in primary education	91.2	84.3	percent
	7.4	2.1	Primary school net attendance ratio (adjusted)	98.3	85.6	percent
	7.5		Secondary school net attendance ratio (adjusted)	85.7	39.2	percent
	7.6	2.2	Children reaching last grade of primary	98.6	89.2	percent
	7.7		Primary completion rate	97.4	67.1	percent
	7.8		Transition rate to secondary school	98.0	80.4	percent
	7.9		Gender parity index (primary school)	1.00	1.00	ratio
	7.10		Gender parity index (secondary school)	.96	.80	ratio

[4] nd: Data not collected

3 Figure based on 125-249 person-years of exposure

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value		
				Macedonia	Roma settlements	
CHILD PROTECTION						
Birth registration	8.1		Birth registration	99.7	98.4	percent
Child labour	8.2		Child labour	16.6	10.3	percent
	8.3		School attendance among child labourers	83.6	74.0	percent
	8.4		Child labour among students	16.2	10.3	percent
Child discipline	8.5		Violent discipline	69.3	82.0	percent
Early marriage and polygyny	8.6		Marriage before age 15 among women age 15-49 years	1.4	11.9	percent
	8.7		Marriage before age 18 among women age 20-49 years	10.7	47.0	percent
	8.8		Young women age 15-19 years currently married or in union	4.3	22.4	percent
	8.10.b		Spousal age difference women age 20-24 years	8.4	5.1	percent
Domestic violence	8.14		Attitudes towards domestic violence women age 15-49 years	14.5	25.4	percent
Orphaned children	9.17		Children's living arrangements	0.7	2.2	percent
	9.18		Prevalence of children with one or both parents dead	1.9	3.3	percent
SUBJECTIVE WELL-BEING						
Subjective well-being	SW.1		Life satisfaction among women age 15-24 years	68.5	60.2	percent
	SW.2		Happiness among women age 15-24 years	94.0	83.6	percent
	SW.3		Perception of a better life among women age 15-24 years	54.6	39.0	percent
TOBACCO AND ALCOHOL USE						
Tobacco use	TA.1		Tobacco use among women age 15-49 years	30.0	42.1	percent
	TA.2		Smoking before age 15 among women age 15-49 years	5.2	22.7	percent
Alcohol use	TA.3		Alcohol use among women age 15-49 years	28.5	11.2	percent
	TA.4		Use of alcohol before age 15 among women age 15-49 years	2.6	4.8	percent

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

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List of Abbreviations

ANC	Antenatal Care
BCG	Bacillis-Cereus-Geuerin (Tuberculosis)
CSPro	Census and Survey Processing System
DPT	Diphteria Pertussis Tetanus
ECDI	Early Child Development Index
EPI	Expanded Programme on Immunization
EU	European Union
GFR	General Fertility rate
GPI	Gender Parity Index
HIV	Human Immunodeficiency Virus
ICT	Information/Communication Technology
IMR	Infant Mortality rate
IUD	Intrauterine Device
JMP	Joint Monitoring Programme
LAM	Lactational Amenorrhea Method
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MoH	Ministry of Health
NAR	Net Attendance Rate
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Treatment
ppm	Parts Per Million
PPP	Preparatory Preschool Programme
PSU	Primary Sampling Unit
RHF	Recommended Home Fluid
SPSS	Statistical Package for Social Sciences
TFR	Total Fertility rate
U5MR	Under-Five Mortality Rate
UNDP	United Nations Development Programme
UNDAF	United Nations Development Assistance Framework
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WFFC	World Fit For Children
WHO	World Health Organization

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This survey would have not been possible without the participation of the citizens of the Republic of Macedonia. They contributed their hospitality, time, patience, and personal information, which is the essence of this report.

Under the leadership of IPSOS Strategic Puls, the data collection teams carried out their work in a highly professional manner contributing to the quality and value of this report.

UNICEF personnel in the Macedonia Country office, the CEE/CIS Regional office and the Global MICS team contributed in all stages of the survey and the development of the report through their knowledge, experience, enthusiasm and flexibility.

A number of local and international experts provided critical support and inputs in the data collection process and during the preparation of the report.

Members of the MICS4 Steering Committee provided valuable advice and comments during the preparation of the survey, the development of the questionnaires, and the drafting of the report.

EXECUTIVE SUMMARY

Introduction

The Multiple Indicator Cluster Survey (MICS) is an international household survey programme developed by the United Nations Children's Fund (UNICEF). The Republic of Macedonia MICS 2011 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.

The survey was conducted in cooperation between UNICEF and the Institute of Public Health of the Republic of Macedonia with the data collection being carried out by private research company IPSOS Strategic Puls. Financial and technical support was provided by UNICEF, with additional financial support from the United Nations Population Fund (UNFPA).

In addition to conducting the MICS4 on a national scale, a separate sample of Roma settlements in Macedonia was also conducted. Results from both samples are presented jointly in this report. The following are major findings highlighted from each chapter of the report.

Child Nutritional Status

In Macedonia, 5 percent of children in the national sample and 17 percent of children from Roma settlements are stunted. The percentage of stunted children in Roma settlements decreases with the improvement of the material situation in the household. Stunting is nine times more frequent in children living in households from the poorest quintile. Roma boys (21 percent) are more likely to have stunted growth than Roma girls (12 percent).

At the national level, 12 percent of children under the age of five are overweight.

Breastfeeding

In both samples, over 90 percent of children born within the last two years were breastfed. The percentage of children less than six months old who were exclusively breastfed is very low at 23 percent at the national level and 32 percent in Roma settlements.

Child Health

In both samples, over 90 percent of children were immunized. Children in Roma settlements, however, are less likely to receive the full round of vaccinations compared to children in the national level.

Water and Sanitation

More than 90 percent of the population in the country use both improved water sources and sanitation. 99.6 percent of the population has access to an improved drinking water source (if one uses a broad definition of access where improved drinking water sources include piped water, a public tap/standpipe, a tubewell/borehole, a protected well or spring). The situation is similar in Roma settlements where 99 percent of the population uses an improved source of drinking water. 93 percent in the national sample and 91 percent in the Roma population use improved sanitation. However, approximately one third of the poorest households in Roma settlements do not have access to improved water sources and/or sanitation as compared to the rest of the population where over 90 percent have access to these two commodities.

Reproductive Health

In both samples, over 90 percent of women aged 15-49 years have heard of at least one modern contraceptive method. At the same time, only 13 percent of women in the national sample and 7 percent in the Roma sample use modern contraceptive methods, and 60 percent in the national sample and 63 percent in the Roma sample do not use any contraception. Traditional methods are used by 28 percent of women in the national sample and 30 percent in the Roma sample.

One in every four babies born in Macedonia is delivered by cesarean section (C-section). C-section deliveries are more frequent as the wealth status of

a woman increases. Pregnant women in the richest quintile will likely deliver by C-section four times more compared to pregnant women in the poorest quintile.

Child Development

Less than a quarter of pre-school aged children (36-59 months) in the national sample attend some form of early childhood education while children in Roma settlements are five times less likely to attend.

There is a strong correlation between the mother's education level and the likelihood of her child's early childhood education attendance. 47 percent of children whose mothers have completed higher education are attending some form of organized early childhood education programme. Meanwhile, only 1 percent of children whose mothers have completed primary or less education are included in such programmes.

Literacy and Education

Literacy among young women in the national sample is higher than in the Roma settlements. Considerable disparities exist within the women in Roma settlements, particularly in terms of wealth quintile. Only one in two Roma women aged 15-24 years and living in the poorest households are able to read.

Over half of Roma youth at secondary school age do not attend secondary school. This situation contributes to the higher level of unemployment, social exclusion and poverty among the Roma population.

Child Discipline

There are a low percentage of respondents, from both samples, who believe that a child needs to be physically punished. In contrast, the percentage of parents or other adult household members who use violence as a way to discipline children is high.

Among children aged 2-14 years, seven in ten children in the national sample and eight in ten in the Roma settlements have been violently punished either psychologically or physically by their parents or primary caretakers or another adult household member within a month preceding the survey.

Domestic violence

15 percent of women aged 15-49 years believe that a husband is justified in beating the wife/partner in specific circumstances. The percentage is higher in the Roma population with 25 percent of women justifying the use of domestic violence by husbands.

The contrast is even higher between ethnic Macedonians and Albanians within the national sample. Women in Albanian households justify a partner's violent behavior in specific circumstances five times more than in Macedonian households (30 percent in Albanian households compared to 6 percent in Macedonian households).

Acceptance of domestic violence is closely associated with a woman's education level. Violence is seen as being acceptable ten times more by women with a primary or less education compared with those with a higher education.

Tobacco and Alcohol use

The prevalence of smoking, particularly during pregnancy, is a significant public health issue in the country. Smoking among women aged 15-49 years increases with the rise in household wealth. Among Roma women, however, smoking decreases with household wealth.

The use of alcohol among women aged 15-49 also tends to increase with household wealth, with five times more women using alcohol in the richest quintile compared to the poorest quintile.

Almost one in every four pregnant women from the national sample is a smoker. The percentage is slightly lower in the Roma community, where every fifth women smokes during pregnancy.

I INTRODUCTION

Background

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

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

A Commitment to Action: National and International Reporting Responsibilities

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

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

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

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

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

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

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

In Macedonia, commitment to these international agreements and priorities has been demonstrated through the development of national policies, strategies, and plans, and in conducting activities for their implementation. The most important are the following:

National Plan for Action for Children 2006-2015; National Strategy on Integrated Education (2010); National Strategy on deinstitutionalization (2008); National Programme for Social Protection (2010); Social Inclusion Strategy (2011).

The MICS4 Steering Committee was established to provide advice during the preparation of the report, implementation of the surveys, and the dissemination of the results of the report. Members from the following institutions were included in the Steering Committee:

- Institute of Public Health – Chair;
- Ministry of Health;
- Ministry of Education;
- Ministry of Labor and Social Policy;
- Institute for Social Activities;
- State Statistics Office;
- UNDP;
- UNFPA;
- WHO;
- UNICEF;
- IPSOS Strategic Puls.

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

Survey Objectives

The 2011 Macedonia Multiple Indicator Cluster Survey primary objectives are:

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

II SAMPLE AND SURVEY METHODOLOGY

The Macedonia MICS 2011 was conducted using two separate samples. One sample was designed to cover the general population (referred in the report as the national sample) and the other sample was developed specifically for the Roma population living in Roma settlements (referred in the report as the Roma sample).

In Macedonia, the Roma population is among the most deprived and excluded groups in the country. To collect more accurate data on issues affecting this population a separate sample covering the Roma population in Roma settlements was included in the survey.

Sample Design of the National Sample

The sample for the Macedonia MICS was designed to provide estimates for a large number of indicators on the situation of children and women at the national level, for both urban and rural areas and for eight regions: Vardar, East, Southwest, Southeast, Pelagonia, Polog, Northeast, and Skopje.

The urban and rural areas within each region were identified as the main sampling strata and the sample was selected in two stages. Within each stratum, a specified number of census enumeration areas were selected systematically with probability proportional to size. After a household listing was carried out within the selected enumeration areas, the households were divided into two groups: households with children under age 5 and households without children under age 5. A separate systematic sample for each group of households was drawn in each sample enumeration area. A total of 300 enumeration areas were selected- 175 urban and 125 rural.

In 17 of the selected enumeration areas distributed in three regions in the western part of the country, more than 20 percent of the selected households were empty during the data collection. As these households were occupied at the time of the listing, it is assumed that residents were engaged in seasonal work abroad. The empty households were replaced by selecting additional households from the same enumeration areas. The change of the selected households was reflected in the calculation of the sample weights after the data collection. The sample was stratified by region, urban and rural areas, and is not self-weighting. For reporting national level results, sample weights are used.

Sample Design of the Roma Sample

ROMA SETTLEMENTS

The sample for the Roma settlements Macedonia MICS was designed to provide estimates for a large number of indicators on the situation of Roma children and women at the national level. Roma settlements are situated in urban areas; therefore no urban-rural distinction is reflected in the sample. Similarly, being concentrated in major urban areas (with over 50 percent of Roma population living in Skopje) Roma settlements are not evenly distributed across the regions. Enumeration areas where Roma population was at least 15 percent of the total population were identified as Roma enumeration areas (Roma settlements). There are a total of 204 such enumeration areas in the country, of which 70 were selected proportional to size and included in the sample. The sample is not self-weighting. For reporting national level results, sample weights are used.

As the national sample was designed using a random model, it also includes respondents of Roma ethnicity to the extent they are represented in the population. They are included in the category *Other* in the report.

A more detailed description of the sample designs can be found in Appendix A1 and A2.

Questionnaires

Five questionnaires were used in the survey:

1) A Household Questionnaire, used to collect information on all *de jure* household members (usual residents), the household, and the dwelling;
2) A Women's Questionnaire administered in each household to all women aged 15-49 years;
3) An Under 5 Questionnaire administered to mothers or caretakers for all children under 5 living in the household;
4) A Questionnaire for Child Disability administered to mothers or caretakers for all children aged 2-9 years;
5) A Questionnaire for Vaccinations at a health facility.

The Household Questionnaire included the following modules:

- Household Listing Form
- Education
- Water and Sanitation
- Household Characteristics
- Child Labour
- Child Discipline

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

- Women's Background
- Child Mortality[4] (full module for Roma sample only)
- Desire for Last Birth
- Maternal and Newborn Health
- Illness Symptoms
- Contraception
- Unmet Need
- Attitudes Towards Domestic Violence
- Marriage/Union
- Tobacco and Alcohol Use
- Life Satisfaction

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

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

The Questionnaire Form For Child Disability contained the Ten Question Module for identifying children with an increased risk of disability.

The Questionnaire Form for Vaccinations at Health Facility was used to check the consistency in recording the immunizations between the documents kept in the health facilities and the immunization cards in the households.

The questionnaires were based on the MICS4 model questionnaire[6]. From the MICS4 model English version, the questionnaires were customized, translated into Macedonian and Albanian, back translated into English, and pre-tested in Skopje in March 2011. Based on the results of the pre-test, modifications were made to the wording and translation of the questionnaires. A copy of the Macedonia MICS questionnaires is provided in Appendix F.

In addition to the administration of the questionnaires, fieldwork teams measured the weights and heights of children under 5 years of age. Details and findings of these measurements are provided in the respective sections of the report.

4 The module on child mortality also incorporates questions on abortion. These questions were answered by respondents in both samples.

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

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

Training and Fieldwork

Fieldwork training was conducted for 12 days in March/April 2011. Training included lectures on interviewing techniques and the contents of the questionnaires, and mock interviews between trainees to gain practice in asking questions. Towards the end of the training period, trainees spent two days practicing interviews in urban and rural areas near Struga city.

12 teams collected the data. Each team comprised of four interviewers, one editor, one measurer and a supervisor. Fieldwork began in April 2011 and concluded in July 2011.

Data Processing

Data were entered using the CSPro software. The data were entered on 12 microcomputers and carried out by 20 data entry operators and 10 data entry supervisors. In order to ensure quality control, all questionnaires were double entered and internal consistency checks were performed. Procedures and standard programs developed under the global MICS4 programme and adapted to the Macedonia questionnaire were used throughout. Data processing began almost simultaneously with data collection in May 2011 and was completed in August 2011. Data were analysed using the Statistical Package for Social Sciences (SPSS) software program, Version 18, and the model syntax and tabulation plans developed by UNICEF were used for this purpose.

The Report Structure

This report presents findings from the MICS4 surveys carried out on two samples. Although they can be interpreted as two independent surveys, the findings are jointly presented in one report to ease data comparison between both samples. Each sub-chapter comprises of a common introduction and a description of the findings from the national sample and the Roma sample. In order to visually differentiate findings from the two samples, survey results from the Roma sample are shaded in a different colour.

How to Read the Tables

Some of the data collected by the questionnaires are not shown in the tables but are discussed in the text because the number of cases in the disaggregated categories was not sufficient for making conclusions.

The number of cases in the education category *None* within the national sample was too small to be reported separately. Thus the category *None* was merged with the category *Primary* and presented (except in HH tables) as *Primary or Less*. The education category *Higher* within the Roma sample was too small to be reported separately. As such, the category *Higher* was merged with the category *Secondary* and presented (except in HH tables) as *Secondary+*.

Note:
(R) — Letter R after a Table/Figure code indicates that it refers only to the Roma settlements sample.
(*) — An asterisk in the tables indicates that the percentage or proportion has been suppressed because it is based on fewer than 25 unweighted cases.
(Number) — Figure in parenthesis indicate that the percentage or proportion is based on just 25 to 49 unweighted cases and should be treated with caution.

III SAMPLE COVERAGE AND THE CHARACTERISTICS OF HOUSEHOLDS AND RESPONDENTS

Sample Coverage

Of the 4703 households selected for the sample, 4397 were found to be occupied. Of these, 4018 were successfully interviewed for a household response rate of 91 percent. In the interviewed households, 4024 women (aged 15-49 years) were identified as eligible. Of these, 3831 were successfully interviewed, yielding a response rate of 95 percent within interviewed households. There were 1398 children under age 5 listed in the household questionnaire. Questionnaires were completed for 1376 of these children yielding a response rate of 98 percent within interviewed households. Overall, response rates of 87 percent and 90 percent are calculated for the interviews with women and children under age 5 (Table HH.1).

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

Number of households, women, and children under 5 by results of the household, women's and under-5's interviews, and household, women's and under-5's response rates, Macedonia, 2011

	Area		Region								Total
	Urban	Rural	Vardar	East	South-west	South-east	Pelago-nia	Polog	North-east	Skopje	
Households											
Sampled	2678	2025	358	444	507	369	551	742	408	1324	4703
Occupied	2517	1880	348	407	464	362	550	666	372	1228	4397
Interviewed	2206	1812	338	370	428	354	550	625	341	1012	4018
Household response rate	87.6	96.4	97.1	90.9	92.2	97.8	100.0	93.8	91.7	82.4	91.4
Women											
Eligible	1949	2075	263	261	450	314	500	802	362	1072	4024
Interviewed	1838	1993	257	254	417	299	490	779	353	982	3831
Women's response rate	94.3	96.0	97.7	97.3	92.7	95.2	98.0	97.1	97.5	91.6	95.2
Women's overall response rate	82.7	92.6	94.9	88.5	85.5	93.1	98.0	91.2	89.4	75.5	87.0
Children under 5											
Eligible	758	640	139	132	137	118	199	220	95	358	1398
Mothers/caretakers interviewed	750	626	139	131	131	118	199	216	93	349	1376
Under-5's response rate	98.9	97.8	100.0	99.2	95.6	100.0	100.0	98.2	97.9	97.5	98.4
Under-5's overall response rate	86.7	94.3	97.1	90.2	88.2	97.8	100.0	92.1	89.7	80.3	89.9

There are differences in response rates by region and area, with significant differences in household response rates between Pelagonia region (100 percent) and Skopje (82 percent), and between rural (96 percent) and urban (88 percent) areas. In the responses from women and children under 5, similar differences are registered between region and area. The results for Skopje region should be interpreted with some caution since the household response rate was only 82 percent. Three regions were affected by empty households that were replaced during the data collection process. 32 households were replaced in the Southwest region, 47 households in the Polog region, and 22 in Northeast region.

Characteristics of Households

The weighted age and sex distribution of the survey population is provided in Table HH.2. The distribution is also used to produce the population pyramid in Figure HH.1. In the 4018 households successfully interviewed in the survey, 14764 household members were listed; of these, 7445 were males, and 7319 were females.

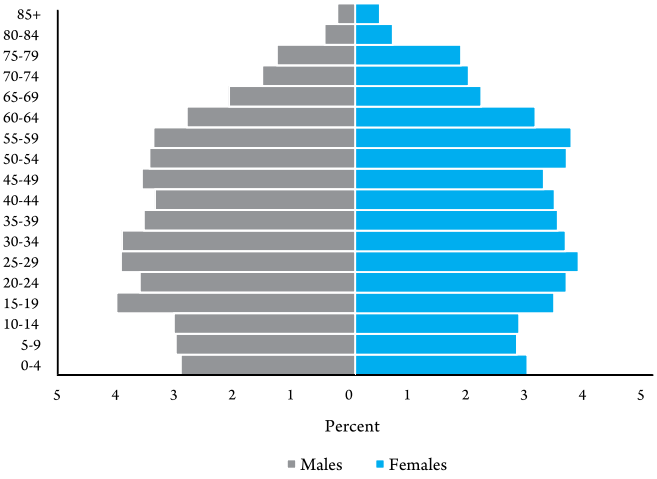
Table HH.2: Household age distribution by sex

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, Macedonia, 2011

	Males		Females		Total	
	Number	Percent	Number	Percent	Number	Percent
Age						
0-4	432	5.8	427	5.8	859	5.8
5-9	444	6.0	401	5.5	846	5.7
10-14	449	6.0	407	5.6	856	5.8
15-19	592	7.9	493	6.7	1085	7.3
20-24	534	7.2	524	7.2	1058	7.2
25-29	580	7.8	554	7.6	1134	7.7
30-34	578	7.8	522	7.1	1100	7.5
35-39	524	7.0	503	6.9	1026	7.0
40-44	496	6.7	495	6.8	991	6.7
45-49	529	7.1	468	6.4	996	6.7
50-54	510	6.8	524	7.2	1034	7.0
55-59	500	6.7	536	7.3	1036	7.0
60-64	417	5.6	447	6.1	864	5.9
65-69	312	4.2	313	4.3	625	4.2
70-74	230	3.1	282	3.9	512	3.5
75-79	194	2.6	263	3.6	457	3.1
80-84	76	1.0	94	1.3	170	1.1
85+	44	.6	62	.8	106	.7
Missing/DK	3	.0	4	.1	8	.1
Dependency age groups						
0-14	1326	17.8	1235	16.9	2561	17.3
15-64	5259	70.6	5066	69.2	10326	69.9
65+	857	11.5	1013	13.8	1869	12.7
Missing/DK	3	.0	4	.1	8	.1
Child and adult populations						
Children age 0-17 years	1680	22.6	1524	20.8	3204	21.7
Adults age 18+ years	5762	77.4	5791	79.1	11552	78.2
Missing/DK	3	.0	4	.1	8	.1
Total	**7445**	**100.0**	**7319**	**100.0**	**14764**	**100.0**

The age and sex distribution of the MICS4 survey household population is in accordance with the demographic estimates of the national population in 2010[7]. For broad age groups, i.e. 0-14 years of age with 17 percent females and 18 percent males; 15-64 years of age with 69 percent females and 71 percent males; and 65+ years of age with 14 percent females and 12 percent males. The pyramid in Figure HH.1 shows the negative trend in the population growth with the proportion of population aged 0-17 (23 percent males and 21 percent females) is almost four times lower than the proportion of adults over 18 years and only twice as big as the group of 65+ years.

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



Tables HH.3-HH.5 provide basic information on the households, female respondents aged 15-49, and children under 5, by presenting the unweighted and weighted numbers. Information on the basic characteristics of households, women, and children under-5 interviewed in the survey is essential for the interpretation of findings presented later in the report and can also provide an indication of the representativeness of the survey. The remaining tables in this report are presented only with weighted numbers. See Appendix A1 for more details about the weighting.

Table HH.3 provides basic background information on the households. Within the households, the sex of the household head, region, area, number of household members, education of household head and ethnicity[8] of the household head are shown in the table. These background characteristics are used in subsequent tables in this report; the figures in the table are also intended to show the numbers of observations by major categories of analysis in the report.

The number of respondents with no education is too small to be reported as a separate category. Therefore the categories *None* and *Primary* education are presented separately only in Tables HH.3, HH.4 and HH.5, while in the remaining tables they are merged and marked as *Primary or Less*.

Table HH.3: Household composition

Percent and frequency distribution of households by selected characteristics, Macedonia, 2011

	Weighted percent	Number of households	
		Weighted	Unweighted
Sex of household head			
Male	83.9	3372	3489
Female	16.1	646	529
Region			
Vardar	8.8	352	338
East	10.1	405	370
Southwest	8.4	339	428
Southeast	9.1	364	354
Pelagonia	13.9	560	550
Polog	10.7	429	625
Northeast	9.4	376	341
Skopje	29.7	1194	1012
Area			
Urban	60.6	2437	2206
Rural	39.4	1581	1812
Number of household members			
1	9.7	388	279
2	21.6	869	663
3	17.3	695	661
4	23.6	947	939
5	12.4	496	623
6	8.7	348	478
7	3.7	150	200
8	1.5	61	90
9	.9	36	41
10+	.7	28	44
Education of household head			
None	2.4	94	103
Primary	36.7	1474	1606
Secondary	41.6	1670	1609
High	19.4	778	698
Missing/DK	.0	1	2
Ethnicity of household head			
Macedonian	72.7	2921	2606
Albanian	19.5	784	1071
Other	7.7	310	340
Missing/DK	.1	3	1
Total	**100.0**	**4018**	**4018**
Households with at least			
One child age 0-4 years	16.9	4018	4018
One child age 2-9 years	24.3	4018	4018
One child age 0-17 years	44.4	4018	4018
One woman age 15-49 years	63.0	4018	4018
Mean household size	**3.7**	**4018**	**4018**

7 http://makstat.stat.gov.mk/pxweb2007bazi/temp/01Nas_reg_06_10_PolVoz_mk2012426311420_1p1_1336891.gif

8 This was determined by asking respondents what ethnic group the head of household belonged to.

In Table HH.3, the weighted and unweighted numbers of households in total are equal (4018) since sample weights were normalized (see Appendix A). The table also shows the proportions of households with at least one child under 18, at least one child under 5, and at least one eligible woman aged 15-49. The table also shows the weighted average household size estimated by the survey.

In 84 percent of the households, the household head was male, with the remaining 16 percent of households headed by a female. There are differences in frequency distribution of households by region with the highest frequency in Skopje (30 percent) and the lowest in the Southwest region (8 percent); this is similar to the population distribution by regions at the end of 2010. The mean household size is 3.7. 24 percent of households have four members, 17 percent have three, 22 percent have two and 12 percent consist of five members. Households with one member and with six members have similar frequencies- 10 percent and 9 percent respectively. 7 percent of households have seven or more members. Most of the household heads have a secondary (42 percent) or primary school (37 percent) education, compared to 19 percent with a higher education. Most of the household heads are Macedonians (73 percent), followed by Albanians (20 percent), and the remaining comprised of other ethnicities. 17 percent of households have at least one child aged 0-4 years, 44 percent with at least one child aged 0-17 years and 63 percent with one woman aged 15-49 years.

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). The tables present the numbers of observations in each background category. These categories are used in the subsequent tabulations of this report.

Table HH.4: Women's background characteristics

Percent and frequency distribution of women age 15-49 years by selected background characteristics, Macedonia, 2011

	Weighted percent	Number of women	
		Weighted	Unweighted
Region			
Vardar	6.3	243	257
East	6.7	258	254
Southwest	9.2	353	417
Southeast	8.3	317	299
Pelagonia	13.4	512	490
Polog	15.6	597	779
Northeast	10.0	385	353
Skopje	30.4	1166	982
Area			
Urban	54.6	2092	1838
Rural	45.4	1739	1993
Age			
15-19	13.8	530	529
20-24	14.1	541	555
25-29	15.0	574	657
30-34	14.8	567	600
35-39	14.2	545	533
40-44	14.5	555	499
45-49	13.5	519	458
Marital/Union status			
Currently married/in union	66.2	2537	2675
Widowed	1.0	39	38
Divorced	1.4	54	43
Separated	.6	25	21
Never married/in union	30.7	1175	1053
Missing	.0	0	1
Motherhood status			
Ever gave birth	63.2	2423	2577
Never gave birth	36.8	1408	1254
Births in last two years			
Yes	9.4	362	503
No	90.6	3469	3328
Education			
None	1.2	46	55
Primary	29.4	1127	1312
Secondary	43.9	1682	1623
High	25.5	976	841
Wealth index quintile			
Poorest	18.1	695	784
Second	18.9	725	850
Middle	20.4	782	781
Fourth	20.6	791	713
Richest	21.9	839	703
Ethnicity of household head			
Macedonian	60.8	2330	2042
Albanian	31.3	1199	1453
Other	7.9	302	336
Total	**100.0**	**3831**	**3831**

Table HH.4 provides background characteristics of female respondents 15-49 years of age. The table includes information on the distribution of women according to region, area, age, marital status, motherhood status, births in last two years, education[9], wealth index quintiles[10], and ethnicity of the household head.

Distribution of women according to region varies from 6 percent in the Vardar region to 30 percent in the Skopje region, and from 55 percent in urban areas compared to 45 percent in rural areas. There are differences between the weighted and unweighted numbers in particular categories due to over-sampling or under-sampling such as the regional distribution in Southeast and Polog, some age groups, marital status, primary or less education, poorest and richest wealth index quintiles, and the ethnicity of the household head (Macedonian and Albanian).

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

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

10 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: type of water and sanitation, number of rooms used for sleeping, main material of dwelling floor, roof and exterior walls; type of fuel used for cooking; presence in the household of electricity, radio, television, plasma/LCD TV, landline telephone, refrigerator, washing machine, cooker, water boiler, air-conditioning, dish-washer, microwave-oven, dryer, sitting set/sofa, sleeping bed, dining table; possesion by household members of watch, mobile phone, bicycle, motorcycle/scooter, cart pulled by animals, car/truck, motor boat, computer or laptop, caravan and ownership of bank account by the household members. The wealth index is assumed to capture the underlying long-term wealth through information on the household assets, and is intended to produce a ranking of households by wealth, from poorest to richest. The wealth index does not provide information on absolute poverty, current income or expenditure levels. The wealth scores calculated are applicable for only the particular data set they are based on. Further information on the construction of the wealth index can be found in Filmer, D. and Pritchett, L., 2001. "Estimating wealth effects without expenditure data – or tears: An application to educational enrolments in states of India". Demography 38(1): 115-132.Gwatkin, D.R., Rutstein, S., Johnson, K. ,Pande, R. and Wagstaff. A., 2000.Socio-Economic Differences in Health, Nutrition, and Population. HNP/Poverty Thematic Group, Washington, DC: World Bank. Rutstein, S.O. and Johnson, K., 2004. The DHS Wealth Index. DHS Comparative Reports No. 6. Calverton, Maryland: ORC Macro.

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

Percent and frequency distribution of children under five years of age by selected characteristics, Macedonia, 2011

	Weighted percent	Number of under-5 children	
		Weighted	Unweighted
Sex			
Male	50.3	692	704
Female	49.7	684	672
Region			
Vardar	7.3	100	139
East	8.0	110	131
Southwest	8.8	121	131
Southeast	6.0	83	118
Pelagonia	11.3	156	199
Polog	18.6	256	216
Northeast	9.9	136	93
Skopje	30.1	415	349
Area			
Urban	50.9	701	750
Rural	49.1	675	626
Age			
0-5 months	8.3	114	112
6-11 months	10.5	144	145
12-23 months	20.5	283	265
24-35 months	19.9	274	296
36-47 months	20.0	276	273
48-59 months	20.7	285	285
Mother's education*			
None	1.5	20	20
Primary	38.1	525	447
Secondary	37.9	522	601
High	22.5	309	308
Wealth index quintile			
Poorest	23.0	316	248
Second	19.8	272	280
Middle	18.5	255	293
Fourth	18.9	261	267
Richest	19.8	272	288
Ethnicity of household head			
Macedonian	51.4	708	846
Albanian	37.8	521	389
Other	10.7	148	141
Total	**100.0**	**1376**	**1376**

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

Distribution of children under 5 according to region is similar with the distribution of women, varying from 7 percent in the Vardar region to 30 percent in the Skopje region. Distribution by area is similar in urban areas (51 percent) and rural areas (49 percent) and equally distributed by sex with 50 percent males and 50 percent females. Age groups older than 12 months are equally distributed with around 20 percent. There are differences between the weighted and unweighted numbers in particular categories due to extensive over-sampling or under-sampling, such as regional distribution in Northeast and Skopje, primary or less and secondary education, poorest and fourth wealth index quintiles and ethnicity of the household head (Macedonian and Albanian).

Children Living Arrangements

Table HH.6 presents information on the living arrangements and orphanhood status of children under age 18.

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

Percent and frequency distribution of children under five years of age by selected characteristics, Macedonia, 2011

	Living with both parents	Living with neither parent				Living with mother only		Living with father only		Impossible to determine	Total	Not living with a biological parent[1]	One or both parents dead [2]	Number of children age 0-17 years
		Only father alive	Only mother alive	Both alive	Both dead	Father alive	Father dead	Mother alive	Mother dead					
Sex														
Male	93.6	.1	.0	.6	.1	3.0	.9	1.0	.3	.4	100.0	.8	1.4	1680
Female	93.8	.1	.1	.4	.0	2.4	1.8	.7	.4	.3	100.0	.6	2.4	1524
Region														
Vardar	92.1	.5	.0	1.5	.0	3.8	.6	.2	.6	.7	100.0	2.0	1.7	193
East	91.5	.6	.0	.9	.5	3.8	.5	1.6	.4	.1	100.0	2.0	2.1	225
Southwest	95.5	.0	.0	.1	.0	1.7	.9	.9	.0	.8	100.0	.1	.9	312
Southeast	93.8	.0	.0	.8	.0	2.5	2.4	.5	.0	.0	100.0	.8	2.4	262
Pelagonia	94.6	.0	.0	.0	.0	2.1	.8	1.1	.6	.8	100.0	.0	1.4	392
Polog	93.5	.0	.0	.7	.1	3.5	1.8	.0	.1	.3	100.0	.8	2.0	513
Northeast	92.9	.0	.0	.4	.0	1.0	3.6	1.3	.1	.6	100.0	.4	3.8	352
Skopje	93.9	.0	.2	.5	.0	3.0	.6	1.2	.6	.0	100.0	.7	1.4	955
Area														
Urban	92.0	.0	.0	.7	.1	3.5	1.6	1.4	.4	.3	100.0	.8	2.1	1604
Rural	95.4	.2	.1	.3	.0	1.9	1.0	.4	.3	.4	100.0	.6	1.6	1599
Age														
0-4	95.8	.0	.0	.2	.0	2.3	1.0	.5	.0	.1	100.0	.2	1.0	859
5-9	92.0	.1	.0	.2	.0	4.3	1.8	.5	.6	.3	100.0	.4	2.5	846
10-14	95.1	.0	.0	.4	.0	1.7	1.0	1.4	.4	.0	100.0	.4	1.4	856
15-17	91.1	.2	.3	1.5	.2	2.3	1.5	1.2	.6	1.1	100.0	2.2	2.8	643
Wealth index quintile														
Poorest	93.5	.3	.0	.6	.2	2.7	.8	.7	.4	.7	100.0	1.1	1.8	690
Second	93.3	.0	.3	.5	.1	2.1	3.0	.4	.1	.3	100.0	.8	3.4	651
Middle	91.5	.0	.0	1.2	.0	4.1	1.4	1.1	.6	.0	100.0	1.2	2.1	614
Fourth	94.1	.0	.0	.4	.0	1.9	1.0	1.4	.7	.5	100.0	.4	1.7	588
Richest	95.8	.0	.0	.1	.0	2.7	.4	.9	.0	.2	100.0	.1	.4	660
Ethnicity of household head														
Macedonian	93.4	.1	.1	.6	.0	3.1	1.0	.9	.4	.3	100.0	.8	1.7	1758
Albanian	94.9	.0	.0	.3	.0	2.2	1.6	.5	.2	.3	100.0	.3	1.8	1161
Other	90.1	.0	.0	1.1	.4	2.2	2.1	2.6	.8	.7	100.0	1.5	3.4	285
Total	**93.7**	**.1**	**.1**	**.5**	**.1**	**2.7**	**1.3**	**.9**	**.4**	**.3**	**100.0**	**.7**	**1.9**	**3204**

[1] MICS indicator 9.17

[2] MICS indicator 9.18

Of the 3204 children covered in the survey, 94 percent live with both parents, 4 percent live with their mother only, and 1 percent with their father only. Less than 1 percent of children do not live with their biological parents and 2 percent have lost one or both parents.

Sample Coverage – Roma settlements

Of the 1079 households selected for the sample, 997 were found to be occupied. Of these, 953 were successfully interviewed for a household response rate of 96 percent. In the interviewed households, 1134 women (aged 15-49 years) were identified. Of these, 1091 were successfully interviewed, yielding a response rate of 96 percent within interviewed households. There were 483 children under age 5 listed in the household questionnaire. Questionnaires were completed for 476 of these children, which correspond to a response rate of 99 percent within interviewed households. Overall, response rates of 92 and 94 percentages are calculated for the interviews with women and children under age 5 (Table HH.1R).

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

Number of households, women, men, and children under 5 by results of the household, women's, men's and under-5's interviews, and household, women's, men's and under-5's response rates, Roma settlements, 2011

	Total
Households	
Sampled	1079
Occupied	997
Interviewed	953
Household response rate	95.6
Women	
Eligible	1134
Interviewed	1091
Women's response rate	96.2
Women's overall response rate	92.0
Children under 5	
Eligible	483
Mothers/caretakers interviewed	476
Under-5's response rate	98.6
Under-5's overall response rate	94.2

Characteristics of Households – Roma settlements

The weighted age and sex distribution of the survey population is provided in Table HH.2R. The distribution is also used to produce the population pyramid in Figure HH.1R. In the 953 households successfully interviewed, 4229 household members were listed; of these, 2093 were males, and 2136 were females.

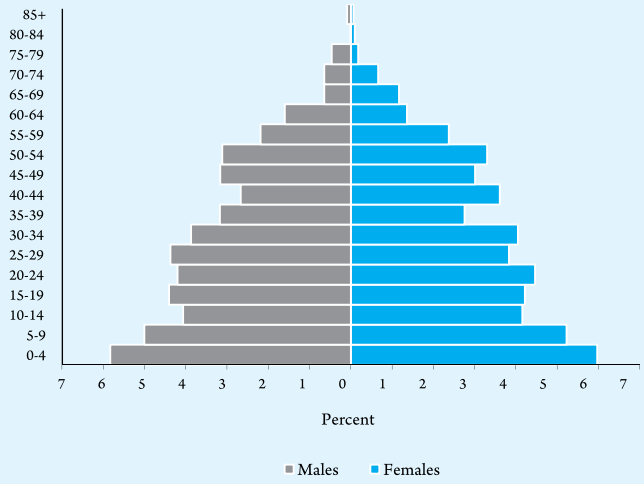
Table HH.2R: Household age distribution by sex

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, Roma settlements, 2011

	Males		Females		Total	
	Number	Percent	Number	Percent	Number	Percent
Age						
0-4	246	11.8	253	11.8	499	11.8
5-9	212	10.1	221	10.4	433	10.2
10-14	172	8.2	176	8.2	348	8.2
15-19	186	8.9	178	8.3	365	8.6
20-24	178	8.5	189	8.8	367	8.7
25-29	185	8.8	162	7.6	347	8.2
30-34	164	7.8	171	8.0	335	7.9
35-39	134	6.4	117	5.5	251	5.9
40-44	113	5.4	153	7.2	266	6.3
45-49	134	6.4	127	6.0	261	6.2
50-54	132	6.3	140	6.5	271	6.4
55-59	92	4.4	100	4.7	193	4.6
60-64	68	3.2	58	2.7	125	3.0
65-69	27	1.3	49	2.3	77	1.8
70-74	27	1.3	28	1.3	55	1.3
75-79	19	.9	8	.4	27	.6
80-84	0	.0	4	.2	4	.1
85+	4	.2	3	.1	6	.1
Dependency age groups						
0-14	630	30.1	650	30.4	1280	30.3
15-64	1385	66.2	1395	65.3	2780	65.7
65+	78	3.7	92	4.3	170	4.0
Child and adult populations						
Children age 0-17 years	751	35.9	772	36.1	1523	36.0
Adults age 18+ years	1342	64.1	1364	63.9	2706	64.0
Total	**2093**	**100.0**	**2136**	**100.0**	**4229**	**100.0**

Data from Table HH.2R suggests a positive population growth among the Roma population. The proportion of children aged 0-4 year is the highest, consisting of almost 12 percent of the Roma population. Meanwhile, the proportion of the other age groups is decreasing by age. Children aged 0-17 years constitute 36 percent of Roma population in contrast to the group of 65 years and above, which constitute only 4 percent.

Figure HH.1R: Age and sex distribution of household population, Roma settlements, 2011



Tables HH.3R - HH.5R provide basic information on the households, female respondents aged 15-49, and children under age 5, by presenting the unweighted and the weighted numbers. Information on the basic characteristics of households, women and children under 5 interviewed in the survey is essential for the interpretation of findings presented later in the report and can also provide an indication of the representativeness of the survey. The remaining tables in this report are presented only with weighted numbers. (See Appendix A2 for more details about the weighting).

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

The number of respondents with a higher education is too small to be reported as a separate category. Therefore the categories *Secondary* and *High* education are presented separately only in Tables HH.3, HH.4 and HH.5, while in the remaining tables they are merged and marked as *Secondary+*.

Table HH.3R: Household composition

Percent and frequency distribution of households by selected characteristics, Roma settlements, 2011

	Weighted percent	Number of households	
		Weighted	Unweighted
Sex of household head			
Male	85.3	813	815
Female	14.7	140	138
Number of household members			
1	6.3	60	54
2	13.0	124	109
3	13.9	132	124
4	21.6	206	218
5	17.3	165	157
6	13.0	124	140
7	8.2	78	76
8	3.1	29	35
9	1.8	17	16
10+	2.0	19	24
Education of household head			
None	14.9	142	132
Primary	66.8	636	631
Secondary	16.9	161	179
High	1.5	14	11
Total	**100.0**	**953**	**953**
Households with at least			
One child age 0-4 years	38.0	953	953
One child age 2-9 years	46.7	953	953
One child age 0-17 years	69.7	953	953
One woman age 15-49 years	80.3	953	953
Mean household size	**4.4**	**953**	**953**

The weighted and unweighted numbers of households in total are equal (953) since sample weights were normalized (see Appendix A). The table also shows the proportions of households with at least one child under 18 years of age, at least one child under 5 years of age, and at least one eligible woman aged 15-49 years. The table also shows the weighted average household size estimated by the survey.

In 85 percent of the households, the household head was male, with the remaining 15 percent of households headed by a female. A majority of household heads

(67 percent) have a primary education. The mean household size of 4.4 members reflects the structure of the households by the number of members, with four to five member households having the highest frequencies in the sample.

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

Tables HH.4R and HH.5R 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). The tables present the numbers of observations in each background category that are used in the subsequent tabulations of this report.

Table HH.4R: Women's background characteristics

Percent and frequency distribution of women age 15-49 years by selected background characteristics, Roma settlements, 2011

	Weighted percent	Number of women	
		Weighted	Unweighted
Age			
15-19	15.8	173	175
20-24	17.4	190	199
25-29	15.2	166	166
30-34	15.7	172	161
35-39	10.3	112	113
40-44	13.7	149	148
45-49	11.9	129	129
Marital/Union status			
Currently married/in union	73.3	799	801
Widowed	2.0	22	21
Divorced	4.3	47	41
Separated	2.1	22	21
Never married/in union	18.3	200	207
Motherhood status			
Ever gave birth	76.7	837	824
Never gave birth	23.3	254	267
Births in last two years			
Yes	16.7	182	174
No	83.3	909	917
Education			
None	16.8	183	186
Primary	66.3	724	708
Secondary	14.1	153	165
High	2.8	31	32
Wealth index quintile			
Poorest	18.3	200	174
Second	18.5	202	194
Middle	19.6	214	216
Fourth	21.2	231	246
Richest	22.4	244	261
Total	**100.0**	**1091**	**1091**

Table HH.4R provides background characteristics of female respondents 15-49 years of age. The table includes information on the distribution of women according to age, marital status, motherhood status, births in last two years, education[11], and wealth index quintiles. The majority of the women belong to the groups categorized as currently married/in union, with primary education, and with no birth in the last two years.

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

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

Percent and frequency distribution of children under five years of age by selected characteristics, Roma settlements, 2011

	Weighted percent	Number of under-5 children	
		Weighted	Unweighted
Sex			
Male	49.8	237	250
Female	50.2	239	226
Age			
0-5 months	7.5	36	37
6-11 months	9.1	43	44
12-23 months	20.7	99	102
24-35 months	21.0	100	105
36-47 months	19.4	92	83
48-59 months	22.1	105	105
Mother's education*			
None	21.3	102	102
Primary	68.6	327	318
Secondary	7.8	37	47
High	2.3	11	9
Wealth index quintile			
Poorest	25.7	122	108
Second	22.7	108	107
Middle	19.5	93	90
Fourth	16.7	79	92
Richest	15.4	73	79
Total	**100.0**	**476**	**476**

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

Approximately 17 percent of children in the Roma population are less than one year old, with the remaining four age groups each comprising 19 to 22 percent. A majority of the children (69 percent) have mothers with a primary education, while the number of children whose mothers have no education is twice the number of those whose mothers have a secondary and higher education. In contrast to the distribution of women, the percentage of children under age 5 is highest in the poorest households (27 percent) and lowest in the richest (15 percent).

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

Children Living Arrangements – Roma settlements

Table HH.6R presents information on the living arrangements and orphanhood status of children under age 18 in Roma settlements.

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

Percent and frequency distribution of children under five years of age by selected characteristics, Roma settlements, 2011

	Living with both parents	Living with neither parent				Living with mother only		Living with father only		Impossible to determine	Total	Not living with a biological parent[1]	One or both parents dead [2]	Number of children age 0-17 years
		Only father alive	Only mother alive	Both alive	Both dead	Father alive	Father dead	Mother alive	Mother dead					
Sex														
Male	91.2	.0	.0	.8	.1	3.1	2.2	1.6	.2	.8	100.0	.9	2.5	751
Female	84.4	.1	.2	3.2	.1	5.0	3.6	1.8	.3	1.4	100.0	3.5	4.1	772
Age														
0-4	89.7	.0	.0	.2	.0	6.1	2.8	.7	.0	.5	100.0	.2	2.8	499
5-9	90.6	.0	.0	.7	.0	3.8	1.5	2.9	.0	.4	100.0	.7	1.5	433
10-14	87.0	.1	.1	2.9	.1	2.8	4.9	1.3	.2	.5	100.0	3.3	5.5	348
15-17	80.0	.0	.4	6.6	.4	2.2	2.5	2.2	1.3	4.5	100.0	7.4	4.5	244
Wealth index quintile														
Poorest	82.4	.0	.1	3.3	.2	2.8	5.8	2.7	.0	2.6	100.0	3.6	6.1	392
Second	87.6	.1	.3	2.7	.0	5.8	2.5	.4	.2	.4	100.0	3.1	3.1	315
Middle	90.0	.0	.0	.9	.2	2.6	1.5	2.4	1.1	1.2	100.0	1.1	2.8	292
Fourth	89.4	.0	.0	1.2	.0	3.9	2.6	2.3	.0	.7	100.0	1.2	2.6	280
Richest	92.1	.0	.0	1.2	.0	5.7	.8	.2	.0	.0	100.0	1.2	.8	245
Total	**87.8**	**.0**	**.1**	**2.0**	**.1**	**4.1**	**2.9**	**1.7**	**.3**	**1.1**	**100.0**	**2.2**	**3.3**	**1523**

[1] MICS indicator 9.17

[2] MICS indicator 9.18

Of the 1523 children in Roma settlements covered in the survey, 88 percent live with both parents. 7 percent live only with their mother, and 2 percent only with their father. 2 percent of children do not live with their biological parents and 3 percent have lost one or both parents.

IV CHILD MORTALITY

One of the overarching goals of the Millennium Development Goals (MDGs) is the reduction of infant and under-five mortality. Specifically, the MDGs call for the reduction in under-five mortality by two-thirds between 1990 and 2015. Monitoring progress towards this goal is an important but difficult objective. Measuring childhood mortality may seem easy, but attempts using direct questions, such as "Has anyone in this household died in the last year?" give inaccurate results. Using direct measures of child mortality from birth histories is time consuming, more expensive, and requires greater attention to training and supervision. Alternatively, indirect methods developed to measure child mortality produce robust estimates that are comparable with the ones obtained from other sources. Indirect methods minimize the pitfalls of memory lapses, inexact or misinterpreted definitions, and poor interviewing technique.

The child mortality module was administered only in the sample from the Roma settlements. The infant and under-five mortality at the national level is too low to be measured through MICS questionnaire.

The infant mortality rate is the probability of dying before the first birthday. The under-five mortality rate is the probability of dying before the fifth birthday. In MICS surveys, infant and under five mortality rates are calculated based on an indirect estimation technique known as the Brass method[12]. The data used in the estimation are: the mean number of children ever born for five year age groups of women from age 15 to 49, and the proportion of these children who are dead, also for five-year age groups of women (Table CM.1R). The technique converts the proportion of dead children among women in each age group into probabilities of dying by taking into account the approximate length of exposure of children to the risk of dying, assuming a particular model age pattern of mortality. Based on previous information on mortality in Roma settlements in Macedonia, the East model life table was selected as most appropriate.

Table CM.1R: Children ever born, children surviving and proportion dead

Mean and total numbers of children ever born, children surviving and proportion dead by age of women, Roma settlements, 2011

	Children ever born		Children surviving		Proportion dead	Number of women
	Mean	Total	Mean	Total		
Age						
15-19	.165	29	.165	29	.000	173
20-24	1.218	231	1.200	228	.015	190
25-29	2.128	353	2.110	350	.008	166
30-34	2.601	446	2.524	433	.029	172
35-39	2.717	305	2.594	291	.045	112
40-44	2.985	446	2.847	425	.046	149
45-49	3.044	394	2.868	371	.058	129
Total	**2.019**	**2.203**	**1.949**	**2127**	**.035**	**1091**

The infant mortality rate in Roma settlements is estimated at 13 per thousand live births, while the probability of dying under age 5 (U5MR) is around 14 per thousand[13]. These estimates have been calculated by averaging mortality estimates obtained from women aged 25-29 and 30-34 and refer to mid-2005.

12 *United Nations, 1983. Manual X: Indirect Techniques for Demographic Estimation (United Nations publication, Sales No. E.83.XIII.2). United Nations, 1990a. QFIVE, United Nations Program for Child Mortality Estimation. New York, UN Pop Division. United Nations, 1990b. Step-by-step Guide to the Estimation of Child Mortality. New York, UN.*

13 Table not shown due to the small number of cases for disaggregated categories.

V NUTRITION

Nutritional Status

Children's nutritional status is a reflection of their overall health. When children have access to an adequate food supply, are not exposed to repeated illness, and are well cared for, they can 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, they are likely to 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[14]. 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 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 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 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 the MICS, weights and heights of all children under 5 years of age were measured using anthropometric equipment recommended by UNICEF. Findings in this section are based on the results of these measurements.

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

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

Table NU.1: Nutritional status of children

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

	Weight for age				Height for age				Weight for height				
	Underweight		Mean Z-Score (SD)	Number of children under age 5	Stunted		Mean Z-Score (SD)	Number of children under age 5	Wasted		Overweight	Mean Z-Score (SD)	Number of children under age 5
	percent below				percent below				percent below		percent above		
	- 2 SD[1]	- 3 SD[2]			- 2 SD[3]	- 3 SD[4]			- 2 SD[5]	- 3 SD[6]	+ 2 SD		
Sex													
Male	1.5	.2	.5	669	5.6	2.4	.1	667	2.2	.3	13.4	.6	653
Female	1.1	.2	.4	663	4.3	1.7	.0	652	1.4	.1	11.4	.6	646
Region													
Vardar	1.3	.0	.3	99	5.1	2.3	.1	98	3.8	.8	6.5	.3	98
East	3.3	.0	.1	110	6.3	2.7	-.3	110	2.8	.6	7.3	.4	109
Southwest	2.8	.7	.6	117	13.3	8.4	-.2	111	3.8	1.5	22.5	.8	103
Southeast	.4	.0	.6	81	1.3	.0	.3	81	1.0	.0	12.8	.7	79
Pelagonia	1.8	1.3	.4	152	4.1	1.4	.0	152	2.3	.0	13.1	.6	152
Polog	.5	.0	.2	251	5.0	1.7	.0	250	3.4	.0	6.0	.3	244
Northeast	1.5	.0	.9	135	5.0	3.1	.0	135	.4	.0	28.5	1.2	130
Skopje	.6	.0	.5	388	3.1	.5	.1	382	.0	.0	10.9	.7	382
Area													
Urban	.8	.3	.6	671	4.1	1.5	.1	666	1.2	.2	15.8	.7	657
Rural	1.8	.1	.3	661	5.8	2.6	.0	653	2.4	.2	9.0	.4	642
Age													
0-5 months	5.1	1.3	-.1	110	7.3	2.3	-.2	108	1.7	.0	3.2	.2	107
6-11 months	.4	.0	.3	141	2.5	1.5	.5	137	8.5	.0	3.5	.1	136
12-23 months	.7	.5	.6	273	5.8	1.8	.0	270	1.9	.6	12.8	.7	265
24-35 months	.3	.0	.6	268	3.6	1.0	.1	261	.3	.0	17.9	.8	261
36-47 months	.6	.0	.5	268	5.3	3.0	-.1	270	.1	.0	15.6	.8	264
48-59 months	2.5	.0	.4	273	5.3	2.4	-.1	272	1.6	.6	11.8	.5	266
Mother's education													
Primary or less	2.0	.3	.2	528	6.2	1.9	-.2	522	2.8	.3	8.5	.4	516
Secondary	1.0	.3	.5	507	5.1	2.0	.0	501	1.6	.2	15.1	.7	493
High	.4	.0	.8	297	2.5	2.2	.4	295	.5	.2	14.9	.8	290
Wealth index quintile													
Poorest	1.9	.2	.0	308	7.2	1.9	-.3	303	3.5	.0	4.3	.3	301
Second	1.3	.0	.3	268	5.8	1.8	-.1	266	1.2	.0	9.6	.5	264
Middle	2.1	.3	.6	242	4.7	2.1	.1	241	2.3	.7	22.2	.8	235
Fourth	1.1	.5	.7	250	4.6	3.3	.2	251	1.3	.3	14.2	.7	242
Richest	.0	.0	.7	264	2.0	1.2	.3	258	.6	.3	14.2	.7	256
Ethnicity of household head													
Macedonian	.9	.3	.6	683	3.6	1.3	.1	678	1.3	.2	14.6	.7	672
Albanian	.7	.1	.4	508	5.4	2.3	.0	500	2.0	.0	10.7	.5	487
Other	5.0	.0	.0	141	9.6	4.4	-.4	141	3.7	1.1	7.9	.3	139
Total	**1.3**	**.2**	**.4**	**1332**	**4.9**	**2.0**	**.0**	**1318**	**1.8**	**.2**	**12.4**	**.6**	**1299**

[1] MICS indicator 2.1a and MDG indicator 1.8

[2] MICS indicator 2.1b

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

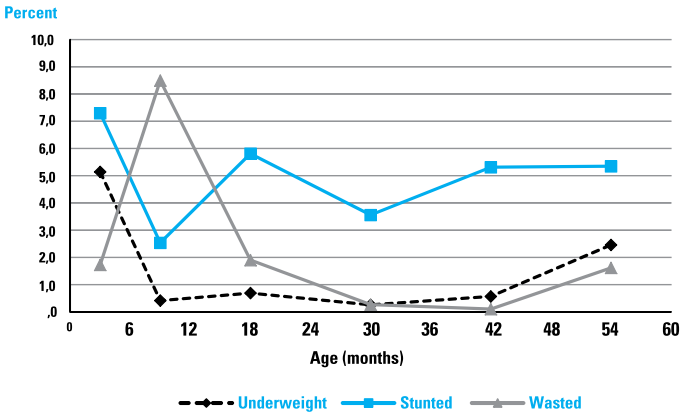
[5] MICS indicator 2.3a, [6] MICS indicator 2.3b

Children whose full birth date (month and year) were not obtained, and children whose measurements are outside a plausible range are excluded from Table NU.1. Children are excluded from one or more of the anthropometric indicators when their weights and heights have not been measured, whichever applicable. For example, if a child has been weighed but his/her height has not been measured, the child is included in underweight calculations, but not in the calculations for stunting and wasting. Percentages of children by age and reasons for exclusion are shown in the data quality Tables DQ.6 and DQ.7. Overall, 94 percent of children had both valid weight and height measurements (Table DQ.7). All children have their date of birth recorded, meaning that no child was excluded from the calculations for that reason (Table DQ.6). Table DQ.7 shows that due to implausible measurements and missing weight and/or height, 3 percent of children have been excluded from calculations of the weight-for-age indicator, while the figures are 4 percent for the height-for-age indicator, and 6 percent for the weight-for-height indicator.

In Macedonia, one percent of children under age five are underweight and 0.2 percent are classified as severely underweight (Table NU.1). Some 5 percent of children are stunted or too short for their age and 2 percent are wasted or too thin for their height.

For both comparison with the MICS3 and for global reporting purposes, Table NU.1 (a), based on NCHS/CDC/WHO 's International Reference Population, was created (see Appendix H).

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



Nutritional Status – Roma settlements

Almost 8 percent of Roma children under age five in Macedonia are underweight and 2 percent are classified as severely underweight (Table NU.1R). Some 17 percent of children are stunted or too short for their age and 5 percent are wasted or too thin for their height.

Table NU.1R: 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, Roma settlements, 2011

	Weight for age			Number of children under age 5	Height for age			Number of children under age 5	Weight for height				Number of children under age 5
	Underweight percent below		Mean Z-Score (SD)		Stunted percent below		Mean Z-Score (SD)		Wasted percent below		Overweight percent above	Mean Z-Score (SD)	
	- 2 SD[1]	- 3 SD[2]			- 2 SD[3]	- 3 SD[4]			- 2 SD[5]	- 3 SD[6]	+ 2 SD		
Sex													
Male	8.1	1.8	-.4	235	21.1	2.9	-.8	224	4.3	1.4	5.9	.1	224
Female	7.0	2.3	-.5	235	12.0	3.0	-.8	234	4.7	1.9	4.3	-.1	233
Age													
0-5 months	(11.8)	(7.5)	(-.4)	36	(15.9)	(9.9)	(-.7)	34	(8.0)	(6.4)	(14.8)	(.2)	33
6-11 months	(7.4)	(1.5)	(-.4)	43	(2.6)	(.0)	(-.2)	43	(8.8)	(5.0)	(4.4)	(-.2)	43
12-23 months	7.5	1.5	-.4	98	16.1	4.2	-.9	95	3.6	.6	4.4	.0	96
24-35 months	3.0	.0	.0	96	14.9	1.6	-.5	92	.9	.0	3.6	.4	91
36-47 months	8.0	5.2	-.6	92	22.2	5.3	-1.0	89	5.2	2.1	6.9	-.2	89
48-59 months	9.9	.0	-.8	105	19.1	.0	-1.0	104	4.9	.9	2.7	-.3	104
Mother's education													
None	5.9	.0	-.6	101	25.9	2.8	-1.1	100	2.0	.0	4.0	.0	100
Primary	8.7	2.8	-.5	321	14.9	3.5	-.8	311	4.4	1.8	3.7	-.1	310
Secondary+	3.3	1.4	.1	48	6.8	.0	-.1	47	10.6	4.6	16.4	.3	47
Wealth index quintile													
Poorest	13.1	5.6	-.9	122	28.7	8.1	-1.3	122	6.9	1.5	4.7	-.2	122
Second	5.9	1.1	-.6	107	16.0	2.2	-.8	102	2.9	1.7	2.6	-.1	103
Middle	11.1	.9	-.5	91	15.0	1.7	-.7	87	3.1	1.2	4.8	-.2	86
Fourth	1.9	.0	-.1	79	11.2	.0	-.7	77	.8	.0	5.6	.2	75
Richest	2.2	1.0	.1	71	3.5	.0	-.1	70	8.2	4.2	9.3	.2	70
Total	**7.6**	**2.0**	**-.5**	**470**	**16.5**	**3.0**	**-.8**	**458**	**4.5**	**1.7**	**5.1**	**.0**	**457**

[1] MICS indicator 2.1a and MDG indicator 1.8

[2] MICS indicator 2.1b

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

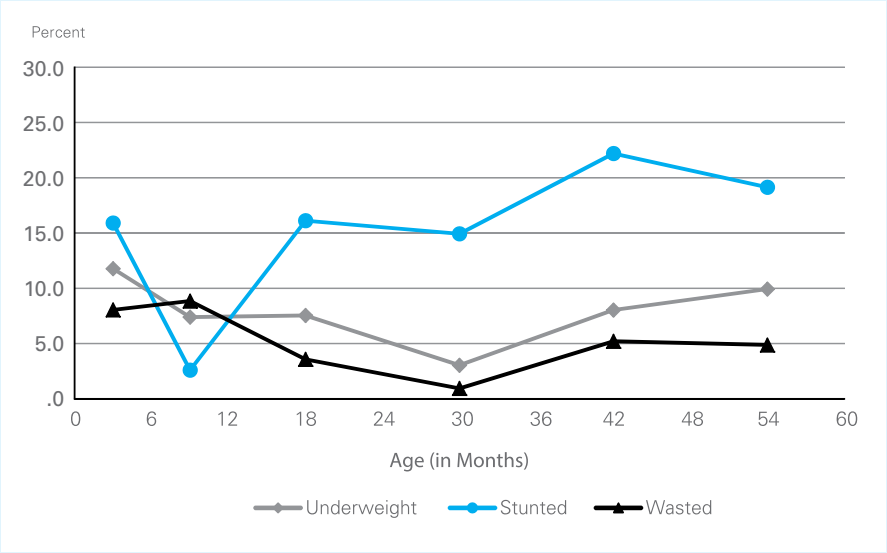
[5] MICS indicator 2.3a, [6] MICS indicator 2.3b

( ) – figures based on 25–49 unweighted cases

The percentage of stunted children is ten times higher in the poorest wealth quintile compared to the richest one. Similarly, there are nearly six times more underweighted children in the poorest quintile than in the richest. In regard to gender, boys appear to be more likely stunted than girls.

For comparison with the MICS3 and for global reporting purposes, Table NU.1R (a), based on NCHS/CDC/WHO International Reference Population, was created (see Appendix H).

Figure NU.1R: Percentage of children under age 5 who are underweight, stunted and wasted, Roma settlements, 2011



* Figures for the age groups of 0-5 and 6-11 months are based on 25-49 unweighted cases

Breastfeeding and Infant and Young Child Feeding

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

WHO/UNICEF have the following feeding recommendations:

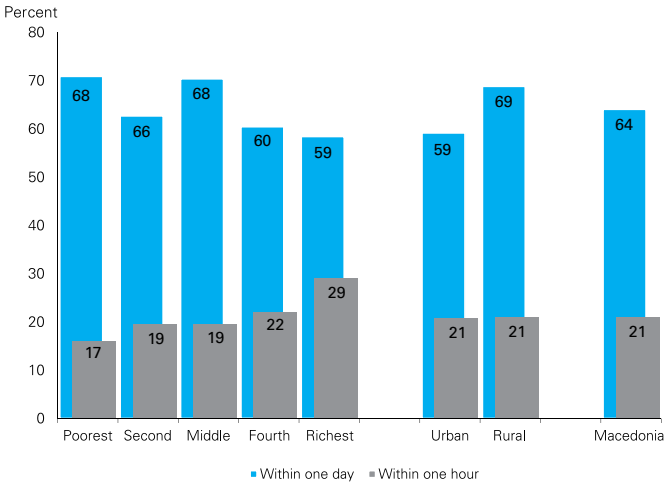
- Exclusive breastfeeding for first six months
- Continued breastfeeding for two years or more
- Safe and age-appropriate complementary foods beginning at 6 months
- Frequency of complementary feeding: 2 times per day for 6-8 month olds; 3 times per day for 9-11 month olds

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 shows the proportion of children born in the two years preceding the survey who were ever breastfed, those who were first breastfed within one hour and one day of birth, and those who received a prelacteal feed. Although a very important step in management of lactation and establishment of a physical and emotional relationship between the baby and the mother, only 21 percent of babies are breastfed for the first time within one hour of birth, while 64 percent of newborns in Macedonia start breastfeeding within one day of birth. 94 percent of babies were ever breastfed while 34 percent received a prelacteal feed, which was more likely in urban areas and in the Skopje region, in households in the richest quintile, and households whose head is of Macedonian ethnicity. Mothers with a higher education were more likely to breastfeed their babies.

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



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

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, Macedonia, 2011

	Percentage who were ever breastfed[1]	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[2]	Within one day of birth		
Region					
Vardar	(100.0)	(24.6)	(80.9)	(31.7)	16
East	(97.5)	(32.0)	(77.6)	(21.9)	25
Southwest	97.8	18.1	58.9	16.3	39
Southeast	(93.0)	(21.6)	(72.8)	(25.6)	16
Pelagonia	91.3	29.0	51.6	37.5	42
Polog	93.7	15.4	71.2	14.1	69
Northeast	(82.7)	(46.6)	(66.2)	(22.3)	37
Skopje	95.6	11.3	59.1	56.3	118
Area					
Urban	96.0	20.9	59.2	46.1	178
Rural	91.8	21.0	68.8	21.2	183
Months since last birth					
0-11 months	93.8	18.3	63.0	39.3	159
12-23 months	94.4	23.2	65.0	29.2	190
Assistance at delivery					
Skilled attendant	94.3	20.8	64.3	33.5	355
Other	(*)	(*)	(*)	(*)	2
No one/Missing	(*)	(*)	(*)	(*)	5
Place of delivery					
Public sector health facility	94.6	20.9	65.7	30.8	332
Private sector health facility	(*)	(*)	(*)	(*)	23
Home	(*)	(*)	(*)	(*)	1
Other/Missing	(*)	(*)	(*)	(*)	5
Mother's education					
Primary or less	90.7	18.2	66.7	21.6	146
Secondary	95.2	22.9	68.0	33.0	128
High	97.1	22.6	54.0	53.9	88
Wealth index quintile					
Poorest	89.5	17.4	67.9	15.9	84
Second	92.2	18.6	65.7	26.2	70
Middle	98.1	18.5	68.1	32.9	64
Fourth	94.8	21.8	59.5	41.3	75
Richest	96.0	29.0	58.9	54.3	68
Ethnicity of household head					
Macedonian	95.8	20.9	62.8	45.2	171
Albanian	90.8	17.4	63.6	22.3	146
Other	96.1	32.7	70.5	24.9	45
Total	**93.9**	**21.0**	**64.1**	**33.5**	**362**

[1] MICS indicator 2.4

[2] MICS indicator 2.5

( ) - Figures based on 25 - 49 unweighted cases

(*) - Figures based on less than 25 unweighted cases

Table NU.3: Breastfeeding

Percentage of living children according to breastfeeding status at selected age groups, Macedonia, 2011

	Children age 0-5 months			Children age 12-15 months		Children age 20-23 months	
	Percent exclusively breastfed[1]	Percent predominantly breastfed[2]	Number of children	Percent breastfed (Continued breastfeeding at 1 year)[3]	Number of children	Percent breastfed (Continued breastfeeding at 2 years)[4]	Number of children
Sex							
Male	31.1	47.2	53	(28.4)	49	(14.4)	39
Female	16.1	41.5	62	(38.6)	55	(11.4)	43
Area							
Urban	21.1	45.6	58	(35.0)	53	(13.6)	40
Rural	25.0	42.5	56	(32.4)	51	(12.1)	42
Mother's education							
Primary or less	(26.4)	(46.7)	49	(30.6)	47	(19.7)	32
Secondary	(24.6)	(36.0)	31	(49.3)	29	(6.7)	39
High	(16.9)	(47.6)	35	(*)	29	(*)	11
Ethnicity of household head							
Macedonian	19.6	41.0	53	36.1	48	5.4	44
Albanian	(23.0)	(46.8)	46	(23.8)	41	(14.7)	31
Other	(*)	(*)	15	(*)	15	(*)	8
Total	**23.0**	**44.1**	**114**	**33.8**	**104**	**12.8**	**82**

[1] MICS indicator 2.6

[2] MICS indicator 2.9

[3] MICS indicator 2.7

[4] MICS indicator 2.8

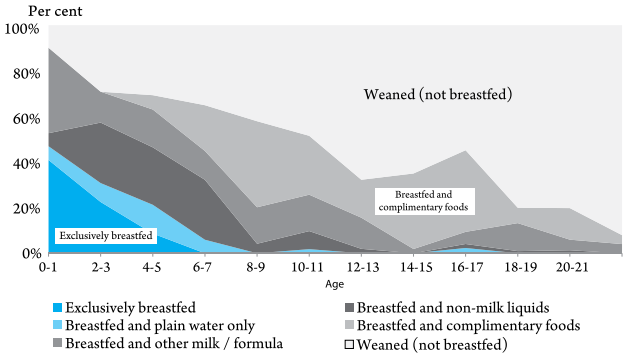
( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Approximately 23 percent of children aged less than 6 months are exclusively breastfed, a level considerably lower than recommended. At the age of 12-15 months, 34 percent of children are still being breastfed and at 20-23 months, 13 percent are still breastfed. Four out of ten children in Macedonia are predominantly breastfed (44 percent) within the first six months.

Figure NU.3 shows the detailed pattern of breastfeeding by the child's age in months. Even at the earliest ages, 60 percent of children are receiving liquids or foods other than exclusively breast milk. By the end of the sixth month, none of the children are breastfed. Only about 8 percent of children are receiving breast milk after two years.

Figure NU.3: Infant feeding patterns by age, Macedonia, 2011



* Data for the age groups 1-0, 2-3, 4-5, 6-7, 12-13, 14-15, 16-17, 18-19 and 20-21 is based on 25-49 unweighted cases

Table NU.4 shows the median duration of breastfeeding by selected background characteristics. Among children aged 0-35 months the median duration is 12.1 months for any breastfeeding, 1.3 months for exclusive breastfeeding, and 2.8 months for predominant breastfeeding. There are differences by region, area and wealth index.

Table NU.4: Duration of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children age 0-35 months, Macedonia, 2011

	Median duration (in months) of			Number of children age 0-35 months
	Any breastfeeding[1]	Exclusive breast-feeding	Predominant breastfeeding	
Sex				
Male	8.1	1.2	2.2	399
Female	11.4	.5	.6	417
Region				
Vardar	4.0	1.2	2.8	50
East	10.4	2.2	2.2	60
Southwest	13.0	2.8	4.7	74
Southeast	16.5	2.5	2.5	49
Pelagonia	9.3	.5	2.1	98
Polog	7.6	.6	.7	154
Northeast	11.0	.	.	78
Skopje	12.4	.6	.6	253
Area				
Urban	10.2	.7	2.1	417
Rural	9.5	.6	.7	398
Mother's education				
Primary or less	8.4	.6	.7	323
Secondary	6.8	1.5	2.0	300
High	11.4	.5	.7	192
Wealth index quintile				
Poorest	9.7	.5	.5	190
Second	5.9	.7	1.8	153
Middle	7.9	1.5	3.1	153
Fourth	10.2	.4	.5	158
Richest	10.5	1.7	2.7	161
Ethnicity of household head				
Macedonian	9.8	.6	1.6	406
Albanian	8.4	.6	.6	314
Other	15.8	1.7	2.2	95
Median	**10.0**	**.6**	**1.3**	**815**
Mean for all children (0-35 months)	**12.1**	**1.3**	**2.8**	**815**

[1] MICS indicator 2.10

The adequacy of infant feeding in children under 24 months is provided in Table NU.5. Different criteria of feeding are used depending on the age of the child. For infants aged 0-5 months, exclusive breastfeeding is considered as age-appropriate feeding, while infants aged 6-23 months are considered to be appropriately fed if they are receiving breast milk and solid, semi-solid or soft food. Of infants aged 0-5 months, 23 percent are exclusively breastfed, while 22 percent of the infants aged 6-23 months are receiving breast milk and solid, semi-solid or soft food. As a result of these feeding patterns, only 22 percent of children aged 0-23 months are being appropriately fed. There are no differences in the breastfeeding pattern by wealth index of households, and by the mother's educational level.

Table NU.5: Age-appropriate breastfeeding

Percentage of children age 0-23 months who were appropriately breastfed during the previous day, Macedonia, 2011

	Children age 0-5 months		Children age 6-23 months		Children age 0-23 months	
	Percent exclusively breastfed[1]	Number of children	Percent currently breastfeeding and receiving solid, semi-solid or soft foods	Number of children	Percent appropriately breastfed[2]	Number of children
Sex						
Male	31.1	53	24.2	218	25.6	271
Female	16.1	62	20.2	208	19.3	270
Area						
Urban	21.1	58	26.8	210	25.6	268
Rural	25.0	56	17.9	217	19.3	273
Mother's education						
Primary or less	(26.4)	49	20.7	167	22.0	216
Secondary	(24.6)	31	23.4	166	23.6	197
High	(16.9)	35	23.2	94	21.5	129
Wealth index quintile						
Poorest	(*)	28	21.2	94	23.3	122
Second	(*)	21	20.9	86	19.5	108
Middle	(31.9)	23	24.1	76	25.9	99
Fourth	(*)	20	20.6	91	18.1	111
Richest	(*)	22	25.2	79	25.8	101
Ethnicity of household head						
Macedonian	19.6	53	28.2	204	26.4	257
Albanian	(23.0)	46	8.2	170	11.3	216
Other	(*)	15	(44.7)	53	42.5	68
Total	**23.0**	**114**	**22.3**	**427**	**22.4**	**541**

[1] MICS indicator 2.6

[2] MICS indicator 2.14

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Appropriate complementary feeding of children from 6 months to 2 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 aged 6-23 months and older who are not breastfed, four or more meals of solid, semi-solid or soft foods or milk feeds are needed.

In Macedonia, 41 percent of children aged 6-8 months received solid, semi-solid or soft food the day before the interview. Table NU.7 presents the proportion of children aged 6-23 months who received semi-solid or soft foods the minimum number of times or more during the day or night preceding the interview by breastfeeding status (see the note in Table NU.7 for a definition of minimum number of times for different age groups). Overall, two-thirds of all children aged 6-23 months (65 percent) were receiving solid, semi-solid and soft foods the minimum number of times. A higher proportion of males (71 percent) were achieving the minimum meal frequency as compared to females (59 percent).

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 breast-feeding status, Macedonia, 2011

	Currently breastfeeding		Currently not breastfeeding			All	
	Percent receiving solid, semi-solid and soft foods the minimum number of times	Number of children age 6-23 months	Percent receiving at least 2 milk feeds[1]	Percent receiving solid, semi-solid and soft foods or milk feeds 4 times or more	Number of children age 6-23 months	Percent with minimum meal frequency[2]	Number of children age 6-23 months
Sex							
Male	37.5	75	93.1	88.2	143	70.8	218
Female	23.7	85	90.8	83.8	123	59.2	208
Age							
6-8 months	(28.2)	41	(98.1)	(73.5)	22	44.2	63
9-11 months	(14.0)	41	(96.3)	(96.1)	40	54.0	81
12-17 months	(42.6)	58	92.3	87.6	97	70.7	155
18-23 months	(*)	20	88.9	83.8	108	75.8	128
Area							
Urban	38.2	80	91.3	88.6	129	69.3	210
Rural	22.1	80	92.7	83.8	137	61.2	217
Mother's education							
Primary or less	32.2	58	96.2	81.9	109	64.7	167
Secondary	32.1	60	87.8	88.1	106	67.8	166
High	(24.7)	42	91.8	91.2	52	61.4	94
Wealth index quintile							
Poorest	(38.8)	32	(98.3)	(85.0)	62	69.1	94
Second	(25.6)	32	86.0	74.4	54	56.3	86
Middle	(29.8)	27	94.9	82.7	49	64.1	76
Fourth	(30.0)	36	87.9	93.5	55	68.5	91
Richest	(26.6)	33	92.6	96.4	46	67.4	79
Ethnicity of household head							
Macedonian	40.2	76	89.6	91.3	128	72.2	204
Albanian	(10.7)	53	93.6	79.1	117	57.9	170
Other	(*)	31	(*)	(*)	22	(61.2)	53
Total	**30.2**	**160**	**92.0**	**86.2**	**267**	**65.2**	**427**

[1] MICS indicator 2.15

[2] MICS indicator 2.13

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

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.

Among currently breastfeeding children aged 6-23 months, nearly one-third (30 percent) were receiving solid, semi-solid and soft foods the minimum number of times. This proportion was higher among males (38 percent) as compared to females (24 percent); in urban areas than in rural areas; and among Macedonians. Among non-breastfeeding children, 86 percent of the children were receiving solid, semi-solid and soft foods or milk feeds four times or more.

The continued practice of bottle-feeding is a concern because of the possible contamination due to unsafe water and/or lack of hygiene in preparation. Table NU.8 shows that bottle-feeding is still highly prevalent in Macedonia. 79 percent of children aged 0-23 months are fed using a bottle with a nipple.

Table NU.8: Bottle feeding

Percentage of children age 0-23 months who were fed with a bottle with a nipple during the previous day, Macedonia, 2011

	Percentage of children age 0-23 months fed with a bottle with a nipple[1]	Number of children age 0-23 months
Sex		
Male	82.2	271
Female	76.5	270
Age		
0-5 months	64.6	114
6-11 months	77.5	144
12-23 months	86.2	283
Region		
Vardar	(87.0)	27
East	(84.5)	37
Southwest	72.8	59
Southeast	(79.2)	24
Pelagonia	81.7	62
Polog	75.1	103
Northeast	(86.9)	54
Skopje	78.6	175
Area		
Urban	82.2	268
Rural	76.5	273
Mother's education		
Primary or less	74.1	216
Secondary	85.1	197
High	79.2	129
Wealth index quintile		
Poorest	73.1	122
Second	81.2	108
Middle	78.4	99
Fourth	79.1	111
Richest	86.0	101
Ethnicity of household head		
Macedonian	84.9	257
Albanian	74.9	216
Other	72.6	68
Total	**79.3**	**541**

[1] MICS indicator 2.11

( ) – figures based on 25–49 unweighted cases

Breastfeeding and Infant and Young Child Feeding – Roma settlements

Table NU.2R shows the proportion of children from Roma settlements born in the two years preceding the survey who were ever breastfed, those who were first breastfed within one hour and one day of birth, and those who received a prelacteal feed. Although a very important step in management of lactation and establishment of a physical and emotional relationship between the baby and the mother, only 39 percent of babies are breastfed for the first time within one hour of birth, while 75 percent of newborns from Roma settlements in Macedonia start breastfeeding within one day of birth. 96 percent of babies were ever breastfed while 18 percent received a prelacteal feed.

Table NU.2R: 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, Roma settlements, 2011

	Percentage who were ever breastfed[1]	Percentage who were first breastfed: Within one hour of birth[2]	Percentage who were first breastfed: Within one day of birth	Percentage who received a prelacteal feed	Number of last-born children in the two years preceding the survey
Months since last birth					
0-11 months	94.1	43.8	78.2	18.6	82
12-23 months	96.6	35.5	73.6	17.8	97
Assistance at delivery					
Skilled attendant	95.5	38.6	75.5	18.1	182
Other/Missing	(*)	(*)	(*)	(*)	1
Place of delivery					
Public sector health facility	95.5	37.9	75.2	18.3	180
Other/Missing	(*)	(*)	(*)	(*)	2
Mother's education					
None	(97.3)	(36.6)	(68.4)	(13.9)	41
Primary	97.0	38.7	80.1	19.4	120
Secondary+	(84.2)	(41.6)	(61.7)	(20.9)	22
Total	**95.5**	**38.6**	**75.3**	**18.3**	**182**

[1] MICS indicator 2.4

[2] MICS indicator 2.5

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

In Table NU.3R[15], breastfeeding status is based on the reports of mothers/caretakers of children's consumption of food and fluids in the 24 hours prior to the interview. *Exclusively breastfed* refers to infants who received only breast milk (and vitamins, mineral supplements, or medicine). The table shows exclusive breastfeeding of infants during the first six months of life, as well as continued breastfeeding of children at 12-15 and 20-23 months of age. Due to the small number of children in the specific age groups, the table presents the results for the total sample, without disaggregation by background characteristics.

Table NU.3R: Breastfeeding

Percentage of living children according to breastfeeding status at selected age groups, Roma settlements, 2011

	Children age 0-5 months			Children age 12-15 months		Children age 20-23 months	
	Percent exclusively breastfed[1]	Percent predominantly breastfed[2]	Number of children	Percent breastfed (Continued breastfeeding at 1 year)[3]	Number of children	Percent breastfed (Continued breastfeeding at 2 years)[4]	Number of children
Total	**(32.1)**	**(67.6)**	**36**	**(52.8)**	**43**	**(54.7)**	**28**

[1] MICS indicator 2.6

[2] MICS indicator 2.9

[3] MICS indicator 2.7

[4] MICS indicator 2.8

( ) – figures based on 25–49 unweighted cases

Table NU.4R shows the median duration of breastfeeding by selected background characteristics. Among Roma children aged 0-35 months, the median duration is 18 months for any breastfeeding, 2 months for exclusive breastfeeding, and 5 months for predominant breastfeeding. Median duration of any breastfeeding among boys is 22 months compared to 14 among girls, while figures are comparable between boys and girls with respect to exclusive or predominant breastfeeding.

15 Background characteristics are not shown due to the small number of cases for disaggregated categories.

Table NU.4R: Duration of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children age 0-35 months, Roma settlements, 2011

	Median duration (in months) of			Number of children age 0-35 months
	Any breastfeeding[1]	Exclusive breastfeeding	Predominant breastfeeding	
Sex				
Male	22.3	.6	2.7	137
Female	13.6	2.1	5.5	141
Mother's education				
None	15.9	2.6	3.6	64
Primary	24.7	1.3	3.8	183
Secondary+	(12.8)	(1.2)	(3.2)	32
Wealth index quintile				
Poorest	20.4	1.0	3.0	68
Second	19.6	1.7	4.6	70
Middle	15.4	2.1	3.0	50
Fourth	16.0	2.6	4.8	46
Richest	(14.3)	(1.1)	(4.9)	44
Median	**17.9**	**1.6**	**3.8**	**278**
Mean for all children (0-35 months)	**17.5**	**1.8**	**4.8**	**278**

[1] MICS indicator 2.10

( ) – figures based on 25–49 unweighted cases

The adequacy of infant feeding in children under 24 months is provided in Table NU.5R. 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. Of Roma infants aged 0-5 months, 32 percent are exclusively breastfed, while 46 percent of the infants aged 6-23 months are receiving breast milk and solid, semi-solid or soft food. As a result of these feeding patterns, only 43 percent of children aged 0-23 months are being appropriately fed.

Table NU.5R: Age-appropriate breastfeeding

Percentage of children age 0-23 months who were appropriately breastfed during the previous day, Roma settlements, 2011

	Children age 0-5 months		Children age 6-23 months		Children age 0-23 months	
	Percent exclusively breastfed[1]	Number of children	Percent currently breastfeeding and receiving solid, semi-solid or soft foods	Number of children	Percent appropriately breastfed[2]	Number of children
Sex						
Male	(*)	21	52.0	74	46.8	95
Female	(*)	15	38.7	68	38.4	83
Mother's education						
None	(*)	4	(45.2)	35	(46.1)	39
Primary	(31.0)	27	50.5	92	46.1	119
Secondary+	(*)	5	(*)	15	(17.2)	20
Total	**(32.1)**	**36**	**45.6**	**142**	**42.9**	**178**

[1] MICS indicator 2.6

[2] MICS indicator 2.14

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Appropriate complementary feeding of children from 6 months to 2 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 aged 6-23 months and older who are not breastfed, four or more meals of solid, semi-solid or soft foods or milk feeds are needed.

Table NU.7R presents the proportion of Roma children aged 6-23 months who received semi-solid or soft foods the minimum number of times or more during the day or night preceding the interview by breastfeeding status (see the note in Table NU.7R for a definition of minimum number of times for different age groups). Overall, two-thirds of all Roma children aged 6-23 months (63 percent) were receiving solid, semi-solid and soft foods the minimum number of times.

Table NU.7R: 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 breast-feeding status, Roma settlements, 2011

	Currently breastfeeding		Currently not breastfeeding			All	
	Percent receiving solid, semi-solid and soft foods the minimum number of times	Number of children age 6-23 months	Percent receiving at least 2 milk feeds[1]	Percent receiving solid, semi-solid and soft foods or milk feeds 4 times or more	Number of children age 6-23 months	Percent with minimum meal frequency[2]	Number of children age 6-23 months
Sex							
Male	(53.2)	44	(83.9)	(92.4)	30	68.9	74
Female	(37.8)	38	(68.6)	(77.6)	31	55.6	68
Age							
6-8 months	(*)	9	(*)	(*)	5	(*)	14
9-11 months	(*)	22	(*)	(*)	8	(46.3)	29
12-17 months	(53.7)	31	(84.9)	(90.3)	29	71.1	60
18-23 months	(*)	20	(*)	(*)	19	(61.6)	39
Mother's education							
None	(*)	18	(*)	(*)	17	(59.7)	35
Primary	45.7	59	(77.3)	(91.5)	33	62.3	92
Secondary+	(*)	5	(*)	(*)	10	(*)	15
Wealth index quintile							
Poorest	(*)	22	(*)	(*)	10	(65.0)	32
Second	(*)	25	(*)	(*)	16	(61.0)	41
Middle	(*)	15	(*)	(*)	14	(52.2)	29
Fourth	(*)	8	(*)	(*)	11	(69.4)	19
Richest	(*)	11	(*)	(*)	9	(*)	20
Total	**46.1**	**82**	**76.1**	**84.9**	**60**	**62.5**	**142**

1 MICS indicator 2.15

[2] MICS indicator 2.13

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

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.

Among currently breastfeeding Roma children aged 6-23 months, nearly half of them (46 percent) were receiving solid, semi-solid and soft foods the minimum number of times; this proportion was higher among males. Among non-breastfeeding children, nearly 85 percent of the children were receiving solid, semi-solid and soft foods or milk feeds four times or more.

The continued practice of bottle-feeding is a concern because of the possible contamination due to unsafe water and/or lack of hygiene in preparation. Table NU.8R shows that bottle-feeding is still highly prevalent in Roma population in Macedonia. 68 percent of Roma children aged 0-23 months are fed using a bottle with a nipple. There was no gender difference in this proportion.

Table NU.8R: Bottle feeding

Percentage of children age 0-23 months who were fed with a bottle with a nipple during the previous day, Roma settlements, 2011

	Percentage of children age 0-23 months fed with a bottle with a nipple[1]	Number of children age 0-23 months
Sex		
Male	68.1	95
Female	67.9	83
Age		
0-5 months	(48.2)	36
6-11 months	(74.9)	43
12-23 months	72.2	99
Mother's education		
None	(75.2)	39
Primary	63.4	119
Secondary+	(81.8)	20
Wealth index quintile		
Poorest 60%	66.6	124
Richest 40%	71.3	54
Total	**68.0**	**178**

[1] MICS indicator 2.11

( ) – figures based on 25–49 unweighted cases

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 an impaired immune function and an 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.

Low birth weight stems primarily from the mother's poor health and nutrition. In the industrialized world, cigarette smoking during pregnancy is the leading cause of low birth weight. Teenagers, who give birth when their own bodies have yet to finish growing, run the risk of bearing underweight babies.

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[16].

Overall, 96 percent of births in Macedonia were weighed at birth and approximately 6 percent of infants are estimated to weigh less than 2500 grams at birth (Table NU.11).

Table NU.11: Low birth weight infants

Percentage of last-born children in the 2 years preceding the survey that are estimated to have weighed below 2500 grams at birth and percentage of live births weighed at birth, Macedonia, 2011

	Percent of live births:		Number of last-born children in the two years preceding the survey
	Below 2500 grams[1]	Weighed at birth[2]	
Region			
Vardar	(4.3)	(96.6)	16
East	(6.2)	(97.5)	25
Southwest	4.0	98.6	39
Southeast	(10.6)	(100.0)	16
Pelagonia	8.2	98.7	42
Polog	6.2	91.3	69
Northeast	(3.6)	(95.2)	37
Skopje	4.6	97.3	118
Area			
Urban	5.0	98.4	178
Rural	6.0	94.4	183
Mother's education			
Primary or less	6.0	93.6	146
Secondary	5.9	98.1	128
High	4.2	98.3	88
Wealth index quintile			
Poorest	7.1	91.7	84
Second	5.2	93.6	70
Middle	5.0	99.7	64
Fourth	3.8	98.7	75
Richest	6.2	99.2	68
Ethnicity of household head			
Macedonian	5.7	99.0	171
Albanian	5.5	92.1	146
Other	5.1	100.0	45
Total	**5.5**	**96.3**	**362**

[1] MICS indicator 2.18

[2] MICS indicator 2.19

( ) – figures based on 25–49 unweighted cases

16 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.

Low Birth Weight– Roma settlements

Among the Roma population, 94 percent of births were weighed at birth and approximately 11 percent of infants are estimated to weigh less than 2500 grams at birth (Table NU.11R)

Table NU.11R: 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, Roma settlements, 2011

	Percent of live births:		Number of last-born children in the two years preceding the survey
	Below 2500 grams[1]	Weighed at birth[2]	
Mother's education			
None	(12.9)	(97.9)	41
Primary	10.8	92.2	120
Secondary+	(10.0)	(96.6)	22
Wealth index quintile			
Poorest 60%	10.8	93.7	129
Richest 40%	12.0	94.9	54
Total	**11.2**	**94.0**	**182**

[1] MICS indicator 2.18

[2] MICS indicator 2.19

( ) – figures based on 25–49 unweighted cases

VI CHILD HEALTH

Vaccinations

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

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

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

The vaccination schedule (calendar for immunization) followed by the Macedonia National Immunization Programme provides all of the above mentioned vaccinations as well as three doses of vaccine against Hepatitis B and Haemophilus influenza type B (HiB), and one dose of rubella and mumps. All vaccinations should be received during the first year of life. Taking into consideration this vaccination schedule, the estimates for full immunization coverage from the Macedonia MICS are based on children aged 18-29 months.

Calendar for immunization

Age	Disease	Vaccination Revaccina-tion
Up to 24 hours of birth, 1 and 6 months	Hepatitis B (3 doses)	Vaccination
Up to 12 months	tuberculosis (without testing) I dose	Vaccination
2, 3 and 5 months	Haemophilus influenza type B (Hib)(3 doses)	Vaccination
2, 3 and 5 months	diphtheria, pertussis, and tetanus (3 doses)	Vaccination
2, 3 and 5 months	polio (3 doses three type oral vaccine)	Vaccination
12 months	Measles, rubella, mumps (1 dose)	Vaccination

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

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 by the first birthday (by 18 months of age against measles), Macedonia, 2011

	Vaccinated at any time before the survey according to:			Vaccinated by 12 months of age (18 months of age against measles)
	Vaccination card or health facility records	Mother's report	Either	
BCG[1]	**95.9**	**1.8**	**97.6**	**97.1**
Polio				
1	96.2	1.8	97.9	97.9
2	96.2	1.8	97.9	97.2
3[2]	94.9	.9	95.8	91.7
DPT				
1	96.2	1.8	97.9	97.9
2	96.2	1.8	97.9	97.9
3[3]	94.3	.9	95.2	91.9
Measles[4]	**94.3**	**1.8**	**96.0**	**91.6**
HepB				
At birth	96.1	1.8	97.8	97.4
1	96.1	.9	96.9	96.5
2	94.6	.9	95.5	90.6
HIB				
1	97.0	.9	97.9	97.9
2	96.3	.9	97.2	96.8
3	94.4	.9	95.3	93.5
All vaccinations	**84.7**	**6.6**	**91.3**	**80.2**
No vaccinations	**.0**	**2.1**	**2.1**	**2.1**
Number of children age 18-29 months	**270**	**270**	**270**	**270**

[1] MICS indicator 3.1;

[2] MICS indicator 3.2;

[3] MICS indicator 3.3

[4] MICS indicator 3.4; MDG indicator 4.3

Table CH.1 presents the percentage of children aged 18 to 29 months who have received each of the specific vaccinations according to a vaccination card and/or mother's recall. The denominator for the table is comprised of children aged 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 by their first birthday, as recommended, are included. For children without vaccination cards, the proportion of vaccinations given by the first birthday is assumed to be the same as for children with vaccination cards.

Figure CH.1 presents the percentage of children who received the recommended vaccinations by the age of 12 months (and by 18 months for measles). Approximately 97 percent of children received a BCG vaccination by the age of 12 months - the first and second dose of DPT are given to 98 percent of children but the third dose of DPT is given to only 92 percent. Similarly, 98 percent of children received polio 1 by aged 12 months, but the coverage with polio vaccine declines to 92 percent by the third dose. Coverage for the measles vaccine by 18 months is lower than for the other vaccines. The primary reason is that although 96 percent of children received the vaccine, only 92 percent received it by the age of 18 months. There is also a slight decline in the Hepatitis B vaccination from 97 percent for the first and second dose, to 91 percent for the third dose, reflecting a small dropout rate of less than 6 percent. HiB was administered by the age of 12 months to approximately 98 percent of children aged 18-29 for the first dose, 97 percent for the second dose and 94 percent for the third dose. The percentage of children who had all the recommended vaccinations by their first birthday is low at only 80 percent.

Figure CH.1: Percentage of children aged 18-29 months who received the recommended vaccinations by 12 months, Macedonia, 2012

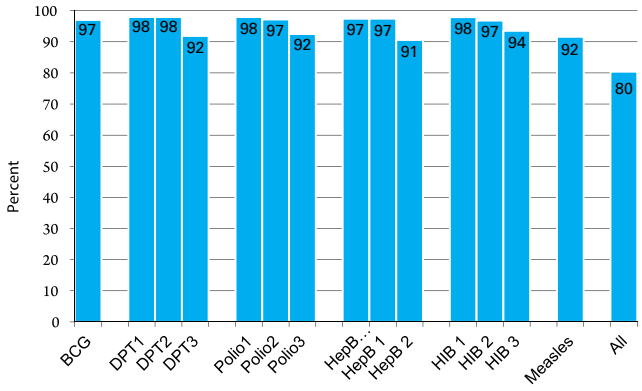


Table CH.2 presents vaccination coverage estimates among children aged 18-29 months by background characteristics. The figures indicate children receiving the vaccinations at any time up to the date of the survey, and are based on information from both the vaccination cards and report by the mother/caretaker. The interviewer reviewed the vaccination cards for 89 percent of children.

Table CH.2: Vaccinations by background characteristics

Percentage of children age 18-29 months currently vaccinated against childhood diseases according to vaccination cards or health facility records, Macedonia, 2011

	Percentage of children who received:																	
		Polio			DPT				HepB			HIB					Percentage with vaccination card seen	Number of children age 18-29 months
	BCG	1	2	3	1	2	3	Measles	At birth	1	2	1	2	3	None	All		
Sex																		
Male	96.5	97.1	97.1	95.3	97.1	97.1	95.3	95.9	96.8	95.0	94.6	97.0	95.5	94.3	2.9	90.2	87.9	132
Female	98.8	98.8	98.8	96.3	98.8	98.8	95.1	96.1	98.8	98.8	96.3	98.8	98.8	96.2	1.2	92.4	90.8	138
Area																		
Urban	98.1	98.7	98.7	94.7	98.7	98.7	93.5	95.5	98.4	96.7	94.1	98.7	98.7	95.5	1.3	88.5	89.7	132
Rural	97.2	97.2	97.2	96.8	97.2	97.2	96.8	96.6	97.2	97.2	96.8	97.2	95.7	95.0	2.8	94.0	89.0	138
Mother's education																		
Primary or less	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.5	94.5	94.5	94.8	92.9	92.3	5.2	91.9	87.2	107
Secondary	100.0	100.0	100.0	99.2	100.0	100.0	99.2	96.4	100.0	100.0	100.0	100.0	100.0	99.2	.0	95.6	94.3	107
High	98.5	100.0	100.0	91.0	100.0	100.0	88.1	97.7	100.0	95.7	88.6	100.0	100.0	93.2	.0	81.9	84.2	55
Wealth index quintile																		
Poorest	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.2	92.2	92.2	92.7	89.5	86.9	7.3	86.3	87.8	63
Second	100.0	100.0	100.0	98.9	100.0	100.0	98.9	94.2	100.0	100.0	100.0	100.0	100.0	98.9	.0	94.2	92.9	59
Middle	98.0	98.0	98.0	96.2	98.0	98.0	96.2	96.2	98.0	98.0	98.0	98.0	98.0	98.0	2.0	96.2	92.3	49
Fourth	(100.0)	(100.0)	(100.0)	(94.0)	(100.0)	(100.0)	(94.0)	(98.1)	(100.0)	(95.1)	(91.0)	(100.0)	(100.0)	(96.8)	(.0)	(89.1)	(85.6)	48
Richest	98.4	100.0	100.0	97.1	100.0	100.0	94.0	100.0	100.0	100.0	96.1	100.0	100.0	97.1	.0	91.4	88.0	51
Ethnicity of household head																		
Macedonian	98.1	98.7	98.7	96.4	98.7	98.7	96.4	97.1	98.7	98.7	96.1	98.7	98.7	96.0	1.3	93.8	91.9	131
Albanian	97.7	97.7	97.7	95.1	97.7	97.7	93.7	95.0	97.4	95.3	94.8	97.7	95.8	94.9	2.3	87.9	87.1	111
Other	(95.4)	(95.4)	(95.4)	(95.4)	(95.4)	(95.4)	(95.4)	(95.4)	(95.4)	(95.4)	(95.4)	(95.4)	(95.4)	(93.2)	(4.6)	(93.2)	(86.9)	28
Total	**97.6**	**97.9**	**97.9**	**95.8**	**97.9**	**97.9**	**95.2**	**96.0**	**97.8**	**96.9**	**95.5**	**97.9**	**97.2**	**95.3**	**2.1**	**91.3**	**89.4**	**270**

( ) – figures based on 25–49 unweighted cases

Vaccinations – Roma settlements

The percentage of children aged 18 to 29 months in Roma settlements who have received each of the specific vaccinations by source of information (vaccination card and mother's recall) is shown in Table CH.1R. The denominator for the table is comprised of children aged 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, as recommended, are included. For children without vaccination cards, the proportion of vaccinations given by the first birthday is assumed to be the same as for children with vaccination cards.

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

Percentage of children age 18-29 months immunized against childhood diseases at any time before the survey and by the first birthday (by 18 months of age against measles), Roma settlements, 2011

	Vaccinated at any time before the survey according to:			Vaccinated by 12 months of age (18 months of age against measles)
	Vaccination card or health facility records	Mother's report	Either	
BCG[1]	**98.2**	**.0**	**98.2**	**96.4**
Polio				
1	98.2	.0	98.2	95.2
2	94.4	.0	94.4	85.9
3[2]	91.0	1.2	92.2	81.3
DPT				
1	**98.2**	**.0**	**98.2**	**95.2**
2	95.4	.0	95.4	85.9
3[3]	90.9	.0	90.9	77.9
Measles[4]	**96.3**	**.0**	**96.3**	**88.9**
HepB				
At birth	97.7	1.2	98.9	98.9
1	97.0	.0	97.0	95.8
2	91.7	.0	91.7	85.3
HIB				
1	98.2	.0	98.2	96.0
2	95.4	.0	95.4	91.3
3	94.3	.0	94.3	90.3
All vaccinations	**83.6**	**5.6**	**89.2**	**65.4**
No vaccinations	**.0**	**1.1**	**1.1**	**1.1**
Number of children age 18-29 months	**86**	**86**	**86**	**86**

[1] MICS indicator 3.1;

[2] MICS indicator 3.2;

[3] MICS indicator 3.3

[4] MICS indicator 3.4; MDG indicator 4.3

Figure CH.1R presents the percentage of children who received recommended vaccinations by the age of 12 months (and by 18 months for measles). Approximately 96 percent of the children in Roma settlements received a BCG vaccination by the age of 12 months – the first dose of DPT was given to 95 percent but the second and third dose of DPT declined to 86 percent and 78 percent respectively. Similarly, 95 percent of Roma children received Polio 1 by age 12 months and this declines to 81 percent by the third dose. 96 percent of Roma children received the measles vaccine, however, only 89 percent had received it by the age of 18 months. There is also a big decline in the Hepatitis B vaccination from 99 percent for the first dose given at birth to 96 percent for the second dose, and 85 percent for the third dose, reflecting a big dropout rate of 14 percent. HiB was administered by the age of 12 months to approximately 96 percent of Roma children aged 18-29 months (first dose), 91 percent for the second dose and 90 percent for the third dose. The percentage of Roma children who had all the recommended vaccinations by their first birthday is low at only 65 percent.

Figure CH.1R: Percentage of children aged 18-29 months who received the recommended vaccinations by 12 months, Roma settlements, 2012

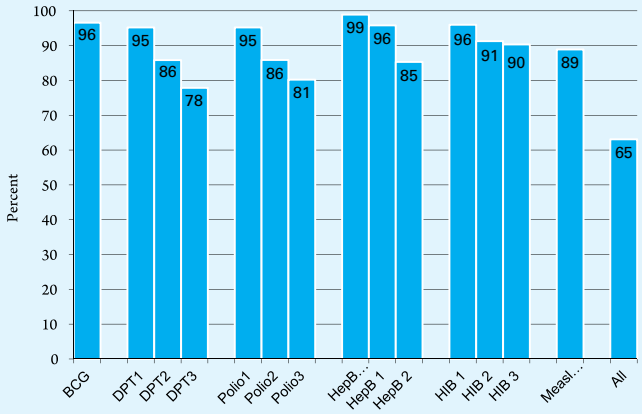


Table CH.2R presents vaccination coverage estimates among children aged 18-29 months by background characteristics. The figures indicate children receiving the vaccinations at any time up to the date of the survey, and are based on information from the vaccination cards, mothers'/caretakers' reports and health records. The interviewer reviewed the vaccination cards or facility records for 92 percent of Roma children. Only 1 percent of Roma children were not vaccinated with any vaccine. At birth, 99 percent received the hepatitis B vaccine; 98 percent were vaccinated with BCG, and received a first dose of polio, DPT and HiB; and 96 percent received a measles vaccine. What is noticeable from Table CH.2R is the higher drop-off rate for girls although the figures are based on 25-49 unweighted cases.

Table CH.2R: Vaccinations by background characteristics

Percentage of children age 18-29 months currently vaccinated against childhood diseases according to vaccination cards or health facility records, Roma settlements, 2011

	Percentage of children who received:																	
		Polio			DPT				HepB			HIB						
	BCG	1	2	3	1	2	3	Measles	At birth	1	2	1	2	3	None	All	Percentage with vaccination card or facility record seen	Number of children age 18-29 months
Sex																		
Male	(98.0)	(98.0)	(96.7)	(96.7)	(98.0)	(96.7)	(94.2)	(97.0)	(98.0)	(98.0)	(94.2)	(98.0)	(96.7)	(96.7)	(2.0)	(93.3)	(95.1)	45
Female	(98.4)	(98.4)	(91.8)	(87.3)	(98.4)	(94.0)	(87.3)	(95.5)	(100.0)	(96.1)	(89.1)	(98.4)	(93.9)	(91.6)	(.0)	(84.8)	(88.9)	42
Total	**98.2**	**98.2**	**94.4**	**92.2**	**98.2**	**95.4**	**90.9**	**96.3**	**98.9**	**97.0**	**91.7**	**98.2**	**95.4**	**94.3**	**1.1**	**89.2**	**92.1**	**86**

( ) – figures based on 25–49 unweighted cases

Prevalence of Diarrhoea

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 of A World Fit for Children is to reduce by one half death due to diarrhoea among children under five by 2010 compared to 2000, and to reduce the incident of diarrhoea by 25 percent. The Millennium Development Goal is to reduce by two thirds the mortality rate among children under five by 2015 compared to 1990.

In the MICS, prevalence of diarrhoea was estimated by asking mothers/caretakers whether their child under age five had an episode of diarrhoea in the two weeks prior to the survey.

Overall, 6 percent of under five children had diarrhoea in the two weeks preceding the survey (Table CH.4). Diarrhoea prevalence in children from rural (7 percent) and urban areas (6 percent) are almost equal, indicating good water and sanitation conditions in rural areas.

Table CH.4: Prevalence of diarrhoeal diseases

Percentage of children age 0-59 months with diarrhoea in the last two weeks, Macedonia, 2011

	Had diarrhea in last two weeks	Number of children age 0-59 months
Sex		
Male	7.0	692
Female	5.8	684
Area		
Urban	5.9	701
Rural	6.9	675
Age		
0-11 months	7.8	258
12-23 months	9.6	283
24-35 months	7.8	274
36-47 months	3.1	276
48-59 months	3.9	285
Mother's education		
Primary or less	8.1	545
Secondary	4.8	522
High	6.2	309
Wealth index quintile		
Poorest	8.7	316
Second	7.6	272
Middle	5.0	255
Fourth	6.3	261
Richest	4.1	272
Ethnicity of household head		
Macedonian	5.1	708
Albanian	8.4	521
Other	5.8	148
Total	**6.4**	**1376**

ROMA SETTLEMENTS

Prevalence of Diarrhoea – Roma settlements

Overall, 13 percent of children under five years in Roma settlements had diarrhoea in the two weeks preceding the survey (Table CH.4R[17]).

Table CH.4R: Prevalence of diarrhoeal diseases

Percentage of children age 0-59 months with diarrhoea in the last two weeks, Roma settlements, 2011

	Had diarrhoea in last two weeks	Number of children age 0-59 months
Sex		
Male	13.4	237
Female	12.7	239
Total	**13.1**	**476**

17 Background characteristics are not shown due to the small number of cases for disaggregated categories.

Knowledge About the Signs of Pneumonia

Pneumonia is the leading cause of death in children and the use of antibiotics in children under 5 years of age 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.

Issues related to knowledge of danger signs of pneumonia are presented in Table CH.8. The mothers' knowledge of the danger signs is an important determinant of care-seeking behaviour. Overall, only 6 percent of women know of the two danger signs of pneumonia – fast and difficult breathing. The most commonly identified symptom for taking a child to a health facility is developed fever. 16 percent of mothers identified fast breathing and 21 percent of mothers identified difficult breathing as symptoms for taking children immediately to a health care provider. Mothers' knowledge of the danger signs of pneumonia varies by region, education, wealth index and ethnicity.

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, Macedonia, 2011

	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	Mothers/ caretakers who recognize the two danger signs of pneumonia	Number of mothers/ caretakers of children age 0-59 months
Region									
Vardar	1.6	6.3	95.5	19.2	22.2	10.9	2.2	2.0	54
East	1.5	9.6	89.1	2.7	3.2	.7	8.2	.7	61
Southwest	33.0	36.3	92.5	22.5	24.2	15.1	25.0	11.3	72
Southeast	6.5	19.2	98.7	11.8	13.2	5.2	.9	2.9	48
Pelagonia	13.9	30.9	96.3	8.9	10.7	1.7	2.0	.6	83
Polog	16.4	32.8	88.4	23.0	26.0	12.2	17.5	9.7	140
Northeast	36.9	30.1	93.3	30.6	41.1	8.3	11.2	7.4	77
Skopje	5.4	11.5	88.1	12.3	18.7	2.9	4.7	6.3	234
Area									
Urban	9.0	15.8	91.1	13.3	20.7	5.1	7.4	5.5	401
Rural	18.5	28.0	91.3	19.7	20.5	8.4	11.1	6.4	368
Mother's education									
Primary or less	16.0	27.8	88.9	22.5	23.2	6.4	10.5	7.1	285
Secondary	9.0	17.9	94.1	13.9	19.3	4.9	8.9	4.8	292
High	17.0	18.1	90.4	11.0	18.6	9.9	7.6	5.8	192
Wealth index quintile									
Poorest	21.3	27.6	88.9	21.9	24.0	10.8	9.7	9.9	165
Second	13.2	23.5	90.9	23.6	18.0	7.1	11.2	7.6	150
Middle	14.8	25.6	90.4	15.6	22.2	4.7	10.8	5.6	136
Fourth	11.8	21.5	92.2	16.2	21.0	3.2	7.8	5.6	155
Richest	6.6	10.7	93.6	4.8	17.8	7.2	6.7	1.0	163
Ethnicity of household head									
Macedonian	7.3	13.7	93.2	10.2	16.5	4.3	6.5	3.0	408
Albanian	24.0	34.7	88.3	25.8	27.3	9.6	13.3	10.1	285
Other	7.8	15.5	91.9	14.1	17.2	8.7	7.7	6.1	75
Total	**13.6**	**21.6**	**91.2**	**16.4**	**20.6**	**6.7**	**9.2**	**5.9**	**768**

Knowledge About Signs of Pneumonia – Roma settlements

Issues related to knowledge of danger signs of pneumonia are presented in Table CH.8R. The mothers' knowledge of the danger signs is an important determinant of care-seeking behaviour. Overall, only 3.2 percent of Roma women know of the two danger signs of pneumonia – fast and difficult breathing. The most commonly identified symptom for taking a child to a health facility is developed fever (93 percent). 12 percent of Roma mothers identified fast breathing and 19 percent of mothers identified difficult breathing as symptoms for taking children immediately to a health care provider. 20 percent of Roma mothers go to a health care provider when the child becomes sicker, while 19 percent of mothers go when the child is unable to drink or breastfeed. Knowledge of the danger signs of pneumonia is higher among mothers in the richest households compared to all other wealth quintiles.

Table CH.8R: 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, Roma settlements, 2011

	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		
Mother's education									
None	30.5	31.5	93.7	18.6	23.1	3.2	1.8	4.1	73
Primary	16.2	15.4	92.8	10.1	17.9	2.9	3.6	2.0	259
Secondary+	(12.4)	(26.4)	(89.6)	(9.3)	(16.9)	(6.2)	(13.9)	(9.3)	43
Wealth index quintile									
Poorest	20.3	28.4	95.8	9.5	17.3	2.2	1.8	.0	89
Second	31.5	14.4	95.4	9.0	17.9	.8	3.6	3.7	77
Middle	11.7	17.4	91.3	10.5	16.2	8.9	1.1	1.1	77
Fourth	13.9	14.2	92.8	13.7	19.4	2.9	8.7	2.1	68
Richest	13.4	23.1	86.1	17.2	24.5	1.7	8.5	10.8	64
Total	**18.5**	**19.8**	**92.6**	**11.6**	**18.8**	**3.3**	**4.4**	**3.2**	**375**

( ) – figures based on 25–49 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, among others. Use of solid fuels increases the risks of incurring acute respiratory illness, pneumonia, chronic obstructive lung disease, cancer, asthma, cataracts, and possibly tuberculosis, 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, as shown in Table CH.9.

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, Macedonia, 2011

	Percentage of household members in households using:											
				Solid fuels								
	Electricity	Petroleum	Biogas	Charcoal	Wood	Straw, shrubs, grass	Other fuel	Missing	No food cooked in the household	Total	Solid fuels for cooking[1]	Number of household members
Region												
Vardar	61.0	16.5	.0	.0	22.2	.2	.0	.0	.0	100.0	22.5	1064
East	30.2	16.1	.0	.0	53.0	.6	.0	.0	.1	100.0	53.6	1235
Southwest	38.6	5.3	.0	.0	56.1	.1	.0	.0	.0	100.0	56.1	1337
Southeast	61.1	8.9	.0	.0	29.9	.0	.0	.0	.1	100.0	29.9	1293
Pelagonia	55.3	10.2	.2	.0	33.9	.0	.4	.0	.0	100.0	33.9	1957
Polog	37.8	7.2	.0	.3	54.5	.0	.0	.2	.0	100.0	54.8	2059
Northeast	61.5	3.1	.0	.1	35.2	.0	.0	.0	.0	100.0	35.3	1466
Skopje	76.8	9.1	.0	.0	13.9	.1	.0	.0	.1	100.0	14.0	4353
Area												
Urban	75.6	11.4	.0	.0	12.8	.1	.1	.0	.0	100.0	12.9	8202
Rural	34.0	6.4	.1	.1	59.2	.1	.0	.1	.1	100.0	59.4	6562
Education of household head[2]												
Primary or less	39.5	5.4	.1	.1	54.6	.2	.0	.1	.0	100.0	55.0	6047
Secondary	66.9	11.8	.0	.0	21.1	.0	.1	.0	.1	100.0	21.1	6143
High	75.4	11.8	.0	.0	12.8	.0	.0	.0	.0	100.0	12.8	2569
Wealth index quintiles												
Poorest	14.8	2.0	.0	.0	82.9	.1	.0	.0	.2	100.0	83.0	2955
Second	42.3	6.2	.0	.2	50.7	.4	.0	.2	.0	100.0	51.3	2950
Middle	63.9	9.6	.0	.1	26.1	.0	.3	.0	.0	100.0	26.2	2953
Fourth	76.9	16.2	.1	.0	6.8	.0	.0	.0	.0	100.0	6.8	2950
Richest	87.6	11.8	.0	.0	.6	.0	.0	.0	.0	100.0	.6	2955
Ethnicity of household head[3]												
Macedonian	65.0	12.1	.0	.0	22.7	.0	.1	.0	.1	100.0	22.7	9537
Albanian	39.1	2.7	.0	.2	57.7	.1	.0	.1	.0	100.0	58.0	4040
Other	54.5	7.6	.0	.0	37.3	.6	.0	.0	.0	100.0	37.9	1182
Total	**57.1**	**9.2**	**.0**	**.0**	**33.4**	**.1**	**.1**	**.0**	**.0**	**100.0**	**33.6**	**14764**

[1] MICS indicator 3.11

[2] The category "Missing/DK" for the background characteristic "Education of household head" is based on 10 unweighted cases and is not presented in the table

[3] The category "Missing/DK" for the background characteristic "Ethnicity of household head" is based on 2 unweighted cases and is not presented in the table

Overall, more than a third (34 percent) of all households in Macedonia use solid fuels for cooking. Use of solid fuels is low in urban areas (13 percent), but very high in rural areas, where more than half of the households (59 percent) use solid fuels. Differentials in regard to household wealth and the educational level of the household head are also considerable. The findings show that use of solid fuels is very uncommon among households in the Skopje region and among the richest households. The table also shows that the overall percentage is high due to the common use of wood for cooking purposes.

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 most households solid fuel is used for cooking in a separate room such as a kitchen (77 percent). In 13 percent of households, it is used elsewhere in the house- 7 percent in a separate building and 3 percent outdoors. This distribution is similar through the country even though there are differences by region, area of living and wealth index of households, as well as the education and ethnicity of household head.

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

Percent distribution of household members in households using solid fuels by place of cooking, Macedonia, 2011

	Place of cooking:							
	In a separate room used as kitchen	Elsewhere in the house	In a separate building	Outdoors	At another place	Missing	Total	Number of household members in households using solid fuels for cooking
Region								
Vardar	48.4	9.3	26.1	14.5	.0	1.7	100.0	239
East	60.5	31.7	4.7	3.1	.0	.0	100.0	662
Southwest	93.9	2.9	.9	2.2	.0	.1	100.0	750
Southeast	77.3	5.4	13.1	3.6	.6	.0	100.0	386
Pelagonia	83.5	6.1	7.3	3.1	.0	.0	100.0	664
Polog	71.6	16.8	7.8	2.9	.0	.8	100.0	1128
Northeast	88.8	10.3	.0	.9	.0	.0	100.0	518
Skopje	79.5	11.0	5.9	3.4	.0	.2	100.0	610
Area								
Urban	85.2	10.9	2.7	1.1	.0	.0	100.0	1058
Rural	75.0	13.1	7.5	3.9	.1	.4	100.0	3900
Education of household head[1]								
Primary or less	73.6	15.3	6.8	3.8	.1	.4	100.0	3325
Secondary	82.5	8.0	6.6	2.7	.0	.1	100.0	1298
High	91.9	4.2	3.0	1.0	.0	.0	100.0	330
Wealth index quintiles								
Poorest	67.4	18.5	8.1	5.5	.1	.5	100.0	2454
Second	84.8	7.3	6.0	1.7	.0	.2	100.0	1512
Middle	90.6	6.7	2.0	.7	.0	.0	100.0	773
Fourth	86.4	4.5	9.1	.0	.0	.0	100.0	201
Richest	(*)	(*)	(*)	(*)	(*)	(*)	100.0	17
Ethnicity of household head								
Macedonian	73.4	14.9	8.6	3.0	.0	.2	100.0	2167
Albanian	81.1	11.5	4.9	2.0	.0	.5	100.0	2342
Other	75.1	7.3	4.9	12.3	.5	.0	100.0	448
Total	**77.2**	**12.6**	**6.5**	**3.3**	**.0**	**.3**	**100.0**	**4957**

[1] The category "Missing/DK" for the background characteristic "Education of household head" is based on 10 unweighted cases and is not presented in the table
(*) – figures based on less than 25 unweighted cases

Solid Fuel Use – Roma settlements

Table CH.9R: 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, Roma settlements, 2011

	Percentage of household members in households using:									Number of household members
				Solid fuels						
	Electricity	Petroleum	Biogas	Charcoal	Wood	Straw, shrubs, grass	No food cooked in the household	Total	Solid fuels for cooking[1]	
Education of household head										
None	63.1	.0	.0	.0	34.6	2.1	.2	100.0	36.7	593
Primary	61.9	1.8	.0	.0	36.3	.0	.0	100.0	36.3	2887
Secondary+	79.4	3.4	.0	.0	17.2	.0	.0	100.0	17.2	749
Wealth index quintiles										
Poorest	41.8	.1	.0	.0	56.6	1.5	.1	100.0	58.0	845
Second	58.4	1.0	.0	.0	40.6	.0	.0	100.0	40.6	842
Middle	63.1	1.7	.0	.0	35.2	.0	.0	100.0	35.2	848
Fourth	74.4	1.1	.0	.0	24.5	.0	.0	100.0	24.5	845
Richest	88.2	5.1	.0	.0	6.7	.0	.0	100.0	6.7	848
Total	**65.2**	**1.8**	**.0**	**.0**	**32.7**	**.3**	**.0**	**100.0**	**33.0**	**4229**

[1] MICS indicator 3.11

Overall, a third (33 percent) of all households in Roma settlements in Macedonia use solid fuels for cooking. Use of solid fuels is very low in the richest households (7 percent) and high in the poorest households, where more than half of the households (58 percent) use solid fuels. Differentials with respect to the educational level of the household head are also considerable with more educated household heads using less solid fuels. The table also shows that the overall percentage is high (33 percent) due to the common use of wood for cooking purposes

Solid fuel use alone is a poor proxy for indoor air pollution, since the concentration of the pollutants is different when the same fuel is burnt in different stoves or fires. Use of closed stoves with chimneys minimizes indoor pollution, while an open stove or fire with no chimney or hood means there is no protection from the harmful effects of solid fuels. Solid fuel use by place of cooking is depicted in Table CH.10R. In most Roma households, solid fuel is used for cooking in a separate room, such as a kitchen (75 percent). In 11 percent of households solid fuel is used elsewhere in the house, 9 percent outdoors, and 4 percent in a separate building. This distribution is similar throughout the country despite differences by wealth index of households and the education of the household head.

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

Percent distribution of household members in households using solid fuels by place of cooking, Roma settlements, 2011

	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	
Education of household head								
None	72.7	9.0	8.3	8.3	1.7	.0	100.0	218
Primary	74.0	11.9	3.8	9.7	.0	.5	100.0	1048
Secondary+	87.4	6.2	.0	.4	6.0	.0	100.0	129
Wealth index quintiles								
Poorest	58.7	13.7	9.1	16.1	2.3	.0	100.0	491
Second	83.3	4.1	2.6	10.1	.0	.0	100.0	342
Middle	88.8	8.9	.0	2.3	.0	.0	100.0	299
Fourth	83.1	11.9	2.2	.0	.0	2.7	100.0	207
Richest	65.8	34.2	.0	.0	.0	.0	100.0	57
Total	**75.1**	**10.9**	**4.2**	**8.6**	**.8**	**.4**	**100.0**	**1395**

Child Disability

One of the World Fit for Children goals is to protect children against abuse, exploitation, and violence, including the elimination of discrimination against children with disabilities. In Macedonia there is a national preventive programme for mother and child health care and a programme for check-ups (including medical assessments) for school children.

Disability assessment was conducted in two stages. In the first stage, a standard MICS module was used, asking mothers/caretakers of all children age 2 through 9 years, to assess a number of disabilities/impairments, such as sight impairment, deafness, and difficulties with speech. This approach rests in the concept of functional disability developed by WHO and aims to identify the implications of any impairment or disability for the development of the child (e.g. health, nutrition, education). The results from this stage were used for selecting children to be included in the second stage. All children that were assessed as positive (having at least one impairment) in the first stage, as well as an additional 10 percent of children whose mothers/care takers reported no impairment, were included and randomly selected in the survey.

The second stage assessment took place in October-November 2011. Eleven teams were trained in September 2011 to conduct the medical assessment. Each team was composed of four members: pediatrician, ophthalmologist, audiologist and psychologist.

Data collection was organized in kindergartens. Kindergartens provided a relaxed and friendly atmosphere where the child could be examined and observed with less stress and better reactions from both the children and parents. Health facilities could provoke negative reactions in children, while day care centers could increase refusal rate from parents who may be more reluctant to bring the child to that type of institution (In Macedonia, day care centers are for children with disabilities).

All parents were contacted prior to the commencement of screening and informed of the procedure, date, etc. Overall, the response rate was 80 percent (85 percent for children with disabilities and 74 percent of those with no disability).

Screening was scheduled to take place during the weekends. It was easier to convince parents to bring the child during the weekends as they were not working and generally had more time to participate in the process. Additionally, kindergartens were available during the weekends, which is not always the case for workdays.

The following data collection tools were used for the screening:

1. Medical Assessment Form – used for collecting data on the child's health status and on presence of physical impairment;
2. Psychological Development Test – for assessing the mental status/disability;
3. Sleeping assessment – for collecting data on sleeping problems;
4. M-Chat – used for checking the presence of autism;
5. ADHD Rating Scale – used for checking the presence of the Attention Deficit Hyperactivity Disorder.

Medical Assessment Form and Psychological Development Test were used for all children; other instruments were administered only to the children for which there were an indication that the presence of the specific condition is possible.

At the time of this report's publication, the analysis of the data collected in the second stage assessment was still in process. As such, the results will be presented in a separate report on child disabilities.

VII WATER AND SANITATION

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

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

The list of indicators used in 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
- Sanitary disposal of child's faeces

For more details on water and sanitation and to access some reference documents, please visit the UNICEF's website at www.chilinfo.org/wes.html.

Use of Improved Water Sources

The distribution of the population by main source of drinking water is shown in Table WS.1 and Figure WS.1. The population using *improved sources* of drinking water are those using any of the following types of supply: piped water (into dwelling, compound, yard or plot, to neighbour, public tap/standpipe), tubewell/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 hand washing and cooking.

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, Macedonia, 2011

	Main source of drinking water												
	Improved sources								Unimproved sources				
	Piped water												
	Into dwelling	Into yard/plot	To neighbor	Public tap/ stand-pipe	Tube-well/ bore-hole	Protected well	Protected spring	Bottled water	Unprotected well	Unprotected spring	Total	Percentage using improved sources of drinking water[1]	Number of household members
Region													
Vardar	76.1	.9	.0	2.4	.8	8.3	5.1	6.4	.0	.0	100.0	100.0	1064
East	89.6	.5	.1	.0	.2	1.7	4.9	2.6	.3	.0	100.0	99.7	1235
Southwest	94.1	.1	.1	.4	.0	2.3	1.2	1.4	.0	.2	100.0	99.8	1337
Southeast	86.0	3.6	.0	.0	4.6	.4	.0	3.0	1.4	1.0	100.0	97.6	1293
Pelagonia	85.8	.4	.0	.0	2.2	1.1	3.9	6.6	.0	.0	100.0	100.0	1957
Polog	94.0	.0	.0	.1	1.6	1.0	1.5	1.5	.0	.3	100.0	99.7	2059
Northeast	70.1	.0	.0	4.1	3.0	14.6	4.5	2.6	.0	1.0	100.0	99.0	1466
Skopje	87.7	1.5	.3	.2	.0	1.0	2.7	6.4	.1	.1	100.0	99.8	4353
Area													
Urban	91.3	.1	.0	.3	.1	.5	.9	6.6	.0	.0	100.0	100.0	8202
Rural	80.1	1.9	.2	1.1	2.7	6.1	5.3	1.4	.4	.6	100.0	99.0	6562
Education of household head[2]													
Primary or less	84.1	1.6	.3	.8	2.2	3.9	4.9	1.3	.3	.6	100.0	99.1	6047
Secondary	88.3	.6	.0	.6	.9	2.9	1.9	4.7	.1	.1	100.0	99.9	6143
High	87.0	.1	.0	.6	.1	1.3	.4	10.4	.0	.1	100.0	99.9	2569
Wealth index quintile													
Poorest	72.0	3.9	.5	2.5	3.0	7.7	8.7	.3	.7	.7	100.0	98.6	2955
Second	87.3	.7	.1	.2	2.4	4.8	2.7	.9	.2	.7	100.0	99.2	2950
Middle	93.4	.0	.0	.3	.9	1.0	1.9	2.3	.0	.0	100.0	100.0	2953
Fourth	93.4	.0	.0	.1	.1	1.0	.7	4.7	.0	.0	100.0	100.0	2950
Richest	85.6	.0	.0	.2	.0	.5	.3	13.4	.0	.0	100.0	100.0	2955
Ethnicity of household head[3]													
Macedonian	86.9	.8	.0	.8	1.5	2.0	2.3	5.3	.2	.2	100.0	99.6	9537
Albanian	86.5	1.1	.4	.4	.8	5.3	3.8	1.1	.1	.6	100.0	99.3	4040
Other	81.1	1.2	.1	.6	1.8	3.6	4.2	7.2	.2	.0	100.0	99.8	1182
Total	**86.3**	**.9**	**.1**	**.7**	**1.3**	**3.0**	**2.9**	**4.3**	**.2**	**.3**	**100.0**	**99.6**	**14764**

[1] MICS indicator 4.1; MDG indicator 7.8

[2] The category "Missing/DK" for the background characteristic "Education of household head" is based on 10 unweighted cases and is not presented in the table

[3] The category "Missing/DK" for the background characteristic "Ethnicity of household head" is based on 2 unweighted cases and is not presented in the table

Overall, 99.6 percent of the population is using an improved source of drinking water – 100 percent in urban areas and 99 percent in rural areas.

Table WS.1 shows that the source of drinking water for the population varies strongly by region. In both the Southwest and Polog regions, 94 percent of the population uses drinking water that is piped into their dwelling. In contrast, only 76 percent of those residing in Vardar and 70 percent of those in Northeast have piped water into the dwelling. In Vardar and Northeast, the second most important source of drinking water is a protected well, while in Pelagonia and Skopje it is bottled water.

Use of household water treatment is presented in Table WS.2. Households were asked of ways they may be treating water at home to make it safer to drink. Boiling water, adding bleach or chlorine, using a water filter, and using solar disinfection are considered as appropriate means for the proper treament of drinking water. 2 percent of household members living in households with unimproved water sources use appropriate water treatment methods (the respective column is not presented in the table due to the small number of unweighted cases by background characteristics).

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, Macedonia, 2011

	Water treatment method used in the household								
	None	Boil	Add bleach/ chlorine	Strain through a cloth	Use water filter	Solar dis-infection	Let it stand and settle	Other	Number of household members
Region									
Vardar	98.0	.5	.2	.2	1.2	.0	.1	.0	1064
East	95.6	2.5	.0	.0	1.3	.0	.1	.6	1235
Southwest	92.2	5.3	.3	.0	1.7	.0	.3	.0	1337
Southeast	95.1	3.9	.0	.8	.5	.0	.2	.2	1293
Pelagonia	93.0	5.6	.0	.5	1.2	.0	.2	.5	1957
Polog	92.2	4.2	.0	2.6	2.0	.0	.2	.1	2059
Northeast	97.5	2.5	.0	.1	.3	.0	.0	.0	1466
Skopje	94.8	1.6	.0	.3	2.8	.0	.4	.8	4353
Area									
Urban	94.8	2.3	.0	.0	2.4	.0	.0	.4	8202
Rural	94.2	4.1	.1	1.4	.8	.0	.4	.3	6562
Education of household head[1]									
Primary or less	95.9	2.9	.0	1.1	.5	.0	.3	.3	6047
Secondary	93.8	3.5	.1	.4	2.2	.0	.1	.4	6143
High	93.0	2.8	.0	.1	3.4	.0	.4	.7	2569
Wealth index quintile									
Poorest	95.4	3.6	.2	1.5	.2	.0	.5	.4	2955
Second	94.2	4.5	.0	1.1	.6	.0	.1	.0	2950
Middle	95.8	3.0	.0	.5	.7	.0	.2	.2	2953
Fourth	95.0	2.7	.0	.1	2.2	.0	.2	.3	2950
Richest	92.2	1.8	.0	.0	4.7	.0	.0	1.0	2955
Ethnicity of household head[2]									
Macedonian	94.5	3.0	.0	.2	2.2	.0	.1	.4	9537
Albanian	95.0	2.8	.0	1.5	.7	.0	.5	.4	4040
Other	93.1	5.3	.3	.7	1.2	.0	.3	.4	1182
Total	**94.5**	**3.1**	**.0**	**.6**	**1.7**	**.0**	**.2**	**.4**	**14764**

[1] The category "Missing/DK" for the background characteristic "Education of household head" is based on 10 unweighted cases and is not presented in the table

[2] The category "Missing/DK" for the background characteristic "Ethnicity of household head" is based on 2 unweighted cases and is not presented in the table

Table WS.3 presents the amount of time it takes to obtain water, and Table WS.4 shows who usually collected the water. These results refer to one round trip from home to drinking water source. Information on the number of trips made in one day was not collected.

Table WS.3 shows that for 97 percent of the population live in households with drinking water source on the premises. For 1.6 percent of household population, it takes less than 30 minutes to get to the water source and bring water, while 0.5 percent of population spend 30 minutes or more for this purpose. One striking finding is the high percentage of households spending 30 minutes or more to go to the source of drinking water in Vardar region (3 percent).

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, Macedonia, 2011

	Time to source of drinking water							Total	Number of household members
	Users of improved drinking water sources				Users of unimproved drinking water sources				
	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK	Water on premises	Less than 30 minutes	30 minutes or more		
Region									
Vardar	89.9	7.3	2.6	.3	.0	.0	.0	100.0	1064
East	98.4	.5	.3	.4	.0	.3	.0	100.0	1235
Southwest	98.0	1.5	.0	.3	.0	.2	.0	100.0	1337
Southeast	97.0	.4	.0	.1	.0	2.4	.0	100.0	1293
Pelagonia	95.8	2.0	1.4	.8	.0	.0	.0	100.0	1957
Polog	99.4	.0	.3	.1	.3	.0	.0	100.0	2059
Northeast	93.8	4.2	.2	.8	.0	.0	1.0	100.0	1466
Skopje	99.1	.5	.0	.2	.1	.1	.0	100.0	4353
Area									
Urban	98.5	.9	.4	.3	.0	.0	.0	100.0	8202
Rural	95.5	2.5	.6	.4	.1	.7	.2	100.0	6562
Education of household head[1]									
Primary or less	96.0	2.0	.7	.4	.1	.5	.2	100.0	6047
Secondary	97.7	1.3	.5	.4	.0	.1	.0	100.0	6143
High	98.6	1.2	.0	.1	.0	.1	.0	100.0	2569
Wealth index quintile									
Poorest	93.3	3.3	1.2	.9	.3	.6	.5	100.0	2955
Second	96.5	1.7	.5	.5	.0	.8	.0	100.0	2950
Middle	97.9	1.5	.3	.2	.0	.0	.0	100.0	2953
Fourth	98.8	.8	.3	.1	.0	.0	.0	100.0	2950
Richest	99.3	.6	.1	.1	.0	.0	.0	100.0	2955
Ethnicity of household head[2]									
Macedonian	97.1	1.5	.6	.4	.0	.4	.0	100.0	9537
Albanian	98.0	.8	.3	.3	.2	.1	.3	100.0	4040
Other	94.5	4.8	.4	.0	.0	.2	.0	100.0	1182
Total	**97.2**	**1.6**	**.5**	**.3**	**.1**	**.3**	**.1**	**100.0**	**14764**

[1] The category "Missing/DK" for the background characteristic "Education of household head" is based on 10 unweighted cases and is not presented in the table

[2] The category "Missing/DK" for the background characteristic "Ethnicity of household head" is based on 2 unweighted cases and is not presented in the table

Table WS.4 shows that for the majority of households (56 percent) an adult male is usually the person collecting the water when the source of drinking water is not on the premises. Adult females collect water in 41 percent of households, while male children under 15 years of age collect water in the rest of the households (2 percent).

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, Macedonia, 2011

	Percentage of households without drinking water on premises	Number of households	Person usually collecting drinking water						Number of households without drinking water on premises
			Adult woman	Adult man	Female child under age 15	Male child under age 15	Missing/DK	Total	
Area									
Urban	1.6	2437	29.7	66.0	.0	4.3	.0	100.0	40
Rural	5.3	1581	47.1	51.1	.0	.9	.9	100.0	84
Education of household head[1]									
Primary or less	4.6	1568	47.3	49.5	.0	2.8	.3	100.0	73
Secondary	2.3	1670	32.5	65.2	.0	1.0	1.3	100.0	39
High	1.6	778	35.5	64.5	.0	.0	.0	100.0	12
Ethnicity of household head[2]									
Macedonian	3.2	2921	44.6	53.5	.0	1.9	.0	100.0	94
Albanian	1.7	784	36.7	51.9	.0	5.5	5.8	100.0	13
Other	5.5	310	27.6	72.4	.0	.0	.0	100.0	17
Total	**3.1**	**4018**	**41.4**	**55.9**	**.0**	**2.0**	**.6**	**100.0**	**124**

[1] The category "Missing/DK" for the background characteristic "Education of household head" is based on 2 unweighted cases and is not presented in the table

[2] The category "Missing/DK" for the background characteristic "Ethnicity of household head" is based on 1 unweighted cases and is not presented in the table

Use of Improved Water Sources – Roma settlements

The distribution of the population in Roma settlements by main source of drinking water is presented in Table WS.1R.

Table WS.1R: 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, Macedonia, 2011

	Main source of drinking water											
	Improved sources							Unimproved sources				
	Piped water											
	Into dwelling	Into yard/plot	To neighbor	Public tap/ stand-pipe	Tube-well/ bore-hole	Protected well	Bottled water	Surface water (river, stream, dam, lake, pond, canal, irrigation channel	Unprotected spring	Total	Percentage using improved sources of drinking water[1]	Number of household members
Education of household head												
None	81.3	6.7	8.2	3.2	.0	.0	.0	.0	.6	100.0	99.4	593
Primary	92.4	3.0	.8	.4	1.2	.5	.5	.2	.9	100.0	98.9	2887
Secondary+	96.8	.7	.0	.1	.0	.0	2.4	.0	.0	100.0	100.0	749
Wealth index quintile												
Poorest	69.2	13.1	8.4	2.6	2.8	.0	.3	.7	2.9	100.0	96.4	845
Second	91.9	2.0	.0	1.1	1.1	1.6	1.5	.0	.8	100.0	99.2	842
Middle	99.4	.3	.0	.0	.0	.3	.0	.0	.0	100.0	100.0	848
Fourth	98.9	.3	.0	.0	.0	.0	.8	.0	.0	100.0	100.0	845
Richest	98.6	.0	.0	.0	.0	.0	1.4	.0	.0	100.0	100.0	848
Total	**91.6**	**3.1**	**1.7**	**.7**	**.8**	**.4**	**.8**	**.1**	**.7**	**100.0**	**99.1**	**4229**

[1] MICS indicator 4.1; MDG indicator 7.8

Overall, 99 percent of the population in Roma settlements uses an improved source of drinking water.

What is noticeable from the data in Table WS.1R is that almost one in five household members (18 percent) in the poorest category does not have drinking water piped into their dwelling or yard/plot.
Table WS.2R presents the use of household water treatment. 96 percent of all household members use water in the household without any treatment, while 3 percent treat water by boiling it.

Table WS.2R: 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, Macedonia, 2011

	Water treatment method used in the household								Number of household members
	None	Boil	Add bleach/ chlorine	Strain through a cloth	Use water filter	Solar dis-infection	Let it stand and settle	Other	
Education of household head									
None	97.9	2.1	.0	.0	.0	.0	.0	.0	593
Primary	95.3	3.4	.0	.7	.1	.0	.0	.1	2887
Secondary+	95.0	3.3	.4	.4	.8	.0	.0	.0	749
Wealth index quintile									
Poorest	94.3	5.1	.0	.6	.0	.0	.0	.0	845
Second	94.3	2.7	.0	1.4	.0	.0	.0	.0	842
Middle	97.3	2.2	.0	.3	.2	.0	.0	.0	848
Fourth	97.2	2.3	.0	.0	.1	.0	.0	.3	845
Richest	95.0	3.6	.3	.3	.7	.0	.0	.0	848
Total	**95.6**	**3.2**	**.1**	**.5**	**.2**	**.0**	**.0**	**.1**	**4229**

[1] MICS indicator 4.2

The amount of time it takes to obtain water is presented in Table WS.3. These results refer to one round trip from home to drinking water source. Information on the number of trips made in one day was not collected.

Table WS.3R shows that for 99 percent of Roma household members, the improved drinking water source is on the premises. For 0.3 percent, it takes less than 30 minutes to get to the improved water source and bring water. Only 0.7 percent of household members have unimproved drinking water source on premises while 0.2 percent spend less than 30 minutes to bring water from an unimproved source.

Table WS.3R: 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, Macedonia, 2011

	Time to source of drinking water				Total	Number of household members
	Users of improved drinking water sources		Users of unimproved drinking water sources			
	Water on premises	Less than 30 minutes	Water on premises	Less than 30 minutes		
Education of household head						
None	98.9	.4	.0	.6	100.0	593
Primary	98.5	.4	1.0	.1	100.0	2887
Secondary+	100.0	.0	.0	.0	100.0	749
Wealth index quintile						
Poorest	95.9	.5	2.7	.8	100.0	845
Second	98.1	1.1	.8	.0	100.0	842
Middle	100.0	.0	.0	.0	100.0	848
Fourth	100.0	.0	.0	.0	100.0	845
Richest	100.0	.0	.0	.0	100.0	848
Total	**98.8**	**.3**	**.7**	**.2**	**100.0**	**4229**

Only 1 percent of the population in Roma settlements are without drinking water on premises. An adult woman is usually the person collecting the water when the source of drinking water is not on the premises.

Use of Improved Sanitation

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrhoeal diseases and polio. 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.

An improved sanitation facility is defined as one that hygienically separates human excreta from human contact. 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. The data on the use of improved sanitation facilities in Macedonia are provided in Tables WS.5 and WS.5R.

However, sharing of sanitation facilities, even if those are improved, is assumed to compromise their safety. Therefore, "improved sanitation" is used both in the context of this report and as an MDG indicator to refer to improved sanitation facilities, which are not shared. Data on improved sanitation are presented in Tables WS.6, WS.6R, WS.8 and WS.8R in this report.

In Macedonia, 94 percent of the population lives in households using improved sanitation facilities (Table WS.5) - 99.8 percent in urban areas and 88 percent in rural areas. Residents of Polog and East regions are less likely than others to use improved facilities. The most common facilities in urban areas and in the richest quintile are flush toilets with connection to a sewage system. Households with more educated household heads are more likely to use improved water sanitation facilities.

Table WS.5: Types of sanitation facilities

Percent distribution of household population according to type of toilet facility used by the household, Macedonia, 2011

	Type of toilet facility used by household														
	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	Compos-ting toilet	Flush/ pour flush to somewhere else	Pit latrine without slab/ open pit	Hanging toilet/ hanging latrine	Other	Missing	Open defecation (no facility, bush, field)	Total	Number of household members
Region															
Vardar	83.4	1.2	.0	.0	2.0	8.5	.0	.0	4.2	.0	.6	.0	.0	100.0	1064
East	83.0	.4	.4	.9	.5	3.0	4.7	.0	3.7	.0	.4	.0	3.0	100.0	1235
Southwest	66.5	30.4	.8	.1	.1	1.1	.6	.1	.2	.0	.0	.0	.0	100.0	1337
Southeast	52.4	21.7	.0	.0	.1	19.7	.0	.0	5.7	.0	.0	.0	.4	100.0	1293
Pelagonia	81.7	4.4	1.8	.2	1.1	6.2	.0	3.3	1.0	.0	.0	.0	.3	100.0	1957
Polog	36.9	44.8	.3	.7	.0	.0	.0	16.6	.0	.0	.0	.7	.0	100.0	2059
Northeast	74.3	6.7	1.8	1.7	.9	11.0	.0	1.1	2.4	.0	.0	.0	.0	100.0	1466
Skopje	79.8	14.3	.5	.3	1.2	1.5	.0	1.1	.3	.1	.1	.0	.8	100.0	4353
Area															
Urban	98.1	1.1	.0	.0	.2	.4	.0	.0	.1	.0	.1	.0	.0	100.0	8202
Rural	35.8	35.7	1.6	1.1	1.5	10.9	1.0	7.2	3.5	.1	.1	.2	1.3	100.0	6562
Education of household head[1]															
Primary or less	49.8	25.4	1.2	1.0	1.5	8.8	1.0	6.7	3.0	.0	.2	.2	1.1	100.0	6047
Secondary	82.6	11.2	.5	.1	.4	3.1	.1	.7	.9	.1	.0	.0	.3	100.0	6143
High	90.1	7.9	.1	.1	.0	.8	.1	.9	.0	.0	.0	.0	.0	100.0	2569
Wealth index quintile															
Poorest	20.7	29.4	1.9	1.8	3.2	18.1	2.1	11.7	7.7	.1	.5	.0	2.9	100.0	2955
Second	60.3	27.7	1.4	.5	.6	5.5	.0	3.4	.3	.0	.0	.3	.0	100.0	2950
Middle	81.5	15.6	.3	.1	.1	1.5	.1	.8	.0	.0	.0	.0	.0	100.0	2953
Fourth	91.5	8.2	.0	.0	.0	.0	.0	.1	.0	.0	.0	.2	.0	100.0	2950
Richest	98.3	1.6	.0	.0	.0	.1	.0	.1	.0	.0	.0	.0	.0	100.0	2955
Ethnicity of household head[2]															
Macedonian	79.2	9.4	.3	.1	.9	6.6	.6	.3	2.1	.0	.0	.0	.5	100.0	9537
Albanian	48.1	34.8	1.7	1.4	.1	1.4	.0	10.9	.1	.0	.2	.3	.9	100.0	4040
Other	76.2	11.4	.4	.0	1.7	5.2	1.0	.5	2.7	.0	.6	.0	.3	100.0	1182
Total	**70.4**	**16.5**	**.7**	**.5**	**.8**	**5.0**	**.4**	**3.2**	**1.6**	**.0**	**.1**	**.1**	**.6**	**100.0**	**14764**

[1] The category "Missing/DK" for the background characteristic "Education of household head" is based on 10 unweighted cases and is not presented in the table

[2] The category "Missing/DK" for the background characteristic "Ethnicity of household head" is based on 2 unweighted cases and is not presented in the table

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

As shown in Table WS.6, 94 percent of the household population are using an improved sanitation facility with 1 percent of them sharing the facility with other household. 5 percent of the household members use unimproved sanitation, and 0.1 percent of them share it with other households.

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, Macedonia, 2011

	Users of improved sanitation facilities				Users of unimproved sanitation facilities						
			Shared by			Shared by					
	Not shared [1]	Public facility	5 households or less	More than 5 households	Not shared	5 households or less	More than 5 households	Missing/DK	Open defecation (no facility, bush, field)	Total	Number of household members
Region											
Vardar	93.1	.0	2.0	.0	3.2	1.4	.0	.3	.0	100.0	1064
East	88.5	.0	4.4	.0	3.8	.3	.0	.0	3.0	100.0	1235
Southwest	98.0	1.0	.0	.7	.3	.0	.0	.0	.0	100.0	1337
Southeast	92.7	.0	1.1	.0	5.7	.0	.0	.0	.4	100.0	1293
Pelagonia	94.1	.7	.6	.0	4.4	.0	.0	.0	.3	100.0	1957
Polog	81.4	.2	1.0	.1	17.3	.0	.0	.0	.0	100.0	2059
Northeast	94.1	.4	.9	1.0	3.5	.0	.0	.0	.0	100.0	1466
Skopje	97.1	.0	.5	.0	1.6	.0	.0	.0	.8	100.0	4353
Area											
Urban	98.9	.1	.7	.1	.1	.1	.0	.0	.0	100.0	8202
Rural	85.4	.4	1.5	.3	10.9	.2	.0	.0	1.3	100.0	6562
Education of household head [2]											
Primary or less	85.9	.5	1.8	.4	9.9	.2	.0	.0	1.1	100.0	6047
Secondary	97.3	.0	.7	.0	1.7	.1	.0	.0	.3	100.0	6143
High	98.8	.2	.1	.0	.9	.0	.0	.0	.0	100.0	2569
Wealth index quintile											
Poorest	72.4	.5	3.6	.6	19.5	.5	.0	.1	2.9	100.0	2955
Second	94.1	.5	1.0	.3	3.9	.1	.0	.0	.0	100.0	2950
Middle	98.6	.2	.4	.0	.8	.0	.0	.0	.0	100.0	2953
Fourth	99.5	.0	.3	.0	.3	.0	.0	.0	.0	100.0	2950
Richest	99.9	.0	.0	.0	.1	.0	.0	.0	.0	100.0	2955
Ethnicity of household head [3]											
Macedonian	96.0	.1	.9	.1	2.3	.1	.0	.0	.5	100.0	9537
Albanian	86.1	.5	.6	.4	11.6	.0	.0	.0	.9	100.0	4040
Other	90.9	.6	4.2	.2	2.9	.7	.0	.2	.3	100.0	1182
Total	**92.9**	**.2**	**1.1**	**.2**	**4.9**	**.1**	**.0**	**.0**	**.6**	**100.0**	**14764**

[1] MICS indicator 4.3; MDG indicator 7.9

[2] The category "Missing/DK" for the background characteristic "Education of household head" is based on 10 unweighted cases and is not presented in the table

[3] The category "Missing/DK" for the background characteristic "Ethnicity of household head" is based on 2 unweighted cases and is not presented in the table

Safe disposal of a child's faeces is disposing of the stool, by the child using a toilet or by rinsing the stool into a toilet or latrine. Disposal of faeces of children 0-2 years of age is presented in Table WS.7. The most common place to dispose a child's faeces is in the garbage as solid waste (80 percent of households), while 10 percent of children use toilet/latrine, and 7 percent put/rinse the faeces into toilet or latrine. 17 percent of children had their last stools disposed of safely. There are differences by regions in the percentage of children using toilet/latrine; for example, the percentage is three times more in Skopje (15 percent) than in Polog (5 percent).

Table WS.7: Disposal of child's faeces

Percent distribution of children age 0-2 years according to place of disposal of child's faeces, and the percentage of children age 0-2 years whose stools were disposed of safely the last time the child passed stools, Macedonia, 2011

	Place of disposal of child's faeces										
	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	Percentage of children whose last stools were disposed of safely[1]	Number of children age 0-2 years
Type of sanitation facility in dwelling											
Improved	10.3	7.6	1.1	79.8	.2	.2	.3	.6	100.0	17.9	730
Unimproved	(4.1)	(2.9)	(5.9)	(85.7)	(.0)	(1.4)	(.0)	(.0)	100.0	(6.9)	80
Open defacation	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	6
Region											
Vardar	10.7	8.1	.0	81.1	.0	.0	.0	.0	100.0	18.9	50
East	5.4	20.5	1.0	67.3	.0	5.7	.0	.0	100.0	26.0	60
Southwest	8.6	23.8	.0	62.5	.0	.0	.0	5.1	100.0	32.4	74
Southeast	7.6	12.0	.9	75.0	2.6	.0	1.9	.0	100.0	19.6	49
Pelagonia	10.3	3.2	1.1	85.4	.0	.0	.0	.0	100.0	13.5	98
Polog	5.0	6.5	2.1	85.9	.0	.0	.0	.5	100.0	11.5	154
Northeast	10.1	.0	2.0	87.9	.0	.0	.0	.0	100.0	10.1	78
Skopje	15.2	1.9	2.2	80.1	.0	.0	.5	.0	100.0	17.2	253
Area											
Urban	11.1	8.0	.8	79.9	.0	.0	.2	.0	100.0	19.1	417
Rural	9.2	6.1	2.3	79.7	.3	.9	.3	1.1	100.0	15.3	398
Mother's education											
Primary or less	12.1	6.2	2.6	77.2	.0	1.1	.4	.5	100.0	18.3	323
Secondary	9.3	8.4	.8	81.2	.4	.0	.0	.0	100.0	17.6	300
High	8.4	6.5	1.0	82.0	.0	.0	.5	1.6	100.0	14.9	192
Wealth index quintile											
Poorest	10.6	8.0	4.2	74.6	.0	1.8	.7	.1	100.0	18.6	190
Second	15.4	5.2	.2	77.5	.8	.0	.0	.9	100.0	20.6	153
Middle	8.4	13.3	1.3	76.4	.0	.0	.6	.0	100.0	21.7	153
Fourth	6.8	3.2	.9	87.2	.0	.0	.0	1.9	100.0	10.0	158
Richest	9.6	5.8	.6	84.0	.0	.0	.0	.0	100.0	15.4	161
Ethnicity of household head											
Macedonian	8.8	10.1	1.2	79.4	.3	.0	.2	.0	100.0	18.9	406
Albanian	12.2	2.6	2.1	81.7	.0	.0	.0	1.5	100.0	14.7	314
Other	9.2	9.4	1.4	75.1	.0	3.6	1.4	.0	100.0	18.5	95
Total	**10.2**	**7.1**	**1.5**	**79.8**	**.2**	**.4**	**.3**	**.6**	**100.0**	**17.3**	**815**

[1] MICS indicator 4.4

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

In its 2008 report[18], the WHO/UNICEF Joint Monitoring Programme (JMP) developed a new way of presenting the access figures- by disaggregating and refining the data on drinking-water and sanitation and reflecting them in "ladder" format. This ladder allows a disaggregated analysis of trends in a three rung ladder for drinking water and a four-rung ladder for sanitation. For sanitation, this gives an understanding of the proportion of population with no sanitation facilities at all, of those reliant on technologies defined by JMP as "unimproved," of those sharing sanitation facilities of otherwise acceptable technology, and those using "improved" sanitation facilities. Table WS.8 presents the percentages of household members by drinking water and sanitation ladders. The table also shows the percentage of household members using improved sources of drinking water and sanitary means of excreta disposal. Overall, as presented in Table WS.8, more than 90 percent of the population in the country use both improved water sources and sanitation. Of all households, 99.6 percent use improved drinking water, 93 percent use improved sanitation, while 93 percent use improved drinking water sources and improved sanitation. However, more detailed analysis reveals disparities between the poorest quintile and the rest of the population in the national sample. Approximately, almost 30 percent of the poorest households do not have access to improved water sources and/or sanitation, unlike the rest of population where over 90 percent have access to these two commodities. Urban households and households from richest quintile are more likely to use improved drinking water sources and improved sanitation. There are differences by regions, education and ethnicity similar to those presented in the tables above.

Table WS.8: Drinking water and sanitation ladders

Percentage of household population by drinking water and sanitation ladders, Macedonia, 2011

	Percentage of household population using:										
	Improved drinking water[1]					Unimproved sanitation					
	Piped into dwelling, plot or yard	Other improved	Unimproved drinking water	Total	Improved sanitation[2]	Shared improved facilities	Unimproved facilities	Open defecation	Total	Improved drinking water sources and improved sanitation	Number of household members
Region											
Vardar	83.4	16.6	.0	100.0	93.1	2.0	4.9	.0	100.0	93.1	1064
East	92.8	6.9	.3	100.0	88.5	4.4	4.1	3.0	100.0	88.5	1235
Southwest	95.5	4.2	.2	100.0	98.0	1.7	.3	.0	100.0	97.7	1337
Southeast	92.6	5.0	2.4	100.0	92.7	1.1	5.7	.4	100.0	90.3	1293
Pelagonia	92.7	7.3	.0	100.0	94.1	1.2	4.4	.3	100.0	94.1	1957
Polog	95.6	4.2	.3	100.0	81.4	1.3	17.3	.0	100.0	81.2	2059
Northeast	72.3	26.7	1.0	100.0	94.1	2.3	3.5	.0	100.0	94.1	1466
Skopje	95.5	4.3	.2	100.0	97.1	.5	1.6	.8	100.0	96.9	4353
Area											
Urban	98.1	1.9	.0	100.0	98.9	.9	.2	.0	100.0	98.9	8202
Rural	83.3	15.7	1.0	100.0	85.4	2.2	11.2	1.3	100.0	84.7	6562
Education of household head[3]											
Primary or less	87.0	12.1	.9	100.0	85.9	2.8	10.2	1.1	100.0	85.4	6047
Secondary	93.4	6.4	.1	100.0	97.3	.7	1.7	.3	100.0	97.1	6143
High	97.5	2.4	.1	100.0	98.8	.3	.9	.0	100.0	98.7	2569
Wealth index quintile											
Poorest	76.0	22.6	1.4	100.0	72.4	4.7	20.0	2.9	100.0	71.7	2955
Second	88.7	10.5	.8	100.0	94.1	1.9	4.0	.0	100.0	93.3	2950
Middle	95.7	4.3	.0	100.0	98.6	.6	.8	.0	100.0	98.6	2953
Fourth	98.1	1.9	.0	100.0	99.5	.3	.3	.0	100.0	99.5	2950
Richest	98.9	1.1	.0	100.0	99.9	.0	.1	.0	100.0	99.9	2955
Ethnicity of household head[4]											
Macedonian	93.1	6.6	.4	100.0	96.0	1.0	2.4	.5	100.0	95.7	9537
Albanian	88.6	10.8	.7	100.0	86.1	1.5	11.6	.9	100.0	85.8	4040
Other	88.9	10.9	.2	100.0	90.9	5.1	3.8	.3	100.0	90.8	1182
Total	**91.5**	**8.1**	**.4**	**100.0**	**92.9**	**1.5**	**5.0**	**.6**	**100.0**	**92.6**	**14764**

[1] MICS indicator 4.1; MDG indicator 7.8
[2] MICS indicator 4.3; MDG indicator 7.9
[3] The category "Missing/DK" for the background characteristic "Education of household head" is based on 10 unweighted cases and is not presented in the table
[4] The category "Missing/DK" for the background characteristic "Ethnicity of household head" is based on 2 unweighted cases and is not presented in the table

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

Use of Improved Sanitation – Roma settlements

In Macedonia, 94 percent of Roma population is living in households using improved sanitation facilities. Table WS.5R indicates that use of improved sanitation facilities is strongly correlated with the wealth index. In the poorest quintile, only 33 percent of the Roma population uses flush to piped sewer system, pit latrines with slabs (27 percent), or pit latrines without slab / open pit (14 percent). In contrast, the most common facilities in the richest quintile are flush toilets with connection to a sewage system (97 percent) or septic tank (3 percent). Households with more educated household heads are more likely to use improved water sanitation facilities.

Table WS.5R: Types of sanitation facilities

Percent distribution of household population according to type of toilet facility used by the household, Roma settlements, 2011

	Type of toilet facility used by household											
	Improved sanitation facility						Unimproved sanitation facility			Open defecation (no facility, bush, field)	Total	Number of household members
	Flush/pour flush to:				Ventilated improved pit latrine	Pit latrine with slab						
	Piped sewer system	Septic tank	Pit latrine	Unknown place/ not sure/DK where			Flush/ pour flush to somewhere else	Pit latrine without slab/ open pit	Other			
Education of household head												
None	59.0	6.1	.0	.6	5.7	14.2	2.2	9.0	2.5	.7	100.0	593
Primary	78.9	3.4	.5	.3	3.9	8.0	.7	2.6	1.6	.1	100.0	2887
Secondary+	93.3	3.4	.0	.0	1.1	1.4	.0	.0	.8	.0	100.0	749
Wealth index quintile												
Poorest	32.6	3.2	1.0	.8	12.0	27.2	1.8	13.5	7.2	.7	100.0	845
Second	75.8	5.7	.6	.6	5.6	8.0	1.9	1.7	.2	.0	100.0	842
Middle	90.9	4.5	.0	.0	.7	2.8	.3	.0	.8	.0	100.0	848
Fourth	96.4	3.0	.0	.0	.0	.6	.0	.0	.0	.0	100.0	845
Richest	97.4	2.6	.0	.0	.0	.0	.0	.0	.0	.0	100.0	848
Total	**78.7**	**3.8**	**.3**	**.3**	**3.7**	**7.7**	**.8**	**3.0**	**1.6**	**.1**	**100.0**	**4229**

As shown in Table WS.6R, 94 percent of the Roma household population is using an improved sanitation facility. Use of a facility not shared is more common among household members using an unimproved facility. 3 percent of household members use an improved toilet facility that is shared with other households. Poorest households are more likely than richest households to use a shared improved toilet facility (8 percent and 0 percent respectively).

The highest use of an unshared improved sanitation is among households in which the head has secondary education (98 percent, as compared to those with no education at 82 percent). 0.1 percent of all interviewed Roma household members do not have a sanitation facility and use open defecation (bush, field etc.).

Table WS.6R: 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, Roma settlements, 2011

	Users of improved sanitation facilities				Users of unimproved sanitation facilities						
			Shared by			Shared by					
	Not shared [1]	Public facility	5 households or less	DK/Missing	Not shared	5 households or less	More than 5 households	Missing/DK	Open defecation (no facility, bush, field)	Total	Number of household members
Education of household head											
None	82.1	.0	3.5	.0	11.0	2.8	.0	.0	.7	100.0	593
Primary	91.3	.3	3.0	.5	4.0	1.0	.0	.0	.1	100.0	2887
Secondary+	97.7	.4	1.1	.0	.7	.2	.0	.0	.0	100.0	749
Wealth index quintile											
Poorest	69.2	.0	7.6	.0	17.5	5.1	.0	.0	.7	100.0	845
Second	93.2	.0	3.1	.0	3.3	.4	.0	.0	.0	100.0	842
Middle	95.5	.0	1.8	1.6	1.1	.0	.0	.0	.0	100.0	848
Fourth	98.9	.0	1.1	.0	.0	.0	.0	.0	.0	100.0	845
Richest	98.7	1.3	.0	.0	.0	.0	.0	.0	.0	100.0	848
Total	**91.1**	**.3**	**2.7**	**.3**	**4.4**	**1.1**	**.0**	**.0**	**.1**	**100.0**	**4229**

[1] MICS indicator 4.3; MDG indicator 7.9

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.7R. The most common place to dispose a child's faeces is in the garbage as solid waste (74 percent of households), and put/rinsed into a toilet or latrine (17 percent of households). 8 percent of children use a toilet/latrine. 25 percent of children had their last stools disposed of safely.

Table WS.7R: Disposal of child's faeces

Percent distribution of children age 0-2 years according to place of disposal of child's faeces, and the percentage of children age 0-2 years whose stools were disposed of safely the last time the child passed stools, Roma settlements, 2011

	Place of disposal of child's faeces						Percentage of children whose last stools were disposed of safely[1]	Number of children age 0-2 years
	Child used toilet/ latrine	Put/rinsed into toilet or latrine	Put/rinsed into drain or ditch	Thrown into garbage	Missing	Total		
Type of sanitation facility in dwelling								
Improved	8.1	18.1	.8	72.1	.8	100.0	26.2	262
Unimproved	(*)	(*)	(*)	(*)	(*)	100.0	(*)	16
Mother's education								
None	6.4	10.3	2.3	79.8	1.3	100.0	16.7	64
Primary	9.0	19.3	.4	70.5	.7	100.0	28.3	183
Secondary+	(4.2)	(17.8)	(.0)	(77.9)	(.0)	100.0	(22.1)	32
Wealth index quintile								
Poorest	3.1	18.2	.0	77.8	.9	100.0	21.3	68
Second	13.0	13.3	2.0	71.7	.0	100.0	26.2	70
Middle	7.5	17.3	.5	73.2	1.5	100.0	24.8	50
Fourth	10.4	22.4	1.1	64.3	1.7	100.0	32.8	46
Richest	(5.1)	(15.5)	(.0)	(79.4)	(.0)	100.0	(20.6)	44
Total	**7.9**	**17.1**	**.8**	**73.5**	**.8**	**100.0**	**25.0**	**278**

[1] MICS indicator 4.4

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Table WS.8R presents the percentages of household population by drinking water and sanitation ladders. The table also shows the percentage of household members using improved sources of drinking water and sanitary means of excreta disposal. Overall, as presented in Table WS.8R, more than 90 percent of the Roma population in the country use both improved water sources and sanitation. Of all household members, 99 percent use improved drinking water, 91 percent use improved sanitation, while 91 percent use improved drinking water sources and improved sanitation. However, more detailed analysis reveals disparities between the poorest quintile and the rest of the population in the Roma sample. Almost one third of population in the poorest households do not have access to improved water sources and/or sanitation, unlike the rest of population where over 90 percent have access to these two commodities.

Table WS.8R: Drinking water and sanitation ladders

Percentage of household population by drinking water and sanitation ladders, Roma settlements, 2011

	Percentage of household population using:										
	Improved drinking water[1]		Unimproved drinking water	Total	Improved sanitation[2]	Unimproved sanitation			Total	Improved drinking water sources and improved sanitation	Number of household members
	Piped into dwelling, plot or yard	Other improved				Shared improved facilities	Unimproved facilities	Open defecation			
Education of household head											
None	88.0	11.4	.6	100.0	82.1	3.5	13.8	.7	100.0	81.6	593
Primary	96.0	2.9	1.1	100.0	91.3	3.7	5.0	.1	100.0	90.9	2887
Secondary+	99.9	.1	.0	100.0	97.7	1.5	.8	.0	100.0	97.7	749
Wealth index quintile											
Poorest	82.7	13.8	3.6	100.0	69.2	7.6	22.5	.7	100.0	67.5	845
Second	95.4	3.8	.8	100.0	93.2	3.1	3.7	.0	100.0	93.2	842
Middle	99.7	.3	.0	100.0	95.5	3.4	1.1	.0	100.0	95.5	848
Fourth	100.0	.0	.0	100.0	98.9	1.1	.0	.0	100.0	98.9	845
Richest	100.0	.0	.0	100.0	98.7	1.3	.0	.0	100.0	98.7	848
Total	**95.6**	**3.6**	**.9**	**100.0**	**91.1**	**3.3**	**5.5**	**.1**	**100.0**	**90.8**	**4229**

[1] MICS indicator 4.1; MDG indicator 7.8

[2] MICS indicator 4.3; MDG indicator 7.9

VIII REPRODUCTIVE HEALTH

Fertility and Early Childbearing

In MICS4, adolescent birth rates and total fertility rates are calculated by using information on the date of last birth of each woman and are based on the one-year period (1-12 months) preceding the survey. Rates are underestimated by a very small margin due to the absence of information on multiple births (twins, triplets, etc.) and on women having multiple deliveries during the one-year period preceding the survey.

Table RH.1 shows adolescent birth rates and the total fertility rate. The adolescent birth rate (age-specific fertility rate for women aged 15-19) is defined as the number of births to women aged 15-19 years during the one-year period preceding the survey, divided by the average number of women aged 15-19 (number of women-years lived between ages 15 through 19, inclusive) during the same period, expressed per 1000 women. The total fertility rate (TFR) is calculated by summing the age-specific fertility rates calculated for each of the 5-year age groups of women, from age 15 through 49. The TFR denotes the average number of children to which a woman will have given birth by the end of her reproductive years if current fertility rates prevailed. In Macedonia, total fertility rate is 1.7, while adolescent birth rate is 12 per 1000 women aged 15-19 years.

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

Adolescent birth rates and total fertility rates, Macedonia, 2011

	Adolescent birth rate[1] (Age-specific fertility rate for women age 15-19)	Total fertility rate
Area		
Urban	(2)	(1.4)
Rural	20	(2.0)
Ethnicity of household head		
Macedonian	(5)	(1.3)
Albanian	10	(2.3)
Other	(*)	(*)
Total	**12**	**1.7**

[1] MICS indicator 5.1; MDG indicator 5.4

( ) – figures based on 125–249 person-year of exposure

(*) – figures based on less than 125 person-year of exposure

Fertility and Early Childbearing – Roma settlements

Total fertility rate in Roma settlements cannot be calculated as there are not sufficient person-years of exposure across all the age groups. Adolescent birth rate is 94 per 1000 women aged 15-19 years although this is based on 125-249 person-years of exposure; thus should be treated carefully.

Sexual activity and childbearing early in life carry significant risks for young people all around the world. Table RH.2R presents some early childbearing indicators for women aged 15-19 and 20-24 while Table RH.3R presents the trends for early childbearing (tables RH2 and RH3 are not presented for the national sample because data on the first born child was not collected in the national survey). As shown in Table RH.2R, 18 percent have begun childbearing: 14 percent of Roma women aged 15-19 have already had a birth, while 5 percent are pregnant with their first child. 0.5 percent have had a live birth before age 15. Out of all Roma women aged 20-24, 27 percent had a live birth before the age of 18, with similar distribution as described for early childbearing before the age 15.

Table RH.2R: Early childbearing

Percentage of women age 15-19 years who have had a live birth, are pregnant with the first child, and have begun childbearing, and those who have had a live birth before age 15, and percentage of women age 20-24 who have had a live birth before age 18, Roma settlements, 2011

	Percentage of women age 15-19 who:						
	Have had a live birth	Are pregnant with first child	Have begun childbearing	Have had a live birth before age 15	Number of women age 15-19	Percentage of women age 20-24 who have had a live birth before age 18[1]	Number of women age 20-24
Education							
None	(*)	(*)	(*)	(*)	11	(45.8)	28
Primary	16.4	7.4	23.8	.0	89	31.2	125
Secondary+	3.6	.5	4.2	.0	72	(.0)	37
Wealth index							
Poorest 60%	18.7	6.5	25.3	.8	107	38.4	106
Richest 40%	4.8	1.3	6.1	.0	65	13.2	84
Total	**13.5**	**4.6**	**18.0**	**.5**	**173**	**27.3**	**190**

[1] MICS indicator 5.2

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Table RH.3R presents the trends in early childbearing. 3 percent of all Roma women aged 15-49 have had a live birth before age 15, with some differences across age groups. Out of all Roma women aged 20-49, 27 percent had a live birth before age 18. There are differences between different age groups, with the highest proportion at ages 40-44 (38 percent) and lowest at ages 30-34 (19 percent).

Table RH.3R: Trends in early childbearing

Percentage of women who have had a live birth, by age 15 and 18, by area and age group, Roma settlements, 2011

	Percentage of women with a live birth before age 15	Number of women age 15-49 years	Percentage of women with a live birth before age 18	Number of women age 20-49 years
Age				
15-19	.5	173	na	na
20-24	4.5	190	27.3	190
25-29	3.2	166	24.4	166
30-34	2.0	172	18.5	172
35-39	4.7	112	22.2	112
40-44	2.7	149	38.0	149
45-49	2.7	129	30.2	129
Total	**2.9**	**1091**	**26.6**	**918**

na: not applicable

Knowledge of Contraceptive Methods

In the Macedonia MICS, a set of questions was added to the questionnaire for individual women on their knowledge of contraceptive methods. Being aware of available contraceptive methods is an important step towards accessing and using a suitable method of contraception, which in turn allows choices about family planning to be made.

Information was collected from all women aged 15-49 years on whether they have heard of the following family planning methods: female and male sterilization, IUD (intrauterine device), injectables, implants, pill, male condom, female condom, diaphragm, foam/jelly, periodic abstinence / rhythm method, withdrawal and emergency/postcoital contraception. Of these methods, periodic abstinence/rhythm method and withdrawal are considered traditional methods while the rest are considered modern methods of contraception. The respondents were also asked if they have heard of other ways or methods to avoid pregnancy in addition to those mentioned above.

As shown in Table RH.3A, 99 percent of all women aged 15-49 years know at least one contraceptive method. The percentages are similar for both modern and traditional methods. The most widely known modern methods are the male condom (94 percent) and the pill (93 percent). Of the traditional methods, the withdrawal is the most widely known (92 percent).

When comparing the knowledge of the currently married or in union women to that of all women, the results are similar. The mean number of different contraceptive methods known by all women is 9.5, and by currently married or in union women, the mean number known is 8.9.

Table RH.3A Knowledge of specific contraceptive methods

Percentage of women age 15-49 and percentage of women age 15-49 ever married or in union who have heard of any contraceptive method, by specific method, Macedonia, 2011

	All	Currently married or in union
Any method	**98.8**	**98.9**
Any modern method	**98.4**	**98.4**
Female sterilization	78.2	78.1
Male sterilization	63.4	62.9
Pill	93.4	93.1
IUD	89.4	91.5
Injectables	71.9	72.4
Implants	40.4	40.8
Male condom	93.8	93.6
Female condom	55.0	52.7
Diaphragm	51.7	50.7
Foam/jelly	32.4	33.3
Emergency contraception	57.1	57.7
Any traditional method	**92.9**	**95.1**
Rhythm	72.2	74.1
Withdrawal	91.6	94.3
Other	2.9	3.1
Mean number of methods known by women	**8.8**	**8.9**
Number of women	**3831**	**2537**

Table RH.3B presents women's knowledge of contraception by background characteristics. The knowledge of contraception is high in Macedonia and few differences by background characteristics are observed. The knowledge increases slightly with improvement of the households' wealth status.

Table RH.3B: Knowledge of contraceptive methods

Percentage of women age 15-49 currently married or in union who have heard of at least one contraceptive method and who have heard of at least one modern method, by background characteristics, Macedonia, 2011

	Any method	Any modern method*	Number of women currently married or in union
Region			
Vardar	100.0	99.1	155
East	97.7	97.7	185
Southwest	97.3	96.5	253
Southeast	97.0	96.6	211
Pelagonia	100.0	99.5	339
Polog	97.5	96.7	409
Northeast	100.0	100.0	254
Skopje	100.0	99.5	730
Area			
Urban	99.8	99.6	1333
Rural	97.9	97.1	1205
Age			
15-19	(94.7)	(90.5)	23
20-24	95.3	94.0	173
25-29	99.2	98.5	376
30-34	99.6	99.5	484
35-39	99.2	98.7	492
40-44	98.9	98.9	510
45-49	99.2	98.4	479
Women's education			
Primary or less	97.3	96.2	989
Secondary	99.9	99.7	1059
High	100.0	100.0	489
Wealth index quintile			
Poorest	96.1	94.4	460
Second	98.7	97.8	503
Middle	99.5	99.4	495
Fourth	99.8	99.8	513
Richest	100.0	100.0	567
Ethnicity of household head			
Macedonian	99.5	99.3	1528
Albanian	98.8	97.8	804
Other	94.8	94.2	206
Total	98.9	98.4	2537

*Female sterilization, male sterilization, pill, IUD, injectables, implants, male condom, female condom, emergency contraception, and other modern methods.

( ) – figures based on 25–49 unweighted cases

Use of Contraception

Current use of contraception was reported by 40 percent of women currently married or in union, with less than 13 percent using modern methods (Table RH.4). The most popular method is the withdrawal method, which is used by one in four of these women in Macedonia. The second-most popular method is the male condom, which is used by 8 percent of these women. 2 percent of them reported use of the IUD and periodic abstinence, 2 percent use of pill, and 0.7 female sterilization. Less than 0.5 percent of them use injectables, implants, or male sterilization.

Table RH.4: Use of contraception

Percentage of women age 15-49 years currently married or in union who are using (or whose partner is using) a contraceptive method, Macedonia, 2011

	Percent of women (currently married or in union) who are using:															Number of women currently married or in union
	Not using any method	Female steril-ization	Male sterilization	IUD	Injectables	Implants	Pill	Male condom	Female condom	Diaphragm/ Foam/Jelly	Periodic absti-nence	Withdrawal	Other	Any modern method	Any traditional method	Any method[1]	
Region																	
Vardar	61.9	.0	.0	3.0	.0	.0	1.7	10.6	.0	.0	7.9	14.6	.3	15.4	22.7	38.1	155
East	61.3	1.0	.0	.9	.0	.0	1.3	8.6	.0	.0	.7	26.2	.0	11.8	26.9	38.7	185
Southwest	79.3	.4	.0	2.7	.0	.0	3.1	5.4	.0	.0	.1	9.0	.0	11.6	9.1	20.7	253
Southeast	81.4	.0	.0	.6	.0	.0	.1	9.4	.0	.0	.0	8.1	.3	10.1	8.5	18.6	211
Pelagonia	23.5	.2	.0	3.6	.0	.0	1.5	10.0	.0	.0	4.1	57.1	.0	15.3	61.2	76.5	339
Polog	62.0	1.7	.0	2.0	1.2	.0	1.4	7.4	.0	.0	1.2	23.2	.0	13.7	24.3	38.0	409
Northeast	87.4	.0	.0	1.7	.0	.0	1.0	2.0	.0	.0	.2	7.4	.4	4.7	7.9	12.6	254
Skopje	52.0	.9	.0	1.5	.0	.0	2.1	10.2	.0	.0	2.6	30.5	.1	14.7	33.3	48.0	730
Area																	
Urban	57.3	.6	.0	2.1	.0	.0	1.5	10.9	.0	.0	2.9	24.5	.2	15.1	27.6	42.7	1333
Rural	62.6	.8	.0	1.8	.4	.0	1.8	5.4	.0	.0	1.2	26.0	.0	10.2	27.2	37.4	1205
Age																	
15-19	(66.9)	(.0)	(.0)	(.0)	(2.3)	(.0)	(.0)	(5.9)	(.0)	(.0)	(.0)	(24.9)	(.0)	(8.2)	(24.9)	(33.1)	23
20-24	70.9	.0	.0	.2	.0	.0	1.3	6.8	.0	.0	1.0	19.3	.5	8.3	20.8	29.1	173
25-29	62.4	.0	.0	1.3	.2	.0	1.2	8.6	.0	.0	1.4	24.5	.2	11.4	26.2	37.6	376
30-34	55.3	.6	.0	1.7	.0	.0	2.1	9.5	.0	.0	2.8	28.0	.0	13.9	30.8	44.7	484
35-39	56.5	.6	.0	2.0	.1	.0	1.9	12.0	.0	.0	2.6	24.3	.1	16.6	26.9	43.5	492
40-44	54.3	.7	.0	3.3	.2	.0	2.1	8.5	.0	.0	2.2	28.8	.0	14.7	31.0	45.7	510
45-49	67.3	1.7	.0	2.3	.4	.0	.9	3.2	.0	.0	1.6	22.5	.2	8.5	24.2	32.7	479
Number of live bitrhs[2]																	
0	87.4	.0	.0	.0	.2	.0	.0	4.0	.0	.0	.3	8.1	.0	4.2	8.4	12.6	217
1	61.2	.4	.0	1.1	.2	.0	1.9	9.4	.0	.0	1.8	23.7	.3	13.0	25.9	38.8	509
2	56.0	.4	.0	2.0	.2	.0	1.6	9.6	.0	.0	2.9	27.3	.1	13.7	30.2	44.0	1254
3	57.8	2.1	.0	2.9	.0	.0	1.7	8.1	.0	.0	1.5	25.9	.0	14.7	27.5	42.2	389
4+	52.7	1.2	.0	5.4	.3	.0	3.4	1.1	.0	.0	.4	35.5	.0	11.4	36.0	47.3	168
Education																	
Primary or less	63.6	.7	.0	2.3	.4	.0	1.3	3.2	.0	.0	1.0	27.4	.1	7.9	28.5	36.4	989
Secondary	60.9	.6	.0	2.0	.0	.0	1.5	9.2	.0	.0	1.9	23.7	.2	13.4	25.7	39.1	1059
High	49.8	.8	.0	1.5	.0	.0	2.5	16.4	.0	.0	4.6	24.4	.0	21.2	29.0	50.2	489
Wealth index quintile																	
Poorest	65.2	.7	.0	1.5	.2	.0	1.9	3.1	.0	.0	.9	26.2	.2	7.5	27.3	34.8	460
Second	65.0	.8	.0	1.1	.4	.0	1.3	4.4	.0	.0	.7	26.3	.0	8.0	27.0	35.0	503
Middle	60.9	.4	.0	2.0	.4	.0	1.9	7.7	.0	.0	2.1	24.4	.1	12.5	26.6	39.1	495
Fourth	54.8	.6	.0	2.7	.0	.0	2.0	10.6	.0	.0	3.4	25.5	.3	16.0	29.2	45.2	513
Richest	54.5	.8	.0	2.5	.0	.0	1.1	14.1	.0	.0	2.9	24.1	.0	18.5	27.0	45.5	567
Ethnicity of household head																	
Macedonian	59.0	.5	.0	1.7	.0	.0	1.1	11.6	.0	.0	2.7	23.3	.1	14.9	26.0	41.0	1528
Albanian	60.5	1.0	.0	2.4	.3	.0	2.5	3.4	.0	.0	.9	28.8	.1	9.7	29.8	39.5	804
Other	62.9	.6	.0	2.4	1.1	.0	2.1	2.4	.0	.0	1.8	26.3	.4	8.6	28.5	37.1	206
Total	59.8	.7	.0	2.0	.2	.0	1.6	8.3	.0	.0	2.1	25.3	.1	12.8	27.4	40.2	2537

[1] MICS indicator 5.3; MDG indicator 5.3

[2] Because the standard child mortality module was not included into the questionnaire, instead of '*number of living children*' table RH.4 uses '*number of live births*' for this background characteristic.

( ) – figures based on 25–49 unweighted cases

Contraceptive prevalence is highest in the Pelagonia region at 77 percent and in the Skopje region at 48 percent. 39 percent of married women in the Vardar and East regions use some method of contraception. In the Northeast region, contraceptive use is rare where only 13 percent of married women reported using any method. Adolescents and youth are far less likely to use contraception than older women. Only about 29 percent of married 20-24 year olds and 33 percent of married or in union women aged 15-19 currently use a method of contraception compared to 45 percent of older women aged 30-34.

Women's education level is associated with contraceptive prevalence. The percentage of women using any method of contraception rises from 36 percent among those with no education or with primary education, to 50 percent among women with higher education. About 3 percent of contraception users with no or primary education use the male condom, while condom use is more frequent among users with a higher education (16 percent). In contrast, use of IUD is not correlated to the education level and is generally at low level (2 percent of contraceptive users regardless of their education). Women in urban areas and who are from the richest households use contraceptive methods more.

Knowledge of Contraceptive Methods – Roma settlements

As shown in Table RH.3AR, 95 percent of all women aged 15-49 years know at least one contraceptive method. Modern methods are more widely known than traditional methods- 93 percent of all women have heard of at least one modern method while 79 percent know at least one traditional method. The most widely known modern method is the male condom (90 percent) followed by the pill (79 percent). Of the traditional methods, the most widely known method is the withdrawal (77 percent).

Results are similar when comparing the knowledge of all women to those who are currently married or in union. The mean number of different contraceptive methods known by all women as well as by currently married or in union women, is 5.9.

Table RH.3A R Knowledge of specific contraceptive methods

Percentage of women age 15-49 and percentage of women age 15-49 ever married or in union who have heard of any contraceptive method, by specific method, Roma settlements, 2011

	All	Ever married or in union
Any method	**94.9**	**95.3**
Any modern method	**92.5**	**93.1**
Female sterilization	53.1	52.8
Male sterilization	30.5	30.0
Pill	78.5	79.0
IUD	75.6	76.7
Injectables	52.4	52.6
Implants	16.1	15.9
Male condom	86.9	88.0
Female condom	28.5	28.1
Diaphragm	18.9	17.4
Foam/jelly	9.8	8.8
Emergency contraception	28.7	28.2
Any traditional method	**79.1**	**83.0**
Rhythm	42.9	46.1
Withdrawal	77.4	82.0
Other	3.0	3.3
Mean number of methods known by women	**5.9**	**5.9**
Number of women	**1091**	**799**

Table RH.3BR presents women's knowledge of contraception by background characteristics. The knowledge of contraception is high in the Roma settlements although some differences by background characteristics can be observed. Knowledge is higher among Roma women with secondary or higher education, compared to those with no official education.

Table RH.3BR: Knowledge of contraceptive methods

Percentage of women age 15-49 currently married or in union who have heard of at least one contraceptive method and who have heard of at least one modern method, by background characteristics, Roma settlements, 2011

	Any method	Any modern method*	Number of women currently married or in union
Age			
15-19	(94.5)	(92.8)	39
20-24	91.7	86.9	137
25-29	94.6	93.3	132
30-34	96.7	95.3	146
35-39	96.0	96.0	104
40-44	96.5	93.3	131
45-49	97.0	94.7	111
Women's education			
None	90.7	85.1	148
Primary	96.0	94.4	573
Secondary +	98.7	98.7	79
Wealth index quintile			
Poorest	94.2	90.5	151
Second	91.0	88.5	156
Middle	95.5	91.3	154
Fourth	96.8	95.8	166
Richest	98.6	98.6	172
Total	95.3	93.1	799

*Female sterilization, male sterilization, pill, IUD, injectables, implants, male condom, female condom, emergency contraception, and other modern methods.

( ) – figures based on 25–49 unweighted cases

Current use of contraception was reported by 37 percent of Roma women currently married or in union (Table RH.4R). The most popular method is the withdrawal, which is used by one in three married Roma women in Macedonia. The next most popular method is the male condom, which accounts for 3 percent of married women. 2 percent use female sterilization and 1 percent use the IUD. Less than 1 percent use the pill, periodic abstinence, injectables, implants, or male sterilization.

Table RH.4R: 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, Roma settlements, 2011

	Not using any method	Percent of women (currently married or in union) who are using:															Number of women currently married or in union
		Female sterilization	Male sterilization	IUD	Injectables	Implants	Pill	Male condom	Female condom	Diaphragm/ Foam/Jelly	Periodic abstinence	Withdrawal	Other	Any modern method	Any traditional method	Any method[1]	
Age																	
15-19	(76.5)	(.0)	(.0)	(.0)	(.0)	(.0)	(.0)	(.0)	(.0)	(.0)	(.0)	(23.5)	(.0)	(.0)	(23.5)	(23.5)	39
20-24	66.5	.0	.4	.3	.0	.0	.4	5.9	.0	.0	.0	26.4	.0	7.0	26.4	33.5	137
25-29	70.9	.0	.0	.0	.0	.0	3.5	.4	.0	.0	.0	25.2	.0	3.9	25.2	29.1	132
30-34	46.3	.7	.5	.0	.0	.0	.3	5.8	.0	.0	2.8	43.6	.0	7.2	46.5	53.7	146
35-39	52.9	2.9	.0	2.7	.0	.0	.0	3.8	.0	.0	1.1	36.6	.0	9.4	37.7	47.1	104
40-44	65.2	3.1	.0	3.5	.0	.0	.4	2.2	.0	.0	.0	25.6	.0	9.2	25.6	34.8	131
45-49	73.4	3.4	.0	1.2	.0	.0	1.0	3.5	.0	.0	.0	17.5	.0	9.1	17.5	26.6	111
Education																	
None	63.9	2.1	.0	2.0	.0	.0	3.0	1.5	.0	.0	.0	27.4	.0	8.7	27.4	36.1	148
Primary	62.3	1.1	.1	1.0	.0	.0	.4	3.1	.0	.0	.9	31.0	.0	5.8	31.9	37.7	573
Secondary +	66.3	3.0	.7	.6	.0	.0	.8	9.3	.0	.0	.0	19.4	.0	14.3	19.4	33.7	79
Wealth index quintile																	
Poorest	65.0	.7	.0	.0	.0	.0	.0	3.5	.0	.0	2.1	28.8	.0	4.2	30.8	35.0	151
Second	58.7	.3	.0	.7	.0	.0	3.0	1.8	.0	.0	.0	35.5	.0	5.8	35.5	41.3	156
Middle	66.0	.5	.5	1.3	.0	.0	.0	3.3	.0	.0	.0	28.4	.0	5.6	28.4	34.0	154
Fourth	61.3	2.5	.0	.3	.0	.0	.6	3.9	.0	.0	.6	30.7	.0	7.3	31.3	38.7	166
Richest	64.1	3.0	.3	3.3	.0	.0	1.0	4.6	.0	.0	.7	22.9	.0	12.3	23.6	35.9	172
Total	**63.0**	**1.5**	**.2**	**1.1**	**.0**	**.0**	**.9**	**3.4**	**.0**	**.0**	**.7**	**29.2**	**.0**	**7.2**	**29.8**	**37.0**	**799**

[1] MICS indicator 5.3; MDG indicator 5.3

( ) – figures based on 25–49 unweighted cases

Youngest and oldest age groups of Roma married or in union women currently use less contraception methods.

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

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

- are not pregnant and not postpartum amenorrheic[19] and are fecund[20] and say they want to wait two or more years for their next birth OR
- are not pregnant and not postpartum amenorrheic and are fecund and unsure whether they want another child OR
- are pregnant and say that pregnancy was mistimed: would have wanted to wait OR
- are postpartum amenorrheic and say that the birth was mistimed: would have wanted to wait

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

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

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

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

20 A women is considered infecund if she is neither pregnant nor postpartum amenorrheic, and
(1a) has not had menstruation for at least six months, or (1b) never menstruated, or (1c) her last menstruation occurred before her last birth, or (1d) in menopause/has had hysterectomy OR
(2) She declares that she has had a 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 her 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.

Table RH.5: 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, Macedonia, 2011

	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[1]			
Region									
Vardar	7.8	30.9	38.7	3.3	9.3	12.5	155	75.5	80
East	12.5	26.2	38.7	4.3	10.4	14.6	185	72.6	99
Southwest	6.2	15.9	22.0	7.5	9.3	16.7	253	56.8	98
Southeast	3.8	14.7	18.6	5.1	9.4	14.6	211	56.0	70
Pelagonia	17.0	59.7	76.6	.4	1.4	1.8	339	97.7	266
Polog	13.9	24.7	38.6	8.4	8.0	16.4	409	70.2	225
Northeast	1.7	10.9	12.6	5.3	16.8	22.1	254	36.3	88
Skopje	14.2	34.1	48.4	4.2	3.8	7.9	730	85.9	411
Area									
Urban	12.8	30.1	42.9	4.3	6.8	11.1	1333	79.4	720
Rural	9.2	28.8	38.0	5.4	7.8	13.2	1205	74.2	616
Age									
15-19	(29.7)	(3.4)	(33.1)	(27.7)	(.0)	(27.7)	23	(*)	14
20-24	22.6	7.7	30.3	23.0	13.5	36.5	173	45.3	116
25-29	24.0	14.4	38.4	9.1	11.1	20.3	376	65.5	221
30-34	16.5	28.5	45.0	6.0	9.3	15.3	484	74.6	292
35-39	5.7	38.0	43.7	2.4	8.1	10.5	492	80.7	267
40-44	5.3	40.7	46.0	.3	4.8	5.0	510	90.1	260
45-49	2.3	30.6	32.9	.0	2.1	2.1	479	93.9	168
Education									
Primary or less	8.1	28.6	36.7	4.2	9.6	13.8	989	72.6	499
Secondary	8.9	30.3	39.2	5.2	6.6	11.8	1059	76.9	540
High	22.0	29.3	51.4	5.4	4.0	9.4	489	84.6	297
Wealth index quintiles									
Poorest	9.7	25.3	35.0	6.2	10.1	16.2	460	68.3	236
Second	9.9	25.1	35.0	5.6	9.1	14.7	503	70.5	250
Middle	7.4	31.8	39.2	5.4	6.3	11.8	495	77.0	252
Fourth	12.6	33.8	46.4	3.3	6.1	9.3	513	83.2	286
Richest	15.2	30.7	45.9	4.0	5.3	9.3	567	83.2	312
Ethnicity of household head									
Macedonian	10.8	30.5	41.3	3.9	5.6	9.5	1528	81.3	776
Albanian	12.0	28.0	40.1	6.2	9.0	15.2	804	72.5	444
Other	10.0	27.1	37.1	6.6	12.7	19.3	206	65.8	116
Total	**11.1**	**29.5**	**40.6**	**4.8**	**7.3**	**12.1**	**2537**	**77.0**	**1337**

[1] MICS indicator 5.4; MDG indicator 5.6

(*) – figures based on less than 25 unweighted cases

( ) – figures based on 25–49 unweighted cases

Met need for limiting includes women who are using (or whose partner is using) a contraceptive method and who want no more children, are using male or female sterilization, or declare themselves as infecund. Met need for spacing includes women who are using (or whose partner is using) a contraceptive method and who want to have another child or are undecided whether to have another child. The total of met need for spacing and limiting adds up to the total met need for contraception. Out of all women currently married or in union, 41 percent reported met need for contraception, i.e. 11 percent for spacing and 30 percent for limiting. The proportion of women with contraception needs met is higher among women living in Pelagonia region, from urban households, from fourth and richest wealth quintile, who are older and more educated. Using information on contraception and unmet need, the percentage of demand for contraception satisfied is also estimated from the MICS data. The percentage of demand satisfied is defined as the proportion of women currently married or in a marital union who are currently using contraception, of the total demand for contraception. The total demand for contraception includes women who currently have an unmet need (for spacing or limiting), plus those who are currently using contraception. In total, 77percent of women in Macedonia reported that their demand for contraception was satisfied. There are significant differences by region – highest in Pelagonia (98 percent) and lowest in Northeast (36 percent).

Unmet Need – Roma settlements

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

Table RH.5R: 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, Roma settlements, 2011

	Met need for contraception			Unmet need for contraception					
	For spacing	For limiting	Total	For spacing	For limiting	Total[1]	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
Age									
15-19	(19.4)	(4.1)	(23.5)	(15.0)	(1.0)	(16.0)	39	(*)	15
20-24	18.7	14.8	33.5	20.5	17.8	38.3	137	46.6	98
25-29	12.6	17.0	29.6	6.5	32.8	39.3	132	43.0	91
30-34	8.3	45.4	53.7	5.3	17.7	22.9	146	70.1	112
35-39	4.4	42.7	47.1	3.4	7.4	10.7	104	81.4	60
40-44	.0	34.8	34.8	1.7	3.4	5.1	131	87.3	52
45-49	.0	26.6	26.6	.0	6.4	6.4	111	(80.7)	37
Education									
None	11.8	24.2	36.1	3.5	15.7	19.3	148	65.2	82
Primary	6.9	30.9	37.8	6.6	13.8	20.4	573	64.9	333
Secondary +	12.0	21.7	33.7	16.3	13.5	29.9	79	53.0	50
Wealth index quintiles									
Poorest	6.1	28.9	35.0	6.1	21.9	28.0	151	55.6	95
Second	6.7	34.6	41.3	6.1	12.3	18.5	156	69.1	93
Middle	10.9	23.6	34.5	6.3	13.2	19.4	154	63.9	83
Fourth	8.0	30.7	38.7	10.6	11.7	22.3	166	63.4	101
Richest	9.7	26.1	35.9	5.7	12.1	17.9	172	66.7	92
Total	**8.3**	**28.8**	**37.1**	**7.0**	**14.1**	**21.1**	**799**	**63.7**	**465**

[1] MICS indicator 5.4; MDG indicator 5.6

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Met need for limiting includes women who are using (or whose partner is using) a contraceptive method and who want no more children, are using male or female sterilization, or declare themselves as infecund. Met need for spacing includes women who are using (or whose partner is using) a contraceptive method and who want to have another child or are undecided whether to have another child. The total of met need for spacing and limiting adds up to the total met need for contraception. Of all the women in Roma settlements, 37 percent reported met need for contraception, i.e. 8 percent for spacing and 29

percent for limiting. The proportion of women with contraception needs met is not strongly correlated with the wealth index. Using information on contraception and unmet need, the percentage of demand for contraception satisfied is also estimated from the MICS data. The percentage of demand satisfied is defined as the proportion of women currently married or in a marital union who are currently using contraception, of the total demand for contraception. The total demand for contraception includes women who currently have an unmet need (for spacing or limiting), plus those who are currently using contraception. 64 percent of Roma women reported that their demand for contraception was satisfied. There are differences by wealth index and the education of Roma women with the lowest satisfaction among more educated women.

Table RH.5R shows that the total met need among Roma women is higher than the total unmet need for family planning. Unmet need is correlated with education level, with 30 percent of women with secondary education compared to 19 percent with no education. The table also highlights that the total demand for family planning satisfied is relatively high.

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. Management of anaemia during pregnancy and treatment of STIs can significantly improve foetal outcomes and improve maternal health. Adverse outcomes such as low birth weight can be reduced through a combination of interventions to improve women's nutritional status and prevent infections (e.g., malaria and STIs) during pregnancy. More recently, the potential of the antenatal period as an entry point for HIV prevention and care, in particular for the prevention of HIV transmission from mother to child, has led to renewed interest in access to and use of antenatal services.

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

- Blood pressure measurement
- Urine testing for bateriuria and proteinuria
- Blood testing to detect syphilis and severe 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.6. The results show that a relatively small percentage of women do not receive antenatal care. In Macedonia, the majority of antenatal care is provided by skilled personnel (99 percent), of which 93 percent are medical doctors, 5 percent obstetrical nurses, 0.2 percent midwives and nurses. The remaining 1 percent did not receive antenatal care.

Table RH.6: 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, Macedonia, 2011

	Person providing antenatal care							
	Doctor	Auxiliary midwife	Midwife	Nurse	No antenatal care received	Total	Any skilled personnel[1]	Number of women who gave birth in the preceding two years
Area								
Urban	98.4	.0	1.2	.0	.4	100.0	99.6	178
Rural	88.2	.4	8.6	.3	2.5	100.0	97.5	183
Mother's age at birth								
Less than 20	(*)	(*)	(*)	(*)	(*)	100.0	(*)	18
20-34	94.3	.2	4.1	.2	1.2	100.0	98.8	313
35-49	(79.9)	(.0)	(16.7)	(0)	(3.4)	100.0	(96.6)	30
Education								
Primary or less	88.4	.0	9.5	.4	1.7	100.0	98.3	146
Secondary	95.4	.5	1.9	.0	2.2	100.0	97.8	128
High	98.4	.0	1.6	.0	.0	100.0	100.0	88
Wealth index quintiles								
Poorest	87.2	.8	8.2	.7	3.0	100.0	97.0	84
Second	91.9	.0	6.1	.0	2.0	100.0	98.0	70
Middle	90.0	.0	8.3	.0	1.7	100.0	98.3	64
Fourth	98.3	.0	1.7	.0	.0	100.0	100.0	75
Richest	99.6	.0	.0	.0	.4	100.0	99.6	68
Ethnicity of household head								
Macedonian	98.3	.4	.2	.0	1.0	100.0	99.0	171
Albanian	87.2	.0	10.7	.0	2.1	100.0	97.9	146
Other	93.7	.0	4.0	1.4	.9	100.0	99.1	45
Total	**93.3**	**.2**	**4.9**	**.2**	**1.4**	**100.0**	**98.6**	**362**

[1] MICS indicator 5.5a; MDG indicator 5.5

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

UNICEF and WHO recommend a minimum of four antenatal care visits during pregnancy. Table RH.7 shows the number of antenatal care visits during the last pregnancy over the two years preceding the survey, regardless of provider, by selected characteristics. About nine in ten mothers (94 percent) received antenatal care four or more times. Only 1 percent of women did not have antenatal visits, 0.1 percent had one visit, 0.5 percent had two, and 1 percent had three visits.

Table RH.7: 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, Macedonia, 2011

	Percent distribution of women who had:							
	No antenatal care visits	One visit	Two visits	Three visits	4 or more visits[1]	Missing/DK	Total	Number of women who had a live birth in the preceding two years
Region								
Vardar	(.0)	(.0)	(.0)	(2.1)	(97.9)	(.0)	100.0	16
East	(2.9)	(.0)	(.0)	(1.3)	(95.8)	(.0)	100.0	25
Southwest	.6	.0	.0	1.2	85.6	12.6	100.0	39
Southeast	(.0)	(.0)	(.0)	(.0)	(95.6)	(4.4)	100.0	16
Pelagonia	.0	1.0	.0	.0	99.0	.0	100.0	42
Polog	.3	.0	.3	.8	95.2	3.3	100.0	69
Northeast	(5.7)	(.0)	(.0)	(.0)	(89.7)	(4.6)	100.0	37
Skopje	1.6	.0	1.3	2.9	94.2	.0	100.0	118
Area								
Urban	.4	.0	1.0	.6	95.8	2.3	100.0	178
Rural	2.5	.2	.0	2.2	92.0	3.0	100.0	183
Mother's age at birth								
Less than 20	(*)	(*)	(*)	(*)	(*)	(*)	100.0	18
20-34	1.2	.1	.6	1.5	94.2	2.4	100.0	313
35-49	(3.4)	(.0)	(.0)	(1.5)	(92.0)	(3.1)	100.0	30
Education								
Primary or less	1.7	.3	.2	2.6	92.5	2.8	100.0	146
Secondary	2.2	.0	1.2	.6	93.4	2.6	100.0	128
High	.0	.0	.0	.6	96.9	2.5	100.0	88
Wealth index quintile								
Poorest	3.0	.5	.3	4.1	90.7	1.4	100.0	84
Second	2.0	.0	.0	1.0	96.5	.5	100.0	70
Middle	1.7	.0	2.3	.9	91.3	3.8	100.0	64
Fourth	.0	.0	.0	.6	97.3	2.1	100.0	75
Richest	.4	.0	.0	.0	93.8	5.8	100.0	68
Ethnicity of household head								
Macedonian	1.0	.0	.0	1.0	97.2	.8	100.0	171
Albanian	2.1	.3	1.2	2.4	88.4	5.7	100.0	146
Other	.9	.0	.0	.0	99.1	.0	100.0	45
Total	**1.4**	**.1**	**.5**	**1.4**	**93.9**	**2.6**	**100.0**	**362**

[1] MICS indicator 5.5b; MDG indicator 5.5

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

The types of services pregnant women received during antenatal care are shown in Table RH.8. Among those women who had a live birth during the two years preceding the survey, 96 percent reported that a blood sample was taken during antenatal care visits, 97 percent reported that their blood pressure was checked, and 95 percent reported that a urine specimen was taken. Overall, blood pressure was measured, and urine and blood sample were taken from 94 percent of women.

Table RH.8: Content of antenatal care

Percentage of women age 15-49 years who had their blood pressure measured, urine sample taken, and blood sample taken as part of antenatal care, Macedonia, 2011

	Percentage of pregnant women who had:				
	Blood pressure measured	Urine sample taken	Blood sample taken	Blood pressure measured, urine and blood sample taken[1]	Number of women who had a live birth in the preceding two years
Region					
Vardar	(100.0)	(100.0)	(100.0)	(100.0)	16
East	(93.8)	(88.8)	(89.7)	(88.0)	25
Southwest	94.1	94.1	94.1	94.1	39
Southeast	(100.0)	(100.0)	(97.6)	(97.6)	16
Pelagonia	99.0	99.0	99.0	98.1	42
Polog	98.6	95.6	96.2	95.6	69
Northeast	(91.1)	(94.3)	(94.3)	(91.1)	37
Skopje	96.6	94.3	96.0	92.7	118
Area					
Urban	97.3	98.2	98.9	96.4	178
Rural	95.7	92.2	92.8	91.8	183
Mother's age at birth					
Less than 20	(*)	(*)	(*)	(*)	18
20-34	96.7	95.3	95.8	94.3	313
35-49	(93.4)	(93.9)	(93.9)	(90.7)	30
Education					
Primary or less	94.7	92.1	92.5	90.9	146
Secondary	96.4	96.0	96.9	94.2	128
High	99.6	99.1	99.6	99.1	88
Wealth index quintile					
Poorest	95.2	88.7	89.5	88.7	84
Second	96.3	95.9	97.2	94.2	70
Middle	94.4	95.1	94.5	93.8	64
Fourth	100.0	99.4	99.7	99.2	75
Richest	96.5	97.8	99.1	95.2	68
Ethnicity of household head					
Macedonian	98.0	97.9	98.4	96.8	171
Albanian	96.0	92.1	92.8	92.1	146
Other	92.7	94.5	95.4	89.9	45
Total	**96.5**	**95.2**	**95.8**	**94.1**	**362**

[1] MICS indicator 5.6

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Antenatal Care – Roma settlements

The type of personnel providing antenatal care to women aged 15-49 years who gave birth in the two years preceding the survey is presented in Table RH.6R. The results show that a relatively small percentage of women in Roma settlements do not receive antenatal care. A majority of antenatal care is provided by skilled personnel (94 percent).

Table RH.6R: 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, Roma settlements, 2011

	Person providing antenatal care	No antenatal care received	Total	Any skilled personnel[1]	Number of women who gave birth in the preceding two years
	Doctor				
Mother's age at birth					
Less than 20	(100.0)	(.0)	100.0	(100.0)	31
20-34	92.8	7.2	100.0	92.8	143
35-49	(*)	(*)	100.0	(*)	9
Education					
None	(88.4)	(11.6)	100.0	(88.4)	41
Primary	94.9	5.1	100.0	94.9	120
Secondary +	(100.0)	(.0)	100.0	(100.0)	22
Wealth index quintiles					
Poorest 60%	92.0	8.0	100.0	92.0	129
Richest 40%	98.9	1.1	100.0	98.9	54
Total	**94.0**	**6.0**	**100.0**	**94.0**	**182**

[1] MICS indicator 5.5a; MDG indicator 5.5

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

UNICEF and WHO recommend a minimum of four antenatal care visits during pregnancy. Table RH.7R shows the number of antenatal care visits during the last pregnancy during the two years preceding the survey, regardless of provider by selected characteristics. Almost nine in ten mothers (86 percent) received antenatal care four or more times. Out of all Roma women, 6 percent did not have antenatal visits, 2 percent had one visit, 2 percent had two, and 4 percent had three visits. For example, 83 percent of women living in the poorest 60 percent of households reported four or more antenatal care visits, compared with 93 percent of women among those living in the richest 40 percent of households.

Table RH.7R: 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, Roma settlements, 2011

	Percent distribution of women who had:					Total	Number of women who had a live birth in the preceding two years
	No antenetal care visits	One visit	Two visits	Three visits	4 or more visits[1]		
Mother's age at birth							
Less than 20	(.0)	(1.9)	(.0)	(5.4)	(92.7)	100.0	31
20-34	7.2	1.6	2.8	4.4	84.1	100.0	143
35-49	(*)	(*)	(*)	(*)	(*)	100.0	9
Education							
None	(11.6)	(1.4)	(5.6)	(2.3)	(79.0)	100.0	41
Primary	5.1	1.9	.6	3.9	88.5	100.0	120
Secondary +	(.0)	(.0)	(4.2)	(10.6)	(85.2)	100.0	22
Wealth index quintile							
Poorest 60%	8.0	2.2	2.4	4.4	83.0	100.0	129
Richest 40%	1.1	.0	1.7	4.3	92.9	100.0	54
Total	**6.0**	**1.6**	**2.2**	**4.3**	**85.9**	**100.0**	**182**

[1] MICS indicator 5.5b; MDG indicator 5.5

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

The types of services pregnant women received during antenatal care are shown in Table RH.8R. Among Roma women who have had a live birth during the two years preceding the survey, 87 percent reported that a blood sample was taken during antenatal care visits, 86 percent reported that their blood pressure was checked, and 85 percent reported that their urine specimen was taken. In total, blood pressure was measured, and urine and blood samples were taken from 83 percent of Roma women.

Table RH.8R: Content of antenatal care

Percentage of women age 15-49 years who had their blood pressure measured, urine sample taken, and blood sample taken as part of antenatal care, Roma settlements, 2011

	Percentage of pregnant women who had:				Number of women who had a live birth in the preceding two years
	Blood pressure measured	Urine sample taken	Blood sample taken	Blood pressure measured, urine and blood sample taken[1]	
Mother's age at birth					
Less than 20	(88.3)	(95.0)	(95.0)	(88.3)	31
20-34	85.0	82.8	84.6	81.0	143
35-49	(*)	(*)	(*)	(*)	9
Education					
None	(74.4)	(74.4)	(74.4)	(74.4)	41
Primary	89.0	86.4	88.6	84.2	120
Secondary +	(90.4)	(100.0)	(100.0)	(90.4)	22
Wealth index quintile					
Poorest 60%	81.6	80.7	81.6	78.2	129
Richest 40%	96.2	96.4	98.9	93.7	54
Total	**85.9**	**85.3**	**86.7**	**82.7**	**182**

[1] MICS indicator 5.6

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Assistance at Delivery

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

The MICS included a number of questions to assess the proportion of births attended by a skilled attendant. *A skilled attendant* includes a doctor, nurse, midwife or auxiliary midwife.

About 94 percent of births that occurred in the two years preceding the MICS survey were delivered by skilled personnel (Table RH.9). Doctors assisted with the delivery of 87 percent of births and nurses/midwives assisted with 11 percent.

Caesarean section (C-section) is one of the most common surgical procedures worldwide with an estimated prevalence rate of 33 percent. The prevalence of caesarean section ranges from 4 percent in developing countries to over 30 percent in the most developed countries. There are a rising number of such deliveries worldwide performed without any medical need. The intervention is a subject of affordability, with pregnant women from wealthier households being able to cover the costs of the procedure. Nationally, one in four children in Macedonia is delivered by C-section. The proportion of women who deliver by C-Section is high in urban areas and among women from the richest quintile, with a higher education, and whose household head is of Macedonian ethnicity.

Table RH.9: Assistance during delivery

Percent distribution of women age 15-49 who had a live birth in the two years preceding the survey by person assisting at delivery and percentage of births delivered by C-section, Macedonia, 2011

	Person assisting at delivery					No attendant	Total	Delivery assisted by any skilled attendant[1]	Percent delivered by C-section[2]	Number of women who had a live birth in preceding two years
	Medical doctor	Nurse/ Midwife	Auxiliary midwife	Relative/ Friend	Other					
Region										
Vardar	(88.0)	(3.7)	(8.3)	(.0)	(.0)	(.0)	100.0	(100.0)	(17.4)	16
East	(84.9)	(10.6)	(3.3)	(.0)	(1.2)	(.0)	100.0	(98.8)	(12.4)	25
Southwest	94.7	.9	4.5	.0	.0	.0	100.0	100.0	30.3	39
Southeast	(100.0)	(.0)	(.0)	(.0)	(.0)	(.0)	100.0	(100.0)	(49.2)	16
Pelagonia	97.0	3.0	.0	.0	.0	.0	100.0	100.0	27.1	42
Polog	69.5	6.2	24.4	.0	.0	.0	100.0	100.0	14.2	69
Northeast	(87.6)	(1.4)	(1.6)	(.0)	(9.4)	(.0)	100.0	(90.6)	(22.5)	37
Skopje	89.7	4.6	3.7	.9	.4	.7	100.0	98.0	29.9	118
Area										
Urban	91.5	2.9	3.8	.0	1.3	.5	100.0	98.3	33.8	178
Rural	82.6	5.4	10.3	.6	1.1	.0	100.0	98.3	16.3	183
Mother's age at birth										
Less than 20	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	18
20-34	88.6	4.3	5.8	.0	1.1	.3	100.0	98.6	25.3	313
35-49	(75.4)	(3.8)	(15.6)	(3.4)	(1.7)	(.0)	100.0	(94.9)	(33.7)	30
Place of delivery										
Public sector health facility	87.9	3.6	7.5	.0	.7	.3	100.0	99.1	23.1	332
Private sector health facility	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	23
Other/Missing	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	6
Education										
Primary or less	81.0	4.3	13.4	.0	1.2	.0	100.0	98.8	15.2	146
Secondary	89.3	3.1	4.1	.8	2.0	.7	100.0	96.5	26.7	128
High	93.7	5.4	.9	.0	.0	.0	100.0	100.0	38.4	88
Wealth index quintiles										
Poorest	70.7	7.3	19.6	1.2	1.3	.0	100.0	97.5	10.9	84
Second	91.1	2.0	3.0	.0	4.0	.0	100.0	96.0	21.2	70
Middle	94.7	3.2	2.1	.0	.0	.0	100.0	100.0	31.8	64
Fourth	90.2	3.0	6.8	.0	.0	.0	100.0	100.0	21.8	75
Richest	92.3	4.7	.9	.0	.8	1.3	100.0	98.0	43.0	68
Ethnicity of household head										
Macedonian	92.6	3.0	3.9	.0	.5	.0	100.0	99.5	31.4	171
Albanian	80.9	4.4	11.6	.7	2.4	.0	100.0	96.9	18.7	146
Other	85.4	8.0	4.7	.0	.0	1.9	100.0	98.1	20.4	45
Total	**87.0**	**4.2**	**7.1**	**.3**	**1.2**	**.2**	**100.0**	**98.3**	**24.9**	**362**

[1] MICS indicator 5.7; MDG indicator 5.2

[2] MICS indicator 5.9

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Assistance at Delivery – Roma settlements

About 100 percent of births that occurred in the two years preceding the MICS survey were delivered by skilled personnel (Table RH.9R). Doctors assisted with the delivery of 93 percent of births; midwives and nurses assisted with 6 percent; and less than1 percent of births assisted by another person (relative/friend).

Almost one in eight Roma women were delivered by C-section.

Table RH.9R: 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, Roma settlements, 2011

	Person assisting at delivery				No attendant	Total	Delivery assisted by any skilled attendant[1]	Percent delivered by C-section[2]	Number of women who had a live birth in preceding two years
	Medical doctor	Nurse/ Midwife	Auxiliary midwife	Relative/ Friend					
Mother's age at birth									
Less than 20	(94.9)	(5.1)	(.0)	(.0)	(.0)	100.0	(100.0)	(6.6)	31
20-34	91.5	4.4	3.4	.4	.3	100.0	99.3	14.2	143
35-49	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	9
Place of delivery									
Public sector health facility	92.9	4.4	2.7	.0	.0	100.0	100.0	13.3	180
Other/Missing	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	3
Education									
None	(92.3)	(5.4)	(.0)	(1.4)	(.9)	100.0	(97.7)	(10.5)	41
Primary	93.1	4.8	2.1	.0	.0	100.0	100.0	13.6	120
Secondary +	(89.4)	(.0)	(10.6)	(.0)	(.0)	100.0	(100.0)	(15.4)	22
Wealth index quintiles									
Poorest 60%	93.2	4.7	1.5	.5	.3	100.0	99.3	11.3	129
Richest 40%	90.9	3.6	5.5	.0	.0	100.0	100.0	17.5	54
Total	**92.5**	**4.3**	**2.7**	**.3**	**.2**	**100.0**	**99.5**	**13.1**	**182**

[1] MICS indicator 5.7; MDG indicator 5.2

[2] MICS indicator 5.9

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Place of Delivery

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

98 percent of births in Macedonia are delivered in a health facility - 92 percent of deliveries occur in public sector facilities and 7 percent occur in private sector facilities. Only 0.3 percent occurs at home. The percentage is high in both urban (99 percent) and rural areas (98 percent), and among women who have a higher education level and comes from a wealthier household.

Table RH.10: 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, Macedonia, 2011

	Place of delivery					Total	Delivered in health facility[1]	Number of women who had a live birth in preceding two years
	Public sector health facility	Private sector health facility	Home	Other	Missing/DK			
Region								
Vardar	(100.0)	(.0)	(.0)	(.0)	(.0)	100.0	(100.0)	16
East	(98.8)	(.0)	(.0)	(.0)	(1.2)	100.0	(98.8)	25
Southwest	99.4	.0	.0	.0	.6	100.0	99.4	39
Southeast	(92.3)	(7.7)	(.0)	(.0)	(.0)	100.0	(100.0)	16
Pelagonia	100.0	.0	.0	.0	.0	100.0	100.0	42
Polog	95.6	1.0	.0	.9	2.4	100.0	96.6	69
Northeast	(95.2)	(.0)	(.0)	(.0)	(4.8)	100.0	(95.2)	37
Skopje	80.9	18.2	.9	.0	.0	100.0	99.1	118
Area								
Urban	86.7	12.6	.0	.4	.4	100.0	99.3	178
Rural	97.1	.5	.6	.0	1.8	100.0	97.6	183
Mother's age at birth								
Less than 20	(*)	(*)	(*)	(*)	(*)	100.0	(*)	18
20-34	91.7	6.9	.0	.2	1.2	100.0	98.6	313
35-49	(90.5)	(6.1)	(3.4)	(.0)	(.0)	100.0	(96.6)	30
Number of antenatal care visits								
None	(*)	(*)	(*)	(*)	(*)	100.0	(*)	5
1-3 visits	(*)	(*)	(*)	(*)	(*)	100.0	(*)	7
4+ visits	92.5	6.8	.0	.2	.5	100.0	99.3	339
Missing/DK	(*)	(*)	(*)	(*)	(*)	100.0	(*)	10
Education								
Primary or less	97.0	.0	.0	.4	2.5	100.0	97.0	146
Secondary	97.5	1.5	.8	.0	.2	100.0	99.0	128
High	75.4	24.6	.0	.0	.0	100.0	100.0	88
Wealth index quintiles								
Poorest	95.5	.0	1.2	.8	2.5	100.0	95.5	84
Second	97.0	1.5	.0	.0	1.5	100.0	98.5	70
Middle	99.7	.0	.0	.0	.3	100.0	99.7	64
Fourth	98.2	1.8	.0	.0	.0	100.0	100.0	75
Richest	68.3	30.8	.0	.0	.9	100.0	99.1	68
Ethnicity of household head								
Macedonian	88.4	11.4	.0	.0	.2	100.0	99.8	171
Albanian	96.3	.5	.7	.0	2.5	100.0	96.8	146
Other	91.2	7.3	.0	1.4	.0	100.0	98.6	45
Total	**91.9**	**6.5**	**.3**	**.2**	**1.1**	**100.0**	**98.4**	**362**

[1] MICS indicator 5.8

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Place of Delivery – Roma settlements

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.10R presents the percent distribution of women aged 15-49 who had a live birth in the two years preceding the survey by place of delivery and the percentage of births delivered in a health facility, according to background characteristics.

99 percent of births in Roma settlements in Macedonia are delivered in a health facility- 98 percent of deliveries occur in public sector facilities and 1 percent occurs in private sector facilities. Only 0.2 percent occurs at home.

Table RH.10R: 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, Roma settlements, 2011

	Place of delivery					Total	Delivered in health facility[1]	Number of women who had a live birth in preceding two years
	Public sector health facility	Private sector health facility	Home	Other	Missing/DK			
Mother's age at birth								
Less than 20	(100.0)	(.0)	(.0)	(.0)	(.0)	100.0	(100.0)	31
20-34	97.9	.9	.3	.4	.5	100.0	98.8	143
35-49	(*)	(*)	(*)	(*)	(*)	100.0	(*)	9
Number of antenatal care visits								
None	(*)	(*)	(*)	(*)	(*)	100.0	(*)	11
1-3 visits	(*)	(*)	(*)	(*)	(*)	100.0	(*)	15
4+ visits	98.1	.8	.2	.4	.5	100.0	98.9	157
Education								
None	(97.7)	(.0)	(.9)	(1.4)	(.0)	100.0	(97.7)	41
Primary	98.3	1.0	.0	.0	.6	100.0	99.4	120
Secondary +	(100.0)	(.0)	(.0)	(.0)	(.0)	100.0	(100.0)	22
Wealth index quintiles								
Poorest 60%	98.3	.9	.3	.5	.0	100.0	99.3	129
Richest 40%	98.6	.0	.0	.0	1.4	100.0	98.6	54
Total	**98.4**	**.7**	**.2**	**.3**	**.4**	**100.0**	**99.1**	**182**

[1] MICS indicator 5.8

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Abortions

In the Macedonia MICS, a set of questions was added to the questionnaire for individual women on miscarriages, stillbirths and abortions. The information was collected from all women aged 15-49 years. Women were asked whether they have ever had a pregnancy that was miscarried, ended in a stillbirth or was aborted, and, if yes, they were asked how many pregnancies were miscarried, ended in a stillbirth or were aborted. In addition, more detailed information was collected on induced abortions occurring in the last two years, including the duration of the pregnancy at the time of termination and the month and year of termination.

Table RH.18 shows the mean number of live births, miscarriages, abortions and stillbirths per woman aged 15-49 years. The mean number of live births per woman is 1.3. The average number of miscarriages per woman is 0.2, while stillbirths are rare (close to 0 per woman). As also shown in Table RH.18, 11 percent of women aged 15-49 have had at least one induced abortion in their lifetime. No pronounced differentials in the experience of abortions are found when comparing area, wealth index quintiles and education of the woman. The percentage of women who have ever had an induced abortion increases with age. Some differentials by region are found; for example, women in Polog region are most likely to have had an abortion with almost one in six women having had at least one induced abortion.

RH.18: Lifetime experience with wasted pregnancies

Mean number of live births, miscarriages, induced abortions and stillbirths, and percentage of women who have ever had an induced abortion, Macedonia, 2011

	Mean number of:				Percentage of women with at least one induced abortion	Number of women
	Live births	Miscarriages	Induced Abortions	Stillbirths		
Age						
15-19	.0	.0	.0	.0	.0	530
20-24	.3	.0	.0	.0	1.8	541
25-29	.9	.1	.0	.0	3.9	574
30-34	1.7	.2	.1	.0	7.9	567
35-39	1.9	.2	.2	.1	13.9	545
40-44	2.2	.2	.3	.1	20.0	555
45-49	2.3	.3	.5	.1	26.9	519
Area						
Urban	1.2	.2	.2	.0	9.7	2092
Rural	1.5	.2	.2	.0	11.5	1739
Region						
Vardar	1.3	.2	.2	.0	10.3	243
East	1.3	.1	.1	.0	10.2	258
Southwest	1.5	.1	.1	.0	6.4	353
Southeast	1.4	.1	.2	.0	11.5	317
Pelagonia	1.2	.1	.1	.0	10.0	512
Polog	1.4	.2	.3	.1	17.2	597
Northeast	1.4	.2	.1	.0	5.1	385
Skopje	1.3	.2	.2	.0	10.2	1166
Education						
Primary or less	2.0	.2	.3	.1	16.5	1174
Secondary	1.2	.1	.1	.0	9.2	1682
High	.8	.1	.1	.0	5.7	976
Wealth index quintile						
Poorest	1.6	.2	.2	.1	10.1	695
Second	1.5	.2	.2	.0	12.4	725
Middle	1.3	.2	.2	.0	12.4	782
Fourth	1.2	.1	.1	.0	8.6	791
Richest	1.2	.1	.1	.0	9.4	839
Total	**1.3**	**.2**	**.2**	**.0**	**10.5**	**3831**

Table RH.19 shows age specific abortion rates, total abortion rates (TAR), and general abortion rates (GAR). All of the abortion rates refer to the two-year period preceding the survey. Age specific abortion rates express the average number of abortions per 1,000 women per 5-year age group. The total abortion rate (TAR), which is expressed per woman, is a summary measure of the age specific rates. The TAR is interpreted as the number of abortions a woman would have in her lifetime if she experienced the currently observed age-specific abortion rates during her childbearing years. The general abortion rate (GAR) is the number of abortions per 1,000 women age 15-49.

The age specific abortion rates increase sharply after the age of 19 and are the highest among the 25-29 and 30-34 age groups. Abortion rates are higher among women living in rural than those in urban areas. The total abortion rate in Macedonia is 0.2. The general abortion rate is 4 per 1000 women.

RH.19: Induced abortion rates by area

Age-specific abortion rates (per 1000 women), total abortion rates (TAR), and general abortion rate (GAR) for the two year period preceding the survey, by area, Macedonia, 2011

	Area		Total
	Urban	Rural	
Age			
15-19	0	0	0
20-24	6	1	4
25-29	7	11	8
30-34	6	9	8
35-39	2	10	5
40-44	3	8	5
45-49	0	2	1
TAR 15-49	**0.1**	**0.2**	**0.2**
GAR	**2.9**	**5.8**	**4.2**

Table RH.20 shows the total induced abortion rates (TAR) by background characteristics. As seen in the table, the TAR in rural areas is nearly twice as high as that of urban areas. TAR decreases as the education level increases.

RH.20: Induced abortion rates

Total abortion rates among women age 15-49 for the two years preceding the survey and mean number of abortions among women age 40-49, Macedonia, 2011

	Total abortion rate among women age 15-49	Mean number of abortions among women age 40-49
Area		
Urban	.1	.4
Rural	.2	.4
Education		
Primary or less	(.3)	.5
Secondary	.1	.4
High	(.1)	.3
Wealth index quintile		
Poorest 60%	.2	.5
Richest 40%	.1	.3
Total	**.2**	**.4**

( ) – figures based on 125-249 person-years of exposure

Abortion – Roma settlements

Table RH.18R shows the mean number of live births, miscarriages, abortions and stillbirths per Roma woman aged 15-49 years. The mean number of live births per woman is 2. While the average number of miscarriages per woman is 0.2, stillbirths are rare (0.03 per woman). As also shown in Table RH.18R, 23 percent of women aged 15-49 have had at least one induced abortion in their lifetime. There are no pronounced differentials in the experience of abortions with wealth index quintiles. Less educated Roma woman have higher induced abortion rates. The percentage of women who have ever had an induced abortion increases with age.

RH.18R: Lifetime experience with wasted pregnancies

Mean number of live births, miscarriages, induced abortions and stillbirths, and percentage of women who have ever had an induced abortion, Roma settlements, 2011

	Mean number of:				Percentage of women with at least one induced abortion	Number of women
	Live births	Miscarriages	Induced Abortions	Stillbirths		
Age						
15-19	.2	.1	.0	.0	1.0	173
20-24	1.2	.1	.1	.0	9.5	190
25-29	2.1	.2	.3	.0	16.7	166
30-34	2.6	.2	.6	.0	30.5	172
35-39	2.7	.3	.9	.0	38.5	112
40-44	3.0	.4	1.2	.1	37.8	149
45-49	3.0	.2	1.0	.1	39.6	129
Education						
None	2.8	.2	.7	.0	25.9	183
Primary	2.2	.2	.6	.0	25.9	724
Secondary +	.7	.1	.1	.0	8.8	184
Wealth index quintile						
Poorest	2.6	.2	.7	.0	24.2	200
Second	2.3	.3	.7	.0	22.0	202
Middle	1.9	.1	.5	.0	22.3	214
Fourth	1.8	.2	.4	.0	21.9	231
Richest	1.7	.2	.5	.0	24.4	244
Total	**2.0**	**.2**	**.6**	**.0**	**23.0**	**1091**

Table RH.19R shows age specific abortion rates, total abortion rates (TAR), and general abortion rates (GAR). All of the abortion rates refer to the two-year period preceding the survey. Age specific abortion rates express the average number of abortions per 1,000 women per 5-year age group. The total abortion rate (TAR), which is expressed per woman, is a summary measure of the age specific rates. The TAR is interpreted as the number of abortions a woman would have in her lifetime if she experienced the currently observed age-specific abortion rates during her childbearing years. The general abortion rate (GAR) is the number of abortions per 1,000 women aged 15-49.

The age specific abortion rates increase sharply after the age of 19 and are the highest among the 25-29 and 30-34 age groups. The total abortion rate in the Roma settlements is 0.9 abortions per woman. The general abortion rate is 33 per 1000 women.

RH.19R: Induced abortion rates

Age-specific abortion rates (per 1000 women), total abortion rates (TAR), and general abortion rate (GAR) for the two year period preceding the survey, Roma settlements, 2011

	Total
Age	
15-19	5
20-24	30
25-29	38
30-34	66
35-39	(28)
40-44	14
45-49	(0)
TAR 15-49	**(.9)**
GAR	**33.4**

( ) – figures based on 125-249 person-years of exposure

IX 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.

In Macedonia, 22 percent of children aged 36-59 months attend an organised early childhood education programme (Table CD.1). Urban-rural differentials are considerable – the attendance in urban areas is 37 percent as compared to 6 percent in rural areas. 56 percent of children living in rich households attend such programmes, while the figure drops to 0.3 percent in poor households. It is interesting to note that the proportions of children attending early childhood education programmes at ages 36-47 months (23 percent) and 48-59 months (21 percent) are very similar. Children with mothers that have a higher education and who come from a household headed by a Macedonian are more likely to attend early childhood education programmes.

It is well recognized that a period of rapid brain development occurs in the first three to four years of life, and the quality of home care is the major determinant of the child's development during this period. In this context, engagements 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.

Table CD.1: Early childhood education

Percentage of children age 36-59 months who are attending an organized early childhood education programme, Macedonia, 2011

	Percentage of children age 36-59 months currently attending early childhood education[1]	Number of children age 36-59 months
Sex		
Male	24.5	293
Female	18.7	267
Region		
Vardar	44.3	51
East	24.0	49
Southwest	10.3	47
Southeast	(29.8)	34
Pelagonia	21.2	58
Polog	5.9	102
Northeast	(16.9)	58
Skopje	27.6	162
Area		
Urban	37.2	284
Rural	5.9	277
Age of child		
36-47 months	22.9	276
48-59 months	20.6	285
Mother's education		
Primary or less	1.4	222
Secondary	29.0	222
High	46.5	117
Wealth index quintile		
Poorest	.3	126
Second	6.7	119
Middle	12.9	102
Fourth	37.4	102
Richest	55.9	112
Ethnicity of household head		
Macedonian	36.5	302
Albanian	2.9	206
Other	10.8	52
Total	**21.8**	**561**

[1] MICS indicator 6.7

( ) – figures based on 25–49 unweighted cases

For almost all (92 percent) of the children aged 36-59 months, an adult household member engaged in four or more activities that promoted learning and school readiness during the three days preceding the survey (Table CD.2). The average number of activities that adults engaged with children was five. The table also indicates that the father's involvement in one or more activities was only 71 percent. 4 percent of children were living in a household without their fathers.

Table CD.2: Support for learning

Percentage of children age 36-59 months with whom an adult household member engaged in activities that promote learning and school readiness during the last three days, Macedonia, 2011

	Percentage of children age 36-59 months		Mean number of activities		Percentage of children not living with their natural father	Number of children age 36-59 months
	With whom adult household members engaged in four or more activities[1]	With whom the father engaged in one or more activities[2]	Any adult household member engaged with the child	The father engaged with the child		
Sex						
Male	91.6	75.9	5.3	1.8	4.1	293
Female	91.3	65.8	5.3	1.9	3.5	267
Region						
Vardar	93.9	81.3	5.3	2.3	6.1	51
East	85.5	78.1	5.2	2.3	4.8	49
Southwest	91.5	75.9	5.5	2.2	2.8	47
Southeast	(87.6)	(66.1)	(5.2)	(1.4)	(4.9)	34
Pelagonia	91.1	70.4	5.3	2.2	.6	58
Polog	91.4	53.4	5.2	1.1	6.1	102
Northeast	(99.0)	(92.9)	(5.6)	(2.5)	(2.2)	58
Skopje	90.8	68.9	5.2	1.8	3.2	162
Area						
Urban	94.1	78.5	5.5	2.2	4.3	284
Rural	88.8	63.5	5.1	1.5	3.3	277
Age						
36-47 months	92.8	71.1	5.3	1.9	2.8	276
48-59 months	90.1	71.0	5.3	1.8	4.8	285
Mother's education						
Primary or less	84.9	58.4	4.9	1.2	4.2	222
Secondary	96.0	77.4	5.5	2.3	4.0	222
High	95.3	83.0	5.7	2.4	2.8	117
Father's education						
Primary or less	84.0	64.1	4.9	1.3	na	170
Secondary	94.2	74.7	5.4	2.1	na	275
High	96.7	87.5	5.6	2.7	na	94
Father not in household	(*)	(*)	(*)	na	na	21
Wealth index quintiles						
Poorest	81.3	58.2	4.8	1.2	4.1	126
Second	89.8	63.3	5.1	1.6	7.5	119
Middle	93.4	78.4	5.4	2.0	4.2	102
Fourth	98.6	80.1	5.6	2.2	1.0	102
Richest	96.3	78.8	5.7	2.5	2.0	112
Ethnicity of household head						
Macedonian	94.6	79.2	5.5	2.3	3.0	302
Albanian	90.7	59.8	5.1	1.2	3.8	206
Other	76.5	68.4	4.8	1.7	9.1	52
Total	**91.5**	**71.1**	**5.3**	**1.9**	**3.8**	**561**

[1] MICS indicator 6.1

[2] MICS Indicator 6.2

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

na – not applicable

There are no gender differentials in terms of engagement of adults in activities with children; however, fathers engaged in more activities with male children (76 percent) than with female children (66 percent). Similarly, this percentage is higher in the richest households (96 percent) as opposed to those living in the poorest households (81 percent). There more educated are more likely to be engaged with their children.

Exposure to books during the child's 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 age 5 were asked about the 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 Macedonia, only 52 percent of children aged 0-59 months live in households where at least three children's books are present for the child (Table CD.3).

The proportion of children with 10 or more books declines to 36 percent. While no gender differentials are observed, urban children appear to have more access to children's books than those living in rural households. The proportion of under-5 children who have three or more children's books is 66 percent in urban areas, compared to 38 percent in rural areas. The presence of children's books is positively correlated with the child's age- in the homes of 66 percent of children aged 24-59 months, there are 3 or more children's books, while the figure is 32 percent for children aged 0-23 months.

For households that have 10 or more children's books or picture books, there are regional differentials with the highest proportion of 48 percent in Skopje and the lowest in Polog region at 11 percent. This is different than those based on three or more books where the highest proportion of children is in the Southwest and Southeast regions. Differences are also found, correlated with mother's education (63 percent for mothers with high education vs. 8 percent for mothers with primary or less education); and with household head ethnicity (57 percent for Macedonians compared to 8 percent for Albanians).

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, Macedonia, 2011

	Household has for the child:		Child plays with:				
	3 or more children's books[1]	10 or more children's books	Homemade toys	Toys from a shop/ manufactured toys	Household objects/ objects found outside	Two or more types of playthings[2]	Number of children under age 5
Sex							
Male	53.0	35.4	32.6	92.0	67.2	72.1	692
Female	51.8	35.7	30.2	91.8	64.5	69.2	684
Region							
Vardar	59.3	43.9	12.5	94.5	68.0	67.6	100
East	55.5	41.0	41.1	95.3	83.0	85.7	110
Southwest	66.1	34.6	47.6	87.3	66.9	68.0	121
Southeast	68.9	44.9	14.2	95.6	73.5	77.4	83
Pelagonia	55.9	41.7	47.6	89.5	71.2	76.5	156
Polog	31.5	11.1	16.0	89.8	53.4	58.5	256
Northeast	41.7	20.8	23.0	95.3	49.0	55.6	136
Skopje	57.7	48.0	38.2	91.9	70.2	77.1	415
Area							
Urban	66.0	49.4	31.0	94.2	68.9	73.4	701
Rural	38.3	21.1	31.8	89.4	62.8	67.8	675
Age							
0-23 months	32.0	18.7	22.3	82.3	49.6	53.7	541
24-59 months	65.6	46.4	37.3	98.0	76.4	81.7	835
Mother's education							
Primary or less	22.0	8.2	34.8	86.6	59.4	66.2	545
Secondary	68.0	47.8	29.0	95.2	69.2	73.8	522
High	79.7	63.0	29.4	95.5	71.7	73.2	309
Wealth index quintiles							
Poorest	18.4	5.0	35.6	85.2	65.8	70.4	316
Second	39.6	20.2	35.9	91.5	63.0	69.7	272
Middle	56.0	32.0	31.4	91.9	59.7	66.7	255
Fourth	74.0	60.1	24.3	96.7	64.7	67.4	261
Richest	80.8	66.2	28.7	95.3	75.7	78.8	272
Ethnicity of household head							
Macedonian	75.4	57.4	29.3	95.8	74.8	77.6	708
Albanian	25.0	8.3	34.2	86.9	52.0	60.2	521
Other	39.1	26.8	31.6	90.3	72.1	74.4	148
Total	**52.4**	**35.5**	**31.4**	**91.9**	**65.9**	**70.7**	**1376**

[1] MICS indicator 6.3

[2] MICS indicator 6.4

Table CD.3 also shows that 71 percent of children aged 0-59 months had 2 or more types of playthings to play with in their homes. The type of playthings in MICS included homemade toys (such as dolls and cars, or other toys made at home), toys that came from a store, and household objects (such as pots and bowls) or objects and materials found outside the home (such as sticks, rocks, animal shells, or leaves). It is interesting to note that 92 percent of children play with toys that come from a store; however, the percentages for other types of toys is 31 percent. Differentials are small by socioeconomic status of the households, and regions.

Leaving children alone or in the presence of other young children is known to increase the risk of accidents. In the 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 shows that 4 percent of children aged 0-59 months were left in the care of other children, while 3 percent were left alone during the week preceding the interview. Combining the two care indicators, it is calculated that 5 percent of children were left with inadequate care during the week preceding the survey, either by being left alone or in the care of another child. No differences were observed by the sex of the child. On the other hand, inadequate care was more prevalent in rural areas (8 percent) compared to urban areas (2 percent), among children whose mothers had secondary education (3 percent), as opposed to children whose mothers had primary or no education (8 percent). Differentials by region are small, while notable differences are observed in regard to socioeconomic status of the household with highest prevalence of inadequate care in poorest households (11 percent) and lowest in richest households (1 percent), in regard to the ethnicity of household head with2 percent among Macedonians opposed to 9 percent among Albanians.

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, Macedonia, 2011

	Percentage of children under age 5			
	Left alone in the past week	Left in the care of another child younger than 10 years of age in the past week	Left with inadequate care in the past week[1]	Number of children under age 5
Sex				
Male	2.2	3.5	5.2	692
Female	2.9	4.0	4.9	684
Region				
Vardar	.0	2.3	2.3	100
East	1.5	3.3	4.2	110
Southwest	12.2	10.6	14.9	121
Southeast	.0	1.7	1.7	83
Pelagonia	4.9	6.0	8.8	156
Polog	.7	2.7	3.2	256
Northeast	4.5	1.1	5.6	136
Skopje	.7	3.2	3.2	415
Area				
Urban	1.2	1.6	2.4	701
Rural	3.9	5.9	7.8	675
Age				
0-23 months	1.8	3.3	3.7	541
24-59 months	3.0	4.0	6.0	835
Mother's education				
Primary or less	3.2	5.9	7.9	545
Secondary	1.3	1.9	2.7	522
High	3.4	3.0	3.9	309
Wealth index quintiles				
Poorest	4.8	8.1	10.6	316
Second	2.6	3.3	5.2	272
Middle	1.3	1.7	3.0	255
Fourth	3.0	4.2	4.2	261
Richest	.6	.6	1.2	272
Ethnicity of household head				
Macedonian	.5	1.3	1.8	708
Albanian	5.8	6.4	9.2	521
Other	.8	6.0	6.0	148
Total	**2.5**	**3.7**	**5.0**	**1376**

[1] MICS indicator 6.5

Early Childhood Education and Learning – Roma settlements

Only 4 percent of children in Roma settlements aged 36-59 months are attending an organised early childhood education programme (Table CD.1R).

Table CD.1R: Early childhood education

Percentage of children age 36-59 months who are attending an organized early childhood education programme, Roma settlements, 2011

	Percentage of children age 36-59 months currently attending early childhood education[1]	Number of children age 36-59 months
Sex		
Male	6.5	100
Female	1.1	98
Age of child		
36-47 months	5.3	92
48-59 months	2.6	105
Mother's education		
None	(1.2)	38
Primary	3.5	144
Secondary +	(*)	16
Wealth index quintile		
Poorest 60%	1.9	135
Richest 40%	8.0	63
Total	**3.9**	**198**

[1] MICS indicator 6.7

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

It is well recognized that a period of rapid brain development occurs in the first three to four years of life, and the quality of home care is the major determinant of the child's development during this period. In this context, engagements 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 two thirds of Roma children aged 36-59 months (62 percent), an adult household member engaged in four or more activities that promoted learning and school readiness during the three days preceding the survey (Table CD.2R). The average number of activities that adults engaged with children was four. The table also indicates that the fathers' involvement in one or more activities was only 57 percent. 10 percent of children were living in a household without their fathers.

Table CD.2R: 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, Roma settlements, 2011

	Percentage of children age 36-59 months		Mean number of activities		Percentage of children not living with their natural father	Number of children age 36-59 months
	With whom adult household members engaged in four or more activities[1]	With whom the father engaged in one or more activities[2]	Any adult household member engaged with the child	The father engaged with the child		
Sex						
Male	68.4	61.7	4.1	1.5	4.4	100
Female	55.1	51.9	3.5	1.2	15.9	98
Age						
36-47 months	62.8	61.1	3.9	1.6	10.3	92
48-59 months	61.0	53.1	3.8	1.2	9.9	105
Mother's education						
None	(68.0)	(58.9)	(4.0)	(1.3)	(7.9)	38
Primary	58.1	56.8	3.6	1.3	11.8	144
Secondary +	(*)	(*)	(*)	(*)	(*)	16
Father's education						
None	(*)	(*)	(*)	(*)	na	27
Primary	61.2	64.1	3.7	1.6	na	128
Secondary +	(91.3)	(70.2)	(5.3)	(1.9)	na	23
Father not in household	(*)	(*)	(*)	na	na	20
Wealth index						
Poorest 60%	57.3	56.8	3.5	1.3	8.8	135
Richest 40%	71.6	56.9	4.4	1.5	12.8	63
Total	**61.8**	**56.8**	**3.8**	**1.3**	**10.1**	**198**

[1] MICS indicator 6.1

[2] MICS Indicator 6.2

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

na – not applicable

Exposure to books during the child's 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 age 5 were asked about the 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 Macedonia, only 27 percent of the children in Roma settlements aged 0-59 months live in households where at least three children's books are present for the child (Table CD.3R). The proportion of children with 10 or more books declines to 12 percent. The presence of children's books is positively correlated with the child's age; in the homes of 34 percent of children aged 24-59 months, there are 3 or more children's books, while the figure is 16 percent for children aged 0-23 months.

When children for whom there are 10 or more children's books or picture books are taken into account, notable differences are correlated with socio-economic status with the highest proportion of 29 percent in richest households and only 3 percent in poorest.

Table CD.3R: 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, Roma settlements, 2011

	Household has for the child:		Child plays with:			Two or more types of playthings[2]	Number of children under age 5
	3 or more children's books[1]	10 or more children's books	Homemade toys	Toys from a shop/ manufactured toys	Household objects/ objects found outside		
Sex							
Male	29.4	12.6	37.2	83.0	56.2	59.6	237
Female	24.8	10.6	36.5	87.5	62.7	64.6	239
Age							
0-23 months	15.5	7.9	28.8	78.1	43.0	46.6	178
24-59 months	34.0	13.8	41.7	89.5	69.3	71.4	298
Mother's education							
None	19.4	6.5	58.8	76.4	55.3	64.5	102
Primary	25.0	10.1	32.4	86.4	61.5	62.6	327
Secondary +	57.4	32.7	20.9	95.9	54.7	53.8	48
Wealth index quintiles							
Poorest	16.1	3.4	40.6	74.2	62.7	66.9	122
Second	21.6	6.9	42.5	90.9	66.7	69.2	108
Middle	28.3	10.7	24.0	82.0	50.5	48.5	93
Fourth	29.5	15.7	45.0	92.6	56.4	65.3	79
Richest	49.5	28.8	29.7	91.4	58.3	57.3	73
Total	**27.1**	**11.6**	**36.9**	**85.2**	**59.5**	**62.1**	**476**

[1] MICS indicator 6.3

[2] MICS indicator 6.4

Table CD.3R also shows that 62 percent of children aged 0-59 months had two or more types of playthings to play with in their homes. The playthings surveyed in the MICS included homemade toys (such as dolls and cars, or other toys made at home), toys bought from a store, and household objects (such as pots and bowls) or objects and materials found outside the home (such as sticks, rocks, animal shells, or leaves). It is interesting to note that 85 percent of children play with toys that come from a store; however, the percentages for other types of toys is 37 percent. The proportion of children who have two or more types of playthings is 60 percent among male children and 65 percent among female children. Differentials are small by socioeconomic status of the households.

Leaving children alone or in the presence of other young children is known to increase the risk of accidents. In the 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.4R shows that 6 percent of Roma children aged 0-59 months were left in the care of other children, while 2 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, either by being left alone or in the care of another child. Differences were observed by the sex of the child, i.e. inadequate care was more prevalent in among females (11 percent) compared to males (4 percent). Children aged 24-59 months were left with inadequate care more (10 percent) than those who were aged 0-23 months (3 percent). Differences are observed in regard to socioeconomic status of the household with the highest prevalence of inadequate care in the poorest households (15 percent) and lowest in the richest households (1 percent).

Table CD.4R: 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, Roma settlements, 2011

	Percentage of children under age 5			
	Left alone in the past week	Left in the care of another child younger than 10 years of age in the past week	Left with inadequate care in the past week[1]	Number of children under age 5
Sex				
Male	1.7	3.7	4.2	237
Female	2.1	9.0	10.5	239
Age				
0-23 months	.8	2.7	2.7	178
24-59 months	2.5	8.6	10.1	298
Mother's education				
None	6.3	7.1	11.1	102
Primary	.8	7.0	7.2	327
Secondary +	.0	1.0	1.0	48
Wealth index quintiles				
Poorest	3.8	14.1	15.0	122
Second	.0	3.2	3.2	108
Middle	1.6	8.0	8.7	93
Fourth	3.7	1.8	5.6	79
Richest	.0	1.1	1.1	73
Total	**1.9**	**6.4**	**7.4**	**476**

[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 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 Macedonia.

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.

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, Macedonia, 2011

	Percentage of children age 36-59 months who are developmentally on track for indicated domains				Early child development index score[1]	Number of children age 36-59 months
	Literacy-numeracy	Physical	Social-Emotional	Learning		
Sex						
Male	43.9	99.7	90.4	98.9	92.6	293
Female	43.0	99.6	92.0	98.1	92.8	267
Region						
Vardar	39.1	98.2	88.8	98.2	87.3	51
East	40.8	100.0	76.8	97.6	81.9	49
Southwest	60.4	99.6	95.3	99.6	97.7	47
Southeast	(36.0)	(97.3)	(79.9)	(97.0)	(82.8)	34
Pelagonia	56.9	100.0	89.5	100.0	95.7	58
Polog	36.0	100.0	91.6	99.2	94.3	102
Northeast	(53.0)	(100.0)	(100.0)	(95.2)	(97.4)	58
Skopje	38.7	100.0	94.7	99.0	94.5	162
Area						
Urban	45.2	99.7	89.0	98.7	91.7	284
Rural	41.6	99.6	93.4	98.2	93.7	277
Age						
36-47 months	30.5	99.3	89.8	97.5	89.1	276
48-59 months	56.0	99.9	92.6	99.5	96.1	285
Attendance to early childhood education						
Attending	43.8	99.2	94.6	100.0	95.4	122
Not attending	43.3	99.8	90.3	98.1	91.9	439
Mother's education						
Primary or less	38.6	99.9	90.3	96.7	91.4	222
Secondary	46.1	99.2	89.9	99.5	91.8	222
High	47.6	100.0	95.3	100.0	96.8	117
Wealth index quintiles						
Poorest	36.6	100.0	91.2	97.3	91.5	126
Second	44.1	99.1	92.1	96.4	90.7	119
Middle	46.4	100.0	84.7	99.2	90.8	102
Fourth	48.4	99.1	92.9	100.0	94.1	102
Richest	43.3	100.0	94.7	100.0	96.5	112
Ethnicity of household head						
Macedonian	44.3	99.4	90.0	99.6	92.7	302
Albanian	44.5	99.9	94.0	98.6	94.6	206
Other	34.6	100.0	87.1	91.7	85.0	52
Total	**43.4**	**99.6**	**91.2**	**98.5**	**92.7**	**561**

[1] MICS indicator 6.6

( ) – figures based on 25–49 unweighted cases

In Macedonia, 93 percent of children aged 36-59 months are developmentally on track (Table CD.5). ECDI is higher in older age group (96 percent among 48-59 months old compared to 89 percent among 36-47 months old), since children mature more skills with increasing age. Children living in the poorest households have lower ECDI (92 percent) compared to children living in richest households (97 percent of children are developmentally on track). The analysis of four domains of child development shows that all children are on track in the learning and in physical domain, but much less on track in literacy-numeracy (43 percent). Of all children, 91 percent are on track in social-emotional domains.

Early Childhood Development – Roma settlements

Table CD.5R: 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, Roma settlements, 2011

	Percentage of children age 36-59 months who are developmentally on track for indicated domains				Early child development index score[1]	Number of children age 36-59 months
	Literacy-numeracy	Physical	Social-Emotional	Learning		
Sex						
Male	18.9	100.0	65.0	92.5	65.8	100
Female	12.5	95.8	78.8	91.4	78.8	98
Age						
36-47 months	8.8	95.6	70.6	87.6	69.6	92
48-59 months	21.8	100.0	73.0	95.8	74.6	105
Attendance to early childhood education						
Attending	(*)	(*)	(*)	(*)	(*)	8
Not attending	14.1	97.8	71.6	91.9	71.1	190
Mother's education						
None	(19.4)	(100.0)	(56.1)	(81.2)	(62.4)	38
Primary	13.2	97.2	74.6	93.9	73.2	144
Secondary +	(*)	(*)	(*)	(*)	(*)	16
Wealth index quintiles						
Poorest 60%	11.8	97.0	69.7	92.8	69.8	135
Richest 40%	24.1	100.0	76.4	90.2	77.5	63
Total	**15.7**	**97.9**	**71.9**	**92.0**	**72.2**	**198**

[1] MICS indicator 6.6

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

In Macedonia, 72 percent of the children in Roma settlements aged 36-59 months are developmentally on track (Table CD.5R). ECDI is lower among boys (66 percent) than girls (79 percent). ECDI is higher in the older age group (75 percent among 48-59 months old compared to 70 percent among 36-47 months old), since children mature more skills with increasing age.

The analysis of four domains of child development shows that 92 percent of Roma children are on track in the learning domain and even more (98 percent) in physical, but significantly less on track in literacy-numeracy (16 percent). Of all Roma children, 72 percent are on track in social-emotional domains. In each individual domain the higher score is associated with older children.

X LITERACY AND EDUCATION

Literacy Among Young Women

One of the World Fit for Children goals is to assure adult literacy. Adult literacy is also an MDG indicator. Literacy in the MICS is assessed on the ability of the respondent to read a short simple statement, or based on their school attendance. Literacy rates are presented in Table ED.1. Table ED.1 indicates that almost all women (97 percent) in Macedonia are literate. Literacy status is higher than 95 percent in all regions, except in the East region (89 percent). Of women who stated that primary school was their highest level of education or had no education, 87 percent were able to read the statement shown to them. Young women aged 15-19, living in urban areas, from the richest households, and who are Macedonians, are the most literate (99 – 100 percent).

Table ED.1: Literacy among young women

Percentage of women age 15-24 years who are literate, Macedonia, 2011

	Percentage literate[1]	Percentage not known	Number of women age 15-24 years
Region			
Vardar	95.9	.0	58
East	88.9	.0	61
Southwest	95.8	.4	99
Southeast	96.4	2.8	88
Pelagonia	99.1	.0	144
Polog	97.2	.7	199
Northeast	100.0	.0	108
Skopje	98.5	.3	316
Area			
Urban	99.0	.2	514
Rural	95.9	.8	557
Education			
Primary or less	87.2	2.3	220
Secondary	100.0	.0	553
High	100.0	.0	299
Age			
15-19	98.6	.3	530
20-24	96.1	.6	541
Wealth index quintile			
Poorest	91.5	1.0	250
Second	97.7	1.1	210
Middle	99.7	.2	220
Fourth	99.5	.0	214
Richest	100.0	.0	177
Ethnicity of household head			
Macedonian	99.7	.0	574
Albanian	96.8	.4	411
Other	84.6	3.8	87
Total	**97.4**	**.5**	**1071**

[1] MICS indicator 7.1; MDG indicator 2.3

Literacy Among Young Women – Roma settlements

The percentage of women in Roma settlements that are literate is presented in Table ED.1R. Table ED.1R indicates that three quarters of the women in Roma settlements (77 percent) in Macedonia are literate and that literacy status varies greatly by wealth index, with the lowest literacy rate in the poorest quintile (54 percent) and highest in the richest quintile (90 percent). Of the women in Roma settlements who stated that primary school was their highest level of education, 78 percent were able to read the statement shown to them.

Table ED.1R: Literacy among young women

Percentage of women age 15-24 years who are literate, Roma settlements, 2011

	Percentage literate[1]	Percentage not known	Number of women age 15-24 years
Education			
None	(3.7)	(.0)	39
Primary	78.2	1.2	215
Secondary +	100.0	.0	109
Age			
15-19	79.0	1.4	173
20-24	74.5	.0	190
Wealth index quintile			
Poorest	53.6	.0	68
Second	72.6	1.7	63
Middle	82.9	.0	83
Fourth	81.1	.0	72
Richest	89.2	1.8	77
Total	**76.6**	**.7**	**363**

[1] MICS indicator 7.1; MDG indicator 2.3

( ) – figures based on 25–49 unweighted cases

School Readiness

Attendance in pre-school education in an organised learning or child education programme is important for the readiness of children to school. Table ED.2 shows the proportion of children in the first grade of primary school that attended pre-school the previous year. Overall, 40 percent of children who are currently attending the first grade of primary school had attended pre-school the previous year. The proportion among females is higher (49 percent) than males (33 percent), while over half of children in urban areas (53 percent) had attended pre-school the previous year compared to 25 percent among children living in rural areas.

Table ED.2: School readiness

Percentage of children attending first grade of primary school who attended pre-school the previous year, Macedonia,2011

	Percentage of children attending first grade who attended preschool in previous year[1]	Number of children attending first grade of primary school
Sex		
Male	32.9	83
Female	48.8	66
Area		
Urban	52.7	79
Rural	25.4	70
Mother's education		
Primary or less	30.5	56
Secondary	42.4	63
High	(52.4)	30
Ethnicity of household head		
Macedonian	45.8	87
Albanian	31.1	50
Other	(*)	11
Total	**40.0**	**149**

[1] MICS indicator 7.2

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

ROMA SETTLEMENTS

School Readiness – Roma settlements[21]

Attendance in pre-school education in an organised learning or child education programme is important for the readiness of children to school. Overall, 36 percent of the children in Roma settlements who are currently attending the first grade of primary school had attended pre-school the previous year.

21 Table ED.2R is not presented in the report due to the small number of children by background characteristics.

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

In Macedonia, children enter primary school at age 6 and enter secondary school at age 15. There are 9 grades in primary school and 4 grades in secondary school. In primary school, grades are referred to as grade 1 to grade 9. For secondary school, grades are referred to as year 1 to year 4. The school year typically runs from September to June the following year.

Of children who are of primary school entry age (age 6) in Macedonia, 91 percent are attending the first grade of primary school (Table ED.3). Sex differentials do not exist. In Macedonian households, the proportion is around 95 percent, while it is 88 percent among children living in the Albanian households.

Table ED.3: Primary school entry

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

	Percentage of children of primary school entry age entering grade 1[1]	Number of children of primary school entry age
Sex		
Male	90.8	93
Female	91.6	77
Area		
Urban	92.4	95
Rural	89.6	75
Mother's education		
Primary or less	86.7	68
Secondary	93.6	76
High	(95.8)	26
Ethnicity of household head		
Macedonian	95.3	98
Albanian	88.2	58
Other	(*)	14
Total	**91.2**	**170**

[1] MICS indicator 7.3

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Table ED.4 provides the percentage of children of primary school age (6 to 14 years) who are attending primary or secondary school[22]. The majority of children who are of primary school age are currently attending school (98 percent). However, 2 percent of the children are out of school when they are expected to be participating in school. There are slight differences by region and no differences by gender, and between urban and rural areas. Net attendance ratio is higher among children living in the richest households.

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

Table ED.4: Primary school attendance

Percentage of children of primary school age attending primary or secondary school (adjusted net attendance ratio), Macedonia, 2011

	Male		Female		Total	
	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)[1]	Number of children
Region						
Vardar	95.4	49	97.3	42	96.3	90
East	93.0	62	99.1	45	95.5	107
Southwest	98.8	86	95.8	77	97.4	163
Southeast	100.0	67	97.8	64	98.9	131
Pelagonia	99.7	100	98.8	93	99.2	192
Polog	98.5	129	98.1	89	98.3	219
Northeast	99.4	79	100.0	89	99.7	167
Skopje	99.2	238	98.2	214	98.7	452
Area						
Urban	98.6	397	98.5	359	98.6	756
Rural	98.4	413	97.8	353	98.1	766
Age at beginning of school year						
6	93.1	93	91.6	77	92.4	170
7	100.0	85	97.9	67	99.1	152
8	99.6	83	100.0	72	99.8	154
9	98.9	88	100.0	76	99.4	164
10	99.6	105	100.0	88	99.8	193
11	99.1	108	99.6	76	99.3	184
12	98.5	73	97.9	77	98.2	150
13	99.3	77	97.3	86	98.3	163
14	98.5	98	99.1	94	98.8	192
Mother's education						
Primary or less	97.2	378	97.5	300	97.3	678
Secondary	99.8	306	98.6	309	99.2	616
High	99.1	122	98.9	101	99.0	223
Mother not in the household	(*)	3	(*)	2	(*)	5
Wealth index quintile						
Poorest	95.6	177	96.6	146	96.0	322
Second	98.5	164	98.5	153	98.5	318
Middle	99.5	158	98.3	129	98.9	287
Fourth	100.0	147	97.2	126	98.7	273
Richest	99.3	164	100.0	158	99.7	321
Ethnicity of household head						
Macedonian	99.8	440	99.0	409	99.4	849
Albanian	98.4	302	97.8	244	98.1	545
Other	90.5	68	94.4	59	92.4	127
Total	**98.5**	**810**	**98.2**	**712**	**98.3**	**1522**

[1] MICS indicator 7.4; MDG indicator 2.1

(*) – figures based on less than 25 unweighted cases

The secondary school net attendance ratio is presented in Table ED.5[23]. 86 percent of the children of secondary school age are attending secondary school. Of the remaining, some are either out of school or attending primary school. 1 percent of children of secondary school age are attending primary school when they should be attending secondary school, while the remaining 13 percent are not attending school at all. Children living in urban areas are more likely to

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

attend secondary school (94 percent) than in rural (79 percent). There are differences by socioeconomic status, with lowest net attendance ratio among children living in poorest households (65 percent) and highest in richest households (100 percent); and by ethnicity, attendance is higher among Macedonians (92 percent) than Albanians (79 percent). Net attendance ratio among males is 87 percent, and 84 percent for females. Age differentials are remarkable, with a higher ratio among children at age 15 at the beginning of school year (93 percent) compared to 77 percent at age 18.

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, Macedonia, 2011

	Male			Female			Total		
	Net attendance ratio (adjusted)	Percent attending primary school	Number of children	Net attendance ratio (adjusted)	Percent attending primary school	Number of children	Net attendance ratio (adjusted)[1]	Percent attending primary school	Number of children
Region									
Vardar	(*)	(*)	31	(*)	(*)	16	(92.2)	(.0)	47
East	(*)	(*)	20	(*)	(*)	24	(86.0)	(2.1)	45
Southwest	86.8	.0	57	69.6	.9	39	79.8	.4	96
Southeast	(81.4)	(.0)	48	(97.1)	(.0)	34	87.9	.0	82
Pelagonia	(95.5)	(.0)	44	95.9	.0	61	95.7	.0	105
Polog	85.6	.0	75	68.9	.0	77	77.1	.0	152
Northeast	76.7	3.8	66	86.3	.0	44	80.6	2.3	109
Skopje	93.3	.6	138	83.6	2.4	94	89.4	1.3	233
Area									
Urban	93.8	1.3	221	93.3	.9	166	93.6	1.1	387
Rural	82.0	.6	257	76.3	.5	224	79.3	.6	481
Age at beginning of school year									
15	94.4	2.8	118	90.9	2.6	102	92.8	2.7	221
16	89.0	.8	124	88.8	.0	85	88.9	.5	208
17	82.0	.0	128	85.1	.0	112	83.5	.0	240
18	84.3	.0	108	68.3	.0	91	77.0	.0	199
Mother's education									
Primary or less	83.7	2.5	137	84.2	.7	112	84.0	1.7	249
Secondary	98.9	1.1	90	97.5	2.5	73	98.3	1.7	163
High	(100.0)	(.0)	47	(*)	(*)	25	100.0	.0	72
Mother's education	(*)	(*)	13	(*)	(*)	13	(*)	(*)	26
Mother not in the household	80.8	.0	192	75.1	.0	166	78.1	(.0)	358
Wealth index quintile									
Poorest	70.0	2.6	107	59.0	.8	104	64.6	1.7	211
Second	80.5	.6	99	77.5	.0	69	79.3	.4	168
Middle	94.7	.0	99	94.8	2.2	84	94.7	1.0	183
Fourth	95.8	1.1	83	97.4	.0	67	96.5	.6	150
Richest	100.0	.0	90	100.0	.0	66	100.0	.0	156
Ethnicity of household head									
Macedonian	90.0	.0	256	95.5	1.1	205	92.4	.5	461
Albanian	87.4	1.4	178	70.1	.0	155	79.3	.7	333
Other	73.0	4.2	45	(70.7)	(1.2)	30	72.1	3.0	74
Total	**87.4**	**.9**	**478**	**83.5**	**.7**	**390**	**85.7**	**.8**	**868**

[1] MICS indicator 7.5

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

The percentage of children entering first grade who eventually reach the last grade of primary school is presented in Table ED.6. Of all children starting grade one, almost all (99 percent) will eventually reach the last grade of primary school. This number includes children that repeat grades but will eventually reach the last grade. There are no differences based on gender, area or ethnicity.

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), Macedonia, 2011

	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 attending grade 6 last school year who are attending grade 7 this school year	Percent attending grade 7 last school year who are attending grade 8 this school year	Percent who reach grade 8 of those who enter grade 1[1]
Sex								
Male	100.0	100.0	100.0	99.0	100.0	98.7	100.0	97.6
Female	100.0	100.0	100.0	100.0	100.0	99.5	100	99.5
Area								
Urban	100.0	100.0	100.0	100.0	100.0	98.8	100.0	98.8
Rural	100.0	100.0	100.0	98.9	100.0	99.5	100.0	98.4
Mother's education[2]								
Primary or less	100.0	100.0	100.0	98.7	100.0	99.3	100.0	98.1
Secondary	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
High	(*)	(*)	(*)	(100.0)	(*)	(*)	(*)	(*)
Wealth index quintile								
Poorest	(100.0)	(100.0)	(100.0)	97.6	100.0	(95.3)	100.0	(93.0)
Second	100.0	(100.0)	100.0	100.0	(100.0)	100.0	100.0	(100.0)
Middle	100.0	(100.0)	(100.0)	100.0	(100.0)	(100.0)	(100.0)	(100.0)
Fourth	(100.0)	(100.0)	(*)	100.0	(100.0)	(100.0)	(100.0)	(*)
Richest	(100.0)	(100.0)	(100.0)	100.0	(100.0)	(100.0)	(100.0)	(100.0)
Ethnicity of household head								
Macedonian	100.0	100.0	100.0	99.4	100.0	100.0	100.0	99.4
Albanian	100.0	100.0	100.0	100.0	100.0	99.2	100.0	99.2
Other	(*)	(*)	(*)	(97.9)	(*)	(*)	(*)	91.4
Total	**100.0**	**100.0**	**100.0**	**99.5**	**100.0**	**99.1**	**100.0**	**98.6**

[1] MICS indicator 7.6; MDG indicator 2.2

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

[2] The category "Mother not in the household" for the background characteristic "Mother's education" is based on fewer than 25 unweighted cases and is not presented in the table

The primary school completion rate and transition rate to secondary education are presented in Table ED.7. The primary completion rate is the ratio of the total number of students, regardless of age, entering the last grade of primary school for the first time, to the number of children of the primary graduation age at the beginning of the current (or most recent) school year. At the time of the survey, the primary school completion rate was 97 percent.

98 percent of the children that successfully completed the last grade of primary school were attending the first grade of secondary school, at the time of the survey. The transition rate to secondary school was 100 percent in urban area and among Macedonians.

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

Primary school completion rates and transition rate to secondary school, Macedonia, 2011

	Primary school completion rate[1]	Number of children of primary school completion age	Transition rate to secondary school[2]	Number of children who were in the last grade of primary school the previous year
Sex				
Male	102.8	98	98.9	95
Female	91.8	94	97.1	91
Area				
Urban	98.1	87	100.0	85
Rural	96.9	105	96.4	101
Mother's education				
Primary or less	88.9	104	96.2	98
Secondary	119.2	55	100.0	55
High	(*)	28	(*)	27
Mother not in the household	(*)	5	(*)	6
Ethnicity of household head				
Macedonian	94.6	96	100.0	99
Albanian	104.7	79	95.2	77
Other	(80.1)	17	(*)	10
Total	**97.4**	**192**	**98.0**	**186**

[1] MICS indicator 7.7

[2] MICS indicator 7.8

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

The ratio of girls to boys attending primary and secondary education is provided in Table ED.8. These ratios are better known as the Gender Parity Index (GPI). Notice that the ratios included here are obtained from net attendance ratios rather than gross attendance ratios. The last ratios provide an erroneous description of the GPI mainly because in most of the cases the majority of over-aged children attending primary education tend to be boys. The table shows that gender parity for primary school is 1, indicating no difference in the attendance of girls and boys to primary school. However, the indicator drops to 0.96 for secondary education. The disadvantage of girls is particularly pronounced in the Southwest and Polog regions, as well as among children living in the poorest households, in rural areas, and in Albanian households.

Table ED.8: Education gender parity

Ratio of adjusted net attendance ratios of girls to boys, in primary and secondary school, Macedonia, 2011

	Primary school adjusted net attendance ratio (NAR), girls	Primary school adjusted net attendance ratio (NAR), boys	Gender parity index (GPI) for primary school adjusted NAR[1]	Secondary school adjusted net attendance ratio (NAR), girls	Secondary school adjusted net attendance ratio (NAR), boys	Gender parity index (GPI) for secondary school adjusted NAR[2]
Region						
Vardar	97.3	95.4	1.02	(*)	(*)	(*)
East	99.1	93.0	1.07	(*)	(*)	(*)
Southwest	95.8	98.8	.97	69.6	86.8	.80
Southeast	97.8	100.0	.98	(97.1)	(81.4)	(1.19)
Pelagonia	98.8	99.7	.99	95.9	(95.5)	(1.00)
Polog	98.1	98.5	1.00	68.9	85.6	.81
Northeast	100.0	99.4	1.01	86.3	76.7	1.13
Skopje	98.2	99.2	.99	83.6	93.3	.90
Area						
Urban	98.5	98.6	1.00	93.3	93.8	1.00
Rural	97.8	98.4	.99	76.3	82.0	.93
Education of mother/caretaker[3]						
Primary or less	97.5	97.2	1.00	84.2	83.7	1.01
Secondary	98.6	99.8	.99	97.5	98.9	.99
High	98.9	99.1	1.00	(*)	(100.0)	(*)
Cannot be determined	na	na	na	75.1	80.8	.93
Wealth index quintile						
Poorest	96.6	95.6	1.01	59.0	70.0	.84
Second	98.5	98.5	1.00	77.5	80.5	.96
Middle	98.3	99.5	.99	94.8	94.7	1.00
Fourth	97.2	100.0	.97	97.4	95.8	1.02
Richest	100.0	99.3	1.01	100.0	100.0	1.00
Ethnicity of household head						
Macedonian	99.0	99.8	.99	95.5	90.0	1.06
Albanian	97.8	98.4	.99	70.1	87.4	.80
Other	94.4	90.5	1.04	(70.7)	73.0	(.97)
Total	**98.2**	**98.5**	**1.00**	**83.5**	**87.4**	**.96**

[1] MICS indicator 7.9; MDG indicator 3.1

[2] MICS indicator 7.10; MDG indicator 3.1

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

na: not applicable

[3] The category "Mother not in the household" for the background characteristic "Mother's education" is based on fewer than 25 unweighted cases and is not presented in the table

Primary and Secondary School Participation – Roma settlements

Of Roma children who are of primary school entry age (age 6) in Roma settlements, 84 percent are attending the first grade of primary school.

Table ED.4R provides the percentage of the children in Roma settlements of primary school age (6 to 14 years) who are attending primary or secondary school[24].

The majority of children of primary school age are attending school (86 percent). However, 14 percent of the children are out of school when they are expected to be participating in school. Net attendance ratio is higher among Roma children living in richest households. There are no gender differences. After the age of 6, primary school attendance tends to decrease with age.

Table ED.4R: Primary school attendance

Percentage of children of primary school age attending primary or secondary school (adjusted net attendance ratio), Roma settlements, 2011

	Male		Female		Total	
	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)[1]	Number of children
Age at beginning of school year						
6	(81.3)	36	(91.6)	38	86.6	74
7	(93.6)	44	90.9	56	92.1	101
8	(93.4)	37	(90.7)	38	92.0	75
9	(88.9)	35	(90.2)	43	89.6	78
10	(91.7)	37	(85.3)	27	89.0	64
11	(*)	27	(85.4)	39	86.0	66
12	(83.0)	31	(89.1)	30	86.0	61
13	(76.7)	36	(75.9)	42	76.3	78
14	74.6	40	(70.1)	39	72.4	79
Mother's education						
None	83.0	65	77.2	75	79.9	140
Primary	86.5	238	87.1	254	86.8	492
Secondary +	(*)	19	(*)	23	(93.4)	43
Cannot be determined	(*)	1	(*)	0	(*)	1
Wealth index quintile						
Poorest	64.9	78	69.0	87	67.1	165
Second	92.1	60	93.2	87	92.8	147
Middle	91.0	68	75.7	55	84.2	123
Fourth	90.3	65	93.8	68	92.1	133
Richest	96.3	52	99.1	57	97.7	109
Total	**85.7**	**323**	**85.6**	**353**	**85.6**	**676**

[1] MICS indicator 7.4; MDG indicator 2.1

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

The secondary school net attendance ratio is presented in Table ED.5R[25]. Only 39 percent of the Roma children of secondary school age are attending secondary school. Of the remaining, some are either out of school or attending primary school. 4 percent of the children of secondary school age are attending primary school when they should be attending secondary school, while the remaining half (57 percent) are not attending school at all. Differences were observed based on socioeconomic status, with the lowest net attendance ratio among children living in the poorest households (16 percent) and highest in the richest households (67 percent). Gender differences are slight with a higher net attendance ratio among males (44 percent) compared to females (35 percent).

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

25 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.5R: 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, Roma settlements, 2011

	Male			Female			Total		
	Net attendance ratio (adjusted)	Percent attending primary school	Number of children	Net attendance ratio (adjusted)	Percent attending primary school	Number of children	Net attendance ratio (adjusted)[1]	Percent attending primary school	Number of children
Age at beginning of school year									
15	(37.5)	(19.5)	33	(35.4)	(8.0)	34	36.4	13.7	66
16	54.0	2.7	55	(39.3)	(2.7)	51	46.9	2.7	106
17	(47.9)	(2.2)	31	(23.9)	(.0)	35	35.3	1.1	66
18	(27.1)	(.0)	32	(*)	(*)	24	32.3	.0	55
Mother's education									
None	(*)	(*)	20	(*)	(*)	12	(24.1)	(16.7)	32
Primary	55.7	5.1	65	45.8	8.1	50	51.4	6.4	115
Secondary +	(*)	(*)	6	(*)	(*)	3	(*)	(*)	9
Mother not in the household	(*)	(*)	6	(12.4)	(.0)	30	(15.6)	(.0)	36
Cannot be determined	36.5	.0	54	(28.9)	(.0)	48	33.0	.0	102
Wealth index quintile									
Poorest	(14.0)	(6.5)	34	(17.1)	(4.6)	34	15.6	5.6	68
Second	(44.6)	(12.5)	22	(10.8)	(.0)	28	25.9	5.6	50
Middle	(28.9)	(7.3)	26	(43.9)	(1.6)	28	36.7	4.4	54
Fourth	(59.2)	(2.4)	31	(38.6)	(5.0)	25	49.9	3.6	56
Richest	(67.2)	(2.5)	37	(66.8)	(2.7)	28	67.0	2.6	65
Total	**43.5**	**5.7**	**151**	**34.7**	**2.8**	**143**	**39.2**	**4.3**	**294**

[1] MICS indicator 7.5

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

The percentage of children entering first grade who eventually reach the last grade of primary school was calculated in the survey. Of all Roma children starting grade one, the majority (89 percent) eventually reach the last grade. This number includes children that repeat grades but eventually reach the last grade.

The primary school completion rate and transition rate to secondary education was also calculated. The primary completion rate is the ratio of the total number of students, regardless of age, entering the last grade of primary school for the first time, to the number of children of the primary graduation age at the beginning of the current (or most recent) school year. At the time of the survey, the primary school completion rate was 67 percent.

80 percent of the Roma children that successfully completed the last grade of primary school were attending the first grade of secondary school, at the time of the survey.

The ratio of girls to boys attending primary and secondary education is provided in Table ED.8R. These ratios are better known as the Gender Parity Index (GPI). The ratios included here are obtained from net attendance ratios rather than gross attendance ratios. The last ratios provide an erroneous description of the GPI mainly because in most of the cases the majority of over-aged children attending primary education tend to be boys. The table shows that gender parity for primary school is 1, indicating no difference in the attendance of girls and boys to primary school. However, the indicator drops to 0.8 for secondary education.

Table ED.8R: Education gender parity

Ratio of adjusted net attendance ratios of girls to boys, in primary and secondary school, Roma settlements, 2011

	Primary school adjusted net attendance ratio (NAR), girls	Primary school adjusted net attendance ratio (NAR), boys	Gender parity index (GPI) for primary school adjusted NAR[1]	Secondary school adjusted net attendance ratio (NAR), girls	Secondary school adjusted net attendance ratio (NAR), boys	Gender parity index (GPI) for secondary school adjusted NAR[2]
Education of mother/caretaker						
None	77.2	83.0	.93	(*)	(*)	(*)
Primary	87.1	86.5	1.01	45.8	55.7	.82
Secondary +	(*)	(*)	(*)	(*)	(*)	(*)
Mother not in the household	(*)	(*)	(*)	(12.4)	(*)	(*)
Cannot be determined	na	na	na	(28.9)	36.5	(.79)
Wealth index quintile						
Poorest	69.0	64.9	1.06	(17.1)	(14.0)	(1.22)
Second	93.2	92.1	1.01	(10.8)	(44.6)	(.24)
Middle	75.7	91.0	.83	(43.9)	(28.9)	(1.52)
Fourth	93.8	90.3	1.04	(38.6)	(59.2)	(.65)
Richest	99.1	96.3	1.03	(66.8)	(67.2)	(.99)
Total	**85.6**	**85.7**	**1.00**	**34.7**	**43.5**	**.80**

[1] MICS indicator 7.9; MDG indicator 3.1

[2] MICS indicator 7.10; MDG indicator 3.1

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

na: not applicable

XI CHILD PROTECTION

Birth Registration

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

In Macedonia, 99.7 percent of children were registered at birth, as presented in Table CP.1. No variations among different groups were found. Due to the small number of non-registered children (4 children in total), information on that group is not included in the table. Three of these children are from the rural area and one from the urban area; three are female, one male child.

Table CP.1: Birth registration

Percentage of children under age 5 by whether birth is registered, Macedonia, 2011

	Children under age 5 whose birth is registered with civil authorities				
	Has birth certificate				
	Seen	Not seen	No birth certificate	Total registered[1]	Number of children
Sex					
Male	65.2	33.2	1.5	99.9	692
Female	69.5	28.3	1.7	99.6	684
Region					
Vardar	85.8	13.1	1.1	100.0	100
East	68.4	30.5	1.1	100.0	110
Southwest	72.7	22.6	3.8	99.1	121
Southeast	54.6	45.4	.0	100.0	83
Pelagonia	56.9	41.5	1.3	99.7	156
Polog	73.6	22.7	3.5	99.7	256
Northeast	38.4	61.6	.0	100.0	136
Skopje	73.2	25.4	1.0	99.7	415
Area					
Urban	68.1	31.2	.6	99.9	701
Rural	66.6	30.4	2.6	99.6	675
Age					
0-11 months	69.3	25.3	4.3	98.8	258
12-23 months	65.2	33.3	1.5	100.0	283
24-35 months	68.9	30.5	.6	100.0	274
36-47 months	68.9	30.4	.7	100.0	276
48-59 months	64.9	34.0	.9	99.8	285
Mother's education					
Primary or less	61.4	35.6	2.5	99.5	545
Secondary	68.9	30.1	.8	99.9	522
High	75.3	23.4	1.4	100.0	309
Wealth index quintile					
Poorest	62.9	33.7	2.7	99.2	316
Second	65.9	32.2	1.7	99.8	272
Middle	62.5	35.3	2.0	99.7	255
Fourth	69.9	29.9	.2	100.0	261
Richest	76.1	22.8	1.1	100.0	272
Ethnicity of household head					
Macedonian	71.0	28.4	.6	100.0	708
Albanian	62.7	34.1	3.1	99.8	521
Other	66.3	30.9	1.2	98.4	148
Total	**67.4**	**30.8**	**1.6**	**99.7**	**1376**

[1] MICS indicator 8.1

Birth Registration – Roma settlements

In Roma settlements in Macedonia, the births of 98 percent of the children under five years old were registered (Table CP.1R). There are no variations in birth registration across sex, age, or education categories. Total number of non-registered children is eight. As such, the data for that group is not presented in the Table CP.1R. There are four boys and four girls; six are from the poorest quintile and six have mothers with no education.

Table CP.1R: Birth registration

Percentage of children under age 5 by whether birth is registered, Roma settlements, 2011

	Children under age 5 whose birth is registered with civil authorities				
	Has birth certificate				
	Seen	Not seen	No birth certificate	Total registered[1]	Number of children
Sex					
Male	64.2	32.9	1.4	98.5	237
Female	57.5	40.4	.4	98.3	239
Age					
0-11 months	63.1	30.5	3.1	96.7	79
12-23 months	61.2	36.0	1.5	98.7	99
24-35 months	55.2	41.6	.3	97.1	100
36-47 months	70.1	28.9	.0	99.0	92
48-59 months	56.0	44.0	.0	100.0	105
Mother's education					
None	58.6	33.2	2.3	94.1	102
Primary	58.0	41.1	.6	99.7	327
Secondary +	84.9	13.8	.0	98.7	48
Wealth index quintile					
Poorest	43.0	50.6	1.5	95.1	122
Second	56.8	42.7	.5	100.0	108
Middle	66.6	31.0	1.3	98.9	93
Fourth	77.1	22.9	.0	100.0	79
Richest	71.6	26.6	1.0	99.2	73
Total	**60.8**	**36.7**	**.9**	**98.4**	**476**

[1] MICS indicator 8.1

Child Labour

Article 32 of the Convention on the Rights of the Child states: "States Parties recognize the right of the child to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development." The World Fit for Children has 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:

- A child aged 5-11 is engaged in **at least one hour** of economic work or 28 hours of domestic work per week.
- A child aged 12-14 is engaged in **at least 14 hours** of economic work or 28 hours of domestic work per week.

This definition allows differentiation between child labour and child work, and identifies the type of work that should be eliminated. As such, the estimate provided here is a minimum of the prevalence of child labour since some children may be involved in hazardous labour activities for a number of hours that could be less than the numbers specified in the criteria explained above.

Table CP.2 presents the results of child labour by the type of work. Percentages do not add up to the total number of child labourers, as children may be involved in more than one type of work. In Macedonia, MICS 4 estimates there are 17 percent of children involved in child labour activities. As presented in the table, the percentage of children aged 5-11 involved in child labour is 23, while for children aged 12-14 it is 0.9 percent. Furthermore, all child labour in the younger group is related to the economic activity category for at least one hour. This means that almost all child labour recorded in the survey is due to the economic activity of at least one hour among children aged 5-11. The incidence is higher in rural settings (23 percent) compared to urban (10 percent); in the poorest quintile (27 percent); and for the children of less educated mothers. Child labour is lowest in Skopje and Vardar regions (less than 10 percent), while in Southeast and Polog it is above 30 percent. No gender differences were found.

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, Macedonia, 2011

	Percentage of children age 5-11 involved in:								Percentage of children age 12-14 involved in:								Total child labour[1]	Number of children age 5-14 years
	Economic activity			Economic activity for at least one hour	Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Number of children age 5-11	Economic activity			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	
	Working outside household		Working for family business						Working outside household		Working for family business							
	Paid work	Unpaid work							Paid work	Unpaid work								
Sex																		
Male	3.5	11.9	11.4	22.1	44.6	.0	22.1	651	5.2	14.2	24.2	32.4	1.2	62.5	.2	1.4	243	16.4	894
Female	3.7	13.6	13.6	23.7	53.5	.0	23.7	571	4.8	10.7	16.9	26.1	.0	74.9	.5	.5	237	16.9	808
Region																		
Vardar	.0	3.8	6.6	7.9	76.1	.0	7.9	67	.0	18.1	28.7	33.1	5.9	91.5	.0	5.9	30	7.3	97
East	3.6	15.4	18.1	25.1	57.2	.0	25.1	94	9.3	17.0	17.2	30.2	.0	87.0	2.5	2.5	29	19.8	123
Southwest	10.1	17.1	24.2	34.6	56.1	.0	34.6	114	14.2	14.6	32.3	43.7	.0	77.4	.0	.0	57	23.0	171
Southeast	3.3	30.8	28.5	46.5	65.0	.0	46.5	103	.0	14.3	24.5	33.1	.0	74.7	.0	.0	39	33.6	142
Pelagonia	.9	4.7	8.1	13.5	59.0	.0	13.5	155	1.1	3.5	17.4	20.9	.0	67.2	.6	.6	60	9.9	215
Polog	6.9	32.2	9.6	42.3	40.0	.0	42.3	171	3.7	17.6	18.7	33.0	1.6	55.5	.0	1.6	71	30.4	242
Northeast	4.9	10.5	17.1	26.0	24.0	.0	26.0	134	9.4	19.1	33.3	45.3	.0	62.0	.0	.0	56	18.3	190
Skopje	1.6	2.8	5.7	9.0	43.8	.0	9.0	384	3.3	7.5	10.8	16.3	.0	64.4	.3	.3	138	6.7	521
Area																		
Urban	2.1	8.4	7.2	13.8	50.4	.0	13.8	639	2.4	7.0	7.3	15.6	.0	66.1	.3	.3	221	10.3	860
Rural	5.2	17.4	18.2	32.7	46.9	.0	32.7	583	7.2	17.2	31.9	41.0	1.1	70.8	.3	1.4	259	23.1	842
School attendance																		
Yes	3.9	12.8	12.9	23.4	53.5	.0	23.4	993	5.1	12.2	20.3	29.1	.5	69.2	.3	.8	473	16.2	1466
No	2.4	12.2	10.3	20.1	27.9	.0	20.1	229	.0	27.5	36.0	42.0	7.2	34.3	.0	7.2	8	19.6	236
Mother's education																		
Primary or less	5.6	16.8	15.3	30.6	40.5	.0	30.6	503	5.9	17.9	32.0	42.1	1.3	64.0	.0	1.3	223	21.6	726
Secondary	2.6	11.6	12.2	20.3	54.7	.0	20.3	515	4.4	7.8	11.0	19.0	.0	71.8	.8	.8	191	15.0	706
High	1.2	5.4	6.1	9.8	54.2	.0	9.8	204	3.4	7.8	9.8	15.8	.0	75.1	.0	.0	66	7.4	270
Wealth index quintile																		
Poorest	6.0	20.7	19.1	37.3	45.8	.0	37.3	242	7.7	21.8	37.1	47.7	1.6	69.5	.7	2.4	109	26.5	350
Second	5.1	12.1	17.3	28.1	44.8	.0	28.1	259	7.3	15.5	30.7	41.7	.2	71.4	.7	1.0	100	20.5	359
Middle	4.0	14.8	14.5	24.2	46.2	.0	24.2	238	3.6	11.9	18.3	28.5	.0	60.7	.0	.0	76	18.3	314
Fourth	.8	9.2	7.5	13.6	52.5	.0	13.6	221	.0	8.4	7.2	14.3	.0	62.1	.0	.0	89	9.7	310
Richest	1.9	7.1	3.8	10.7	54.5	.0	10.7	263	5.3	4.0	7.1	11.8	.9	76.4	.0	.9	106	7.9	368
Ethnicity of household head																		
Macedonian	2.8	9.4	12.1	19.0	57.8	.0	19.0	705	3.9	10.1	16.3	23.6	.5	76.9	.4	.9	258	14.2	963
Albanian	5.4	19.6	14.2	31.3	36.3	.0	31.3	420	7.1	16.7	26.1	38.1	.6	57.2	.2	.9	181	22.2	601
Other	1.6	7.0	7.3	13.4	36.9	.0	13.4	97	2.4	9.1	23.3	25.7	1.4	66.7	.0	1.4	42	9.8	138
Total	**3.6**	**12.7**	**12.4**	**22.8**	**48.7**	**.0**	**22.8**	**1221**	**5.0**	**12.5**	**20.6**	**29.3**	**.6**	**68.6**	**.3**	**.9**	**480**	**16.6**	**1702**

[1] MICS indicator 8.2

Table CP.3 presents the percentage of children aged 5-14 years involved in child labour who are attending school and the percentage of children aged 5-14 years attending school who are involved in child labour. Of the 86 percent of the children aged 5-14 years attending school, 16 percent are also involved in child labour activities. The percentage is highest in the poorest households (25 percent) and for children with less educated mothers (21 percent). However, out of the 17 percent of children who are involved in child labour, the majority are also attending school (84 percent). This percentage is higher for boys (88 percent) than for girls (79 percent); higher in urban (93 percent) than in rural areas (79 percent): and higher for Macedonians (88 percent) than for Albanians (79 percent).

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, Macedonia, 2011

	Percentage of children involved in child labour	Percentage of children attending school	Number of children age 5-14 years	Percentage of child labourers who are attending school[1]	Number of children age 5-14 years involved in child labour	Percentage of children attending school who are involved in child labour[2]	Number of children age 5-14 years attending school
Sex							
Male	16.4	87.4	894	88.0	147	16.5	781
Female	16.9	84.7	808	78.9	136	15.7	685
Area							
Urban	10.3	87.1	860	93.0	89	11.0	749
Rural	23.1	85.1	842	79.3	194	21.5	716
Age							
5-11	22.8	81.3	1221	83.5	279	23.4	993
12-14	.9	98.4	480	(*)	4	.8	473
Mother's education							
Primary or less	21.6	84.8	726	80.6	157	20.5	616
Secondary	15.0	87.6	706	91.0	106	15.6	619
High	7.4	85.5	270	(*)	20	5.9	231
Wealth index quintile							
Poorest	26.5	82.9	350	77.6	93	24.8	290
Second	20.5	82.7	359	80.5	74	20.0	297
Middle	18.3	86.4	314	91.5	58	19.4	271
Fourth	9.7	88.4	310	(84.8)	30	9.3	274
Richest	7.9	90.4	368	(93.6)	29	8.2	333
Ethnicity of household head							
Macedonian	14.2	87.6	963	88.4	136	14.3	844
Albanian	22.2	84.5	601	78.9	133	20.7	508
Other	9.8	82.5	138	(*)	14	9.7	114
Total	**16.6**	**86.1**	**1702**	**83.6**	**283**	**16.2**	**1466**

[1] MICS indicator 8.3

[2] MICS indicator 8.4

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Child Labour – Roma settlements

Table CP.2R presents the results of child labour by the type of work. Percentages do not add up to the total number of child labourers, as children may be involved in more than one type of work. The prevalence of child labour among the children in Roma settlements at age 5 to 11 years was 14 percent. Child labour prevalence is lower among older children at age 12 to 14 years (2 percent). Total child labour prevalence is 10 percent, with differences by sex, wealth index and mother/s education (higher among females, in poorest households and with lower mother's education).

Table CP.2R: 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, Roma settlements, 2011

	Percentage of children age 5-11 involved in:								Percentage of children age 12-14 involved in:									
	Economic activity								Economic activity									
	Working outside household								Working outside household									
	Paid work	Unpaid work	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	Paid work	Unpaid work	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[1]	Number of children age 5-14 years
Sex																		
Male	1.1	5.0	6.3	10.0	30.4	.0	10.0	279	4.6	7.8	11.3	17.1	3.6	39.7	.0	3.6	105	8.2	384
Female	3.0	5.7	12.1	16.9	36.6	.0	16.9	285	4.9	10.6	11.1	20.2	.0	54.7	.6	.6	112	12.3	397
School participation																		
Yes	1.9	5.9	9.8	14.3	36.2	.0	14.3	404	3.9	8.6	9.8	17.4	1.1	51.6	.0	1.1	177	10.3	581
No	2.4	4.1	7.9	11.5	26.9	.0	11.5	160	(8.3)	(12.3)	(17.4)	(24.6)	(4.6)	(29.1)	(1.8)	(6.3)	39	10.5	200
Mother's education																		
None	3.1	.9	16.3	17.2	25.7	.0	17.2	128	(2.8)	(5.7)	(16.2)	(20.6)	(.6)	(45.2)	(.0)	(.6)	41	13.2	170
Primary	1.0	7.2	7.4	12.2	36.2	.0	12.2	401	4.7	10.0	10.4	17.6	2.2	48.2	.4	2.6	165	9.4	566
Secondary +	(10.6)	(.0)	(4.5)	(15.1)	(32.1)	(.0)	(15.1)	35	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	10	(11.7)	45
Wealth index quintiles																		
Poorest	2.7	9.1	18.9	23.9	36.3	.0	23.9	144	2.8	17.6	18.1	31.3	.4	52.8	1.1	1.5	62	17.2	206
Second	1.3	3.4	10.0	10.9	27.4	.0	10.9	126	(4.7)	(11.1)	(11.1)	(13.7)	(4.7)	(53.5)	(.0)	4.7	38	9.5	164
Middle	.0	5.4	3.5	7.9	35.2	.0	7.9	95	(3.3)	(1.4)	(11.1)	(13.6)	(2.2)	(49.8)	(.0)	2.2	43	6.1	137
Fourth	2.3	3.4	4.4	8.7	38.6	.0	8.7	107	(3.8)	(4.7)	(4.1)	(8.5)	(2.0)	(42.3)	(.0)	2.0	43	6.8	150
Richest	3.9	4.5	4.5	12.0	30.1	.0	12.0	92	(12.0)	(7.4)	(7.8)	(20.9)	(.0)	(33.7)	(.0)	.0	31	8.9	124
Total	**2.1**	**5.4**	**9.2**	**13.5**	**33.5**	**.0**	**13.5**	**564**	**4.7**	**9.2**	**11.2**	**18.7**	**1.8**	**47.5**	**.3**	**2.1**	**217**	**10.3**	**781**

[1] MICS indicator 8.2

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Table CP.3R presents the percentage of children aged 5-14 years involved in child labour who are attending school and percentage of children aged 5-14 years attending school who are involved in child labour. Of the 74 percent of Roma children aged 5-14 years attending school, 10 percent are also involved in child labour activities. Of the 10 percent of the children who are involved in child labour, the majority of them are also attending school (74 percent). Children from the poorest households who are involved in child labour have a lower rate of school attendance.

Table CP.3R: 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, Roma settlements, 2011

	Percentage of children involved in child labour	Percentage of children attending school	Number of children age 5-14 years	Percentage of child labourers who are attending school[1]	Number of children age 5-14 years involved in child labour	Percentage of children attending school who are involved in child labour[2]	Number of children age 5-14 years attending school
Sex							
Male	8.2	72.3	384	(80.4)	32	9.2	277
Female	12.3	76.5	397	(69.9)	49	11.3	304
Age							
5-11	13.5	71.6	564	75.7	76	14.3	404
12-14	2.1	81.8	217	(*)	5	1.1	177
Mother's education							
None	13.2	65.8	170	(*)	22	13.1	112
Primary	9.4	75.7	566	(75.0)	53	9.3	429
Secondary +	(11.7)	(91.3)	45	(*)	5	(12.9)	41
Wealth index quintile							
Poorest	17.2	52.5	206	(59.2)	35	19.4	108
Second	9.5	82.6	164	(*)	16	10.9	135
Middle	6.1	79.3	137	(*)	8	3.9	109
Fourth	6.8	79.0	150	(*)	10	7.4	118
Richest	8.9	89.1	124	(*)	11	10.0	110
Total	**10.3**	**74.4**	**781**	**74.0**	**81**	**10.3**	**581**

[1] MICS indicator 8.3

[2] MICS indicator 8.4

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Child Discipline

As stated in A World Fit for Children, "children must be protected against any acts of violence." In addition, the Millennium Declaration calls for the protection of children against abuse, exploitation and violence. In the Macedonia MICS survey, respondents to the household questionnaire were asked a series of questions on the ways adults in the household tend to to discipline children when they misbehave 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 aged 2-14 years that experience psychological aggression as punishment ***or*** minor physical punishment ***or*** severe physical punishment; and 2) the number of respondents who believe that in order to raise children properly, they need be physically punished.

Table CP.4: Child discipline

Percentage of children age 2-14 years according to method of disciplining the child, Macedonia, 2011

	Percentage of children age 2-14 years who experienced:					Number of children age 2-14 years	Respondent believes that the child needs to be physically punished	Respondents to the child discipline module
	Only non-violent discipline	Psychological aggression	Physical punishment		Any violent discipline method[1]			
			Any	Severe				
Sex								
Male	26.7	57.2	54.3	6.4	71.0	1178	3.0	731
Female	29.9	55.4	50.0	2.9	67.4	1044	2.8	634
Region								
Vardar	20.3	69.6	50.6	3.9	79.7	143	4.8	93
East	36.2	55.8	54.4	13.3	63.8	168	5.2	113
Southwest	29.6	30.8	60.2	3.3	66.6	208	3.0	134
Southeast	32.0	57.9	45.6	3.7	65.2	179	2.3	104
Pelagonia	14.4	72.4	60.9	4.9	83.8	274	1.5	187
Polog	24.9	56.0	55.3	2.0	68.4	339	1.4	188
Northeast	32.8	55.1	39.3	4.3	65.7	240	1.3	143
Skopje	32.0	55.2	51.2	5.1	66.3	671	4.0	403
Area								
Urban	31.6	52.0	50.0	4.7	66.7	1130	2.4	744
Rural	24.6	60.8	54.8	4.9	72.1	1091	3.5	621
Age								
2-4 years	28.7	52.8	56.6	5.1	68.8	506	4.3	336
5-9 years	25.2	58.0	59.6	4.7	73.3	877	3.1	496
10-14 years	31.1	56.8	42.1	4.7	65.5	839	1.9	533
Education of household head								
Primary or less	24.5	61.1	54.7	6.0	72.2	952	na	na
Secondary	29.7	56.0	51.8	4.4	68.7	963	na	na
High	35.1	42.4	46.7	1.9	62.1	306	na	na
Respondent's education								
Primary or less	na	na	na	na	na	na	4.2	530
Secondary	na	na	na	na	na	na	2.3	579
High	na	na	na	na	na	na	1.6	256
Wealth index quintile								
Poorest	17.8	69.0	58.8	6.7	77.8	469	5.9	249
Second	30.6	57.1	50.3	5.9	66.4	460	4.3	257
Middle	29.6	52.9	49.1	3.6	67.9	413	1.5	260
Fourth	34.3	50.3	49.9	4.6	64.8	404	1.1	276
Richest	29.7	51.3	52.7	2.9	68.9	475	2.3	322
Ethnicity of household head								
Macedonian	29.7	53.7	52.9	4.2	69.4	1246	1.8	837
Albanian	25.6	60.7	50.5	4.2	69.3	789	4.2	417
Other	29.0	55.8	55.8	10.6	68.8	187	6.9	112
Total	**28.2**	**56.3**	**52.3**	**4.8**	**69.3**	**2222**	**2.9**	**1365**

[1] MICS indicator 8.5

na: not applicable

In Macedonia, almost 70 percent of children aged 2-14 years were subjected to at least one form of violent discipline method (psychological or physical) by their parents or other adult household members during the past month preceding the survey, and nearly 5 percent of children were subjected to severe physical punishment.

Male children were more subjected to both minor and severe physical discipline (54 and 6 percents) than female children (50 and 3 percents). The differentials in physical punishment with respect to many of the background variables were relatively small. However, it was found that violent discipline methods are more present in households whose head has only primary or less education, and that children aged 5-9 years experience more violence than younger or older children. It is important to note that while only 3 percent of respondents believe that in order to raise their children properly, they need to be physically punished, while in practice 52 percent of household members use physical violence to discipline their children.

Child Discipline – Roma settlements

In the Roma settlements in Macedonia, 82 percent of the children aged 2-14 years were subjected to at least one form of psychological or physical violent discipline method used by their parents or other adult household members. Notably, 17 percent of Roma children were subjected to severe physical punishment. Although only 10 percent of Roma respondents to the household questionnaires believed that children should be physically punished, physical discipline was observed to be highly prevalent in Roma households.

Although older children and those living in the poorest households were subjected to at least one psychological or physical punishment, overall differentials in terms of severe physical punishment were small.

Table CP.4R: Child discipline

Percentage of children age 2-14 years according to method of disciplining the child, Roma settlements, 2011

	Percentage of children age 2-14 years who experienced:					Number of children age 2-14 years	Respondent believes that the child needs to be physically punished	Respondents to the child discipline module
	Only non-violent discipline	Psychological aggression	Physical punishment: Any	Physical punishment: Severe	Any violent discipline method[1]			
Sex								
Male	16.5	72.3	62.7	18.5	80.9	545	10.9	285
Female	15.7	74.8	62.0	15.9	83.1	549	8.6	280
Age								
2-4 years	20.2	73.0	61.1	18.3	78.9	280	12.7	157
5-9 years	9.6	77.9	70.2	20.6	88.8	452	8.3	213
10-14 years	21.1	68.5	53.5	12.2	76.0	362	9.0	194
Education of household head								
None	12.3	77.0	57.6	16.3	83.6	166	na	na
Primary	15.6	75.0	64.0	18.4	83.3	776	na	na
Secondary +	22.8	62.5	59.1	12.1	73.9	152	na	na
Respondent's education								
None	na	na	na	na	na	na	12.7	102
Primary	na	na	na	na	na	na	10.2	402
Secondary +	na	na	na	na	na	na	2.0	61
Wealth index quintile								
Poorest	13.9	79.7	61.9	26.6	85.0	287	19.3	123
Second	16.3	68.0	66.4	9.6	80.3	229	7.3	122
Middle	16.1	73.3	60.6	15.5	82.9	199	9.5	109
Fourth	15.4	74.4	63.3	13.3	81.6	206	6.6	113
Richest	20.6	69.9	58.6	18.2	78.8	173	4.9	98
Total	**16.1**	**73.6**	**62.4**	**17.2**	**82.0**	**1094**	**9.8**	**565**

[1] MICS indicator 8.5

na: not applicable

Early Marriage

Marriage before the age of 18 is a reality for many young girls. According to UNICEF's worldwide estimates, over 64 million women aged 20-24 were married/in union before the age of 18. Factors that influence child marriage rates include: the state of the country's civil registration system, which provides proof of age for children; the existence of an adequate legislative framework with an accompanying enforcement mechanism to address cases of child marriage; and the existence of customary or religious laws that condone the practice.

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

The legal age of marriage in Macedonia is 18 without parental consent. A competent court can in a non-contentious decision permit a person who has attained 16 years of age to enter into marriage, provided that the court is of the opinion that the person possesses the physical and psychological maturity required.

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

Two of the indicators on child marriage are to estimate the percentage of women married before 15 years of age and percentage married before 18 years of age. The percentage of women married at various ages is provided in Table CP.5. At the national level, 1 percent of women aged 15-49 were married before the age of 15, and 11 percent of women aged 20-49 years were married before the age of 18. Marriage before 18 shows a declining trend over time, while the marriage before 15 is stable at below-2 percent over time. Both marriage before 18 and before 15 are associated with the education level and the wealth quintile.

About 1 in 25 young women aged 15-19 years is currently married (4 percent). This proportion does not vary much between urban (3 percent) and rural areas (5 percent), but is strongly related to the level of education.

Table CP.5: Early marriage

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, and percentage of women age 15-19 years currently married or in union, Macedonia, 2011

	Percentage married before age 15[1]	Number of women age 15-49 years	Percentage married before age 15	Percentage married before age 18[2]	Number of women age 20-49 years	Percentage of women 15-19 years currently married/in union[3]	Number of women age 15-19 years
Region							
Vardar	2.3	243	2.4	18.8	219	(*)	23
East	2.3	258	2.6	13.9	228	(*)	31
Southwest	1.2	353	1.4	11.6	296	6.5	57
Southeast	1.9	317	2.3	15.4	263	(.6)	54
Pelagonia	.6	512	.8	9.4	431	4.1	81
Polog	2.4	597	2.3	13.2	500	6.7	97
Northeast	.8	385	1.0	14.1	327	1.7	58
Skopje	.8	1166	.9	5.0	1037	3.0	129
Area							
Urban	.8	2092	.9	6.3	1854	3.1	239
Rural	2.0	1739	2.2	16.3	1447	5.2	291
Age							
15-19	.6	530	na	na	na	4.3	530
20-24	.9	541	.9	6.9	541	na	na
25-29	1.6	574	1.6	6.9	574	na	na
30-34	1.6	567	1.6	10.5	567	na	na
35-39	1.7	545	1.7	13.4	545	na	na
40-44	1.4	555	1.4	11.5	555	na	na
45-49	1.7	519	1.7	15.3	519	na	na
Education							
Primary or less	3.5	1174	3.5	23.5	1090	15.9	83
Secondary	.5	1682	.6	7.1	1279	2.4	403
High	.3	976	.3	.6	932	(.0)	44
Wealth index quintile							
Poorest	3.8	695	4.3	20.8	558	8.1	137
Second	1.0	725	1.1	15.9	630	7.0	94
Middle	1.0	782	1.2	9.8	671	4.3	111
Fourth	.5	791	.5	6.4	690	.3	100
Richest	.7	839	.8	3.5	751	.0	88
Ethnicity of household head							
Macedonian	.6	2330	.7	9.2	2047	1.5	283
Albanian	1.9	1199	2.0	10.7	993	6.1	206
Other	4.8	302	5.3	22.0	260	(14.3)	42
Total	**1.4**	**3831**	**1.5**	**10.7**	**3301**	**4.3**	**530**

[1] MICS indicator 8.6

[2] MICS indicator 8.7

[3] MICS indicator 8.8

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

na: not applicable

Table CP.6 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 shows the trends in early marriage over time. The trend of postponing the marriage is visible, especially in rural areas.

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, Macedonia, 2011

	Urban				Rural				All			
	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Number of women age 20-49	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Number of women age 20-49	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Number of women age 20-49
Age												
15-19	.3	239	na	na	.9	291	na	na	.6	530	na	na
20-24	.8	275	4.7	275	1.1	266	9.2	266	.9	541	6.9	541
25-29	.9	318	3.8	318	2.3	256	10.6	256	1.6	574	6.9	574
30-34	1.1	355	5.9	355	2.5	212	18.2	212	1.6	567	10.5	567
35-39	.6	312	6.2	312	3.1	234	22.9	234	1.7	545	13.4	545
40-44	.9	306	8.6	306	1.9	249	15.0	249	1.4	555	11.5	555
45-49	1.2	288	8.6	288	2.4	231	23.5	231	1.7	519	15.3	519
Total	**.8**	**2092**	**6.3**	**1854**	**2.0**	**1739**	**16.3**	**1447**	**1.4**	**3831**	**10.7**	**3301**

na: not applicable

Another component is the spousal age difference with an indicator being the percentage of married/in union women with a difference of 10 or more years younger than their current spouse. Table CP.7 presents the results of the age difference between husbands and wives. About one in ten women aged 20–24 is currently married to a man who is older by ten years or more (8 percent). This percentage is higher among women with a lower education (14 percent). Data on the age group 15-19 is not presented in the table due to the small number of cases in this category (29 women aged 15-19 were currently married at the time of the survey).

Table CP.7: Spousal age difference

Percent distribution of women currently married/in union age 20-24 years according to the age difference with their husband or partner, Macedonia, 2011

	Percentage of currently married/in union women age 20-24 years whose husband or partner is:						Number of women age 20-24 years currently married/ in union
	Younger	0-4 years older	5-9 years older	10+ years older[1]	Husband/ Partner's age unknown	Total	
Area							
Urban	5.2	50.6	38.5	5.8	.0	100.0	69
Rural	7.7	55.1	26.0	10.2	.9	100.0	104
Education							
Primary or less	10.3	45.9	29.8	14.0	.0	100.0	78
Secondary	2.8	59.5	32.8	4.9	.0	100.0	76
High	(*)	(*)	(*)	(*)	(*)	100.0	19
Ethnicity of household head							
Macedonian	2.8	48.9	42.4	5.9	.0	100.0	78
Albanian	8.1	56.1	21.1	13.3	1.4	100.0	70
Other	(15.0)	(59.0)	(23.2)	(2.8)	(.0)	100.0	25
Total	**6.7**	**53.3**	**31.0**	**8.4**	**.6**	**100.0**	**173**

[1] MICS indicator 8.10b

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Early Marriage – Roma settlements

The percentage of Roma women married at various ages is provided in Table CP.5R. 12 percent of Roma women were married before the age of 15, and 47 percent before the age of 18. About one in five of young Roma women aged 15-19 years is currently married (22 percent). This proportion is strongly related to the level of education.

Table CP.5R: Early marriage

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, Roma settlements, 2011

	Percentage marrie d before age 15[1]	Number of women age 15-49 years	Percentage married before age 15	Percentage married before age 18[2]	Number of women age 20-49 years	Percentage of women 15-19 years currently married/in union[3]	Number of women age 15-19 years
Age							
15-19	6.8	173	na	na	na	22.4	173
20-24	15.2	190	15.2	43.0	190	na	na
25-29	7.6	166	7.6	46.4	166	na	na
30-34	4.7	172	4.7	33.7	172	na	na
35-39	18.3	112	18.3	55.7	112	na	na
40-44	18.3	149	18.3	58.7	149	na	na
45-49	16.4	129	16.4	50.6	129	na	na
Education							
None	25.4	183	25.6	61.0	172	(*)	11
Primary	11.4	724	11.6	49.9	634	31.6	89
Secondary +	.4	184	.7	9.3	112	6.6	72
Wealth index quintile							
Poorest	21.9	200	25.1	57.1	161	(36.6)	38
Second	14.3	202	13.2	54.1	169	(46.1)	33
Middle	10.0	214	12.0	49.4	177	(9.5)	37
Fourth	9.4	231	10.5	41.6	200	(7.2)	31
Richest	5.9	244	6.4	36.8	210	(11.5)	34
Total	**11.9**	**1091**	**12.9**	**47.0**	**918**	**22.4**	**173**

[1] MICS indicator 8.6

[2] MICS indicator 8.7

[3] MICS indicator 8.8

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

na: not applicable

Table CP.6R presents the proportion of Roma women who were first married or entered into a marital union before age 15 and 18 by area and age groups.

Table CP.6R: Trends in early marriage

Percentage of women who were first married or entered into a marital union before age 15 and 18, by age groups, Roma settlements,2011

	Percentage of women married before age 15	Number of women age 15-49	Percentage of women married before age 18	Number of women age 20-49
Age				
15-19	6.8	173	na	na
20-24	15.2	190	43.0	190
25-29	7.6	166	46.4	166
30-34	4.7	172	33.7	172
35-39	18.3	112	55.7	112
40-44	18.3	149	58.7	149
45-49	16.4	129	50.6	129
Total	**11.9**	**1091**	**47.0**	**918**

na: not applicable

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. The results show that there are some spousal age differences in the Roma settlements in Macedonia. About 5 percent of Roma women aged 20-24 is currently married to a man who is older by ten years or more. Two of three Roma women are married to a man older by 0-4 years while one in three to a man older by 5-9 years. 7 percent of women aged 20-24 years are married to a younger man.

Attitudes toward Domestic Violence

The MICS assessed the attitudes of women aged 15-49 years by asking them questions whether husbands are justified to hit or beat their wives/partners for a variety of scenarios. These questions were asked to gather indications of cultural beliefs that tend to be associated with the prevalence of violence against women by their husbands/partners. The main assumption here is that women who agree with the statements indicating that husbands/partners are justified to beat their wives/partners under the situations described also tend to be abused by their own husbands/partners. The responses to these questions are found in Table CP.11.

Overall, 15 percent of women in Macedonia feel that a husband/partner has a right to hit or beat his wife/partner for at least one of a variety of reasons. Women who approve of a husband's violence, in most cases, agree and justify violence in instances when the woman neglects her children (12 percent). Acceptance is much higher among those living in rural areas, from poorest households, are less educated, and among Albanian women. One in four women from Polog region justify violent behaviour by their partner, in contrast to the East region where one in twenty women expressed acceptance.

Table CP.11: Attitudes toward domestic violence

Percentage of women age 15-49 years who believe a husband is justified in beating his wife/partner in various circumstances, Macedonia, 2011

	Percentage of women age 15-49 years who believe a husband is ustified in beating his wife/partner:						
	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[1]	Number of women age 15-49 years
Region							
Vardar	3.8	11.3	4.7	2.0	1.3	12.4	243
East	1.1	4.9	1.4	1.9	.9	5.4	258
Southwest	10.0	14.6	7.3	6.0	2.7	17.8	353
Southeast	2.8	11.7	3.2	.3	1.6	12.2	317
Pelagonia	3.6	6.1	3.3	2.2	1.7	7.1	512
Polog	15.5	20.5	12.1	9.5	5.0	24.9	597
Northeast	9.4	13.9	5.8	1.5	1.2	16.1	385
Skopje	6.6	10.7	7.0	5.1	2.7	13.9	1166
Area							
Urban	2.6	5.0	2.5	1.6	1.0	6.6	2092
Rural	13.0	20.5	11.1	7.6	4.3	23.9	1739
Age							
15-19	5.9	11.9	4.8	2.7	1.7	13.7	530
20-24	5.7	12.0	7.0	3.6	2.4	15.1	541
25-29	4.4	10.3	3.7	3.4	1.9	11.6	574
30-34	5.6	9.2	5.5	3.8	1.5	11.5	567
35-39	8.2	11.1	6.8	4.7	3.1	13.7	545
40-44	11.0	15.3	8.0	5.3	2.7	17.9	555
45-49	10.8	14.6	8.9	6.7	4.1	18.2	519
Marital/Union status							
Currently married/in union	9.0	13.9	7.6	5.3	2.9	16.9	2537
Formerly married/in union	2.0	3.5	1.1	.0	.0	4.4	119
Never married/in union	4.2	8.8	4.3	2.6	1.8	10.3	1175
Education							
Primary or less	20.4	27.6	17.5	11.7	6.8	33.3	1174
Secondary	2.4	7.0	2.0	1.4	.7	8.2	1682
High	.2	1.9	.5	.4	.4	2.5	976
Wealth index quintile							
Poorest	21.3	29.8	18.3	12.7	7.5	35.5	695
Second	11.2	17.7	10.4	6.7	3.5	21.4	725
Middle	4.8	9.5	3.7	2.5	1.7	12.0	782
Fourth	1.2	4.6	1.4	.9	.2	5.2	791
Richest	.5	1.7	.2	.2	.3	2.1	839
Ethnicity of household head							
Macedonian	1.4	5.6	1.5	.5	.4	6.2	2330
Albanian	18.7	24.8	15.3	11.2	6.2	30.0	1199
Other	8.2	10.8	8.5	6.4	3.8	16.2	302
Total	**7.3**	**12.0**	**6.4**	**4.3**	**2.5**	**14.5**	**3831**

[1] MICS indicator 8.14

Attitudes toward Domestic Violence – Roma settlements

Overall, 25 percent of the women in Roma settlements in Macedonia feel that a husband/partner has a right to hit or beat his wife/partner for at least one of a variety of reasons (Table CP.11R). Women who approve a husband's violence, in most cases, agree and justify violence in instances when the woman neglects their children (18 percent), or if she demonstrates their autonomy, e.g. goes out without telling her husband (11 percent). Around 9 percent of women believe that a husband has a right to hit or beat his wife/partner if she refuses to have sex with him or if she argues with him. Finally, 3 percent of them approve of a husband's violence if she burns the food. Women who accept violence more are likely less educated, are older and currently married, and come from the poorest households.

Table CP.11R: 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, Roma settlements, 2011

	Percentage of women age 15-49 years who believe a husband is justified in beating his wife/partner:						
	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[1]	Number of women age 15-49 years
Age							
15-19	10.3	18.0	9.2	6.2	3.6	23.5	173
20-24	10.8	17.5	10.5	8.6	2.4	25.4	190
25-29	11.7	22.6	9.6	8.3	6.1	27.6	166
30-34	10.7	16.3	11.4	8.4	3.5	25.7	172
35-39	13.4	17.5	9.6	14.0	4.9	30.5	112
40-44	11.6	16.6	5.9	8.7	.0	24.6	149
45-49	12.3	15.7	8.6	8.1	2.3	20.9	129
Marital/Union status							
Currently married/in union	13.4	17.7	10.7	9.6	3.3	26.7	799
Formerly married/in union	6.7	22.6	5.0	9.0	2.5	27.2	92
Never married/in union	5.4	16.0	5.8	4.5	3.5	19.3	200
Education							
None	19.3	26.2	16.1	12.1	5.4	37.9	183
Primary	11.8	17.4	9.0	9.7	3.4	25.0	724
Secondary +	1.8	11.2	3.7	1.3	.4	14.3	184
Wealth index quintile							
Poorest	18.4	24.7	14.0	11.6	5.4	32.6	200
Second	15.2	20.5	14.5	11.2	5.6	30.6	202
Middle	12.0	19.4	8.6	9.2	3.8	28.6	214
Fourth	7.1	13.7	6.0	6.9	1.2	19.9	231
Richest	6.0	12.6	5.0	5.4	1.0	17.5	244
Total	**11.4**	**17.8**	**9.3**	**8.7**	**3.3**	**25.4**	**1091**

[1] MICS indicator 8.14

XII TOBACCO AND ALCOHOL USE

Tobacco use is a known risk factor for many deadly diseases. Smoking cigarettes, pipes, or cigars increases the risk of cardiovascular disease, respiratory illness and cause lung and other forms of cancer. Smokeless tobacco products are also known to cause cancer. Women of reproductive age who smoke are at increased risk for multiple adverse pregnancy-related health outcomes, including difficulty conceiving, infertility, spontaneous abortion, low birth weight, neonatal mortality, stillbirth and preterm delivery.

Excessive alcohol use also increases the risk of many harmful health conditions. In the long-term, excessive drinking can lead to cardiovascular problems, neurological impairments, liver disease and social problems. Alcohol abuse is also associated with injuries and violence, including intimate partner violence and child maltreatment.[26]

The MICS collected information on tobacco and alcohol use among women aged 15-49 years to help under the following:

- ever and current use of cigarettes and the age at which cigarette smoking first started
- ever and current use of smoked and smokeless tobacco products
- the intensity of use, of cigarettes, and smoked and smokeless tobacco products
- ever and current use of alcohol, and intensity of use

Tobacco Use

Table TA.1 presents the current and ever use of tobacco products by women15-49 years old.

In Macedonia, use of tobacco products is common among women with 51 percent of women reported to have ever used a tobacco product.

30 percent of women smoked cigarettes, or used smoked or smokeless tobacco products on one or more days during the last month preceding the survey. Tobacco use among women is more common in urban areas than in rural areas. The highest proportion of tobacco use by women is found in Vardar region (43 percent). Among current female users of tobacco, the tobacco product most commonly used is cigarettes (30 percent of women smoked only cigarettes in the last one month). Use of tobacco is higher among women from the richest quintile. Nearly 23 percent of pregnant women currently use tobacco.

26 US Center for Disease Control and Prevention, http://www.cdc.gov/

Table TA.1: Current and ever use of tobacco

Percentage of women age 15-49 years by pattern of use of tobacco, Macedonia, 2011

	Never smoked cigarettes or used other tobacco products	Ever users				Used tobacco products on one or more days during the last one month				Number of women age 15-49 years
		Only cigarettes	Cigarettes and other tobacco products	Only other tobacco products	Any tobacco product	Only cigarettes	Cigarettes and other tobacco products	Only other tobacco products	Any tobacco product[1]	
Age										
15-19	77.2	19.8	1.7	1.0	22.4	7.9	.1	.0	8.0	530
20-24	48.6	45.0	5.4	.9	51.3	24.4	.3	.7	25.3	541
25-29	46.5	46.9	5.8	.8	53.5	28.5	.3	.0	28.8	574
30-34	43.0	54.9	2.0	.0	56.9	36.9	.1	.0	37.0	567
35-39	39.9	57.7	2.4	.0	60.1	38.5	.4	.0	38.9	545
40-44	45.2	51.5	3.4	.0	54.8	31.6	.6	.0	32.2	555
45-49	39.7	57.6	2.7	.0	60.3	38.8	.3	.0	39.2	519
Region										
Vardar	36.3	61.2	1.8	.7	63.7	42.1	.7	.0	42.8	243
East	40.0	54.7	5.2	.0	60.0	36.0	.0	.0	36.0	258
Southwest	65.6	32.8	1.2	.2	34.2	20.3	.0	.0	20.3	353
Southeast	38.1	59.3	1.9	.0	61.2	40.5	.1	.0	40.6	317
Pelagonia	49.5	46.3	4.0	.3	50.5	27.6	.9	.1	28.6	512
Polog	66.3	31.8	1.5	.2	33.5	20.1	.3	.0	20.3	597
Northeast	57.1	42.1	.5	.2	42.9	27.5	.0	.0	27.5	385
Skopje	38.1	55.3	5.9	.8	61.9	31.8	.3	.2	32.3	1166
Area										
Urban	38.3	55.6	5.5	.6	61.7	35.5	.4	.1	36.0	2092
Rural	60.8	38.2	.7	.1	39.0	22.4	.2	.0	22.7	1739
Education										
Primary or less	64.3	34.7	1.0	.1	35.7	23.1	.3	.1	23.5	1174
Secondary	43.4	54.2	2.0	.2	56.4	34.5	.3	.0	34.8	1682
High	38.2	52.1	8.6	1.1	61.8	28.8	.4	.3	29.5	976
Maternity status										
Pregnant	46.9	50.9	2.1	.0	53.1	22.9	.0	.0	22.9	113
Breastfeeding (not pregnant)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	5
Neither	48.5	47.6	3.4	.4	51.4	29.8	.3	.1	30.2	3713
Wealth index quintile										
Poorest	63.2	36.0	.7	.1	36.8	23.9	.2	.1	24.2	695
Second	57.2	41.0	1.3	.0	42.3	25.0	.2	.0	25.1	725
Middle	49.9	48.0	2.0	.1	50.1	27.8	.3	.0	28.0	782
Fourth	41.7	54.3	3.4	.5	58.3	32.1	.6	.4	33.1	791
Richest	33.7	56.6	8.5	1.1	66.3	37.6	.2	.0	37.8	839
Ethnicity of household head										
Macedonian	36.3	59.0	4.2	.4	63.6	37.4	.4	.1	37.9	2330
Albanian	69.7	28.4	1.3	.4	30.2	16.2	.1	.1	16.3	1199
Other	58.0	36.9	5.1	.0	42.0	22.7	.7	.0	23.4	302
Total	**48.5**	**47.7**	**3.4**	**.4**	**51.4**	**29.6**	**.3**	**.1**	**30.0**	**3831**

[1] MICS indicator TA.1

(*) – figures based on less than 25 unweighted cases

5 percent of women aged 15-49 years old smoked a cigarette for the first time before age 15 (see Table TA.2).

16 percent of women that currently smoke cigarettes smoked more than 20 cigarettes in the last 24 hours. 49 percent of women smoked 10-19 cigarettes in the last 24 hours, opposed to 16 percent who smoked less than 5 cigarettes. There are differentials by region, area, and socioeconomic status of households.

Table TA.2: Age at first use of cigarettes and frequency of use

Percentage of women age 15-49 years who smoked a whole cigarette before age 15, and percent distribution of current smokers by the number of cigarettes smoked in the last 24 hours, Macedonia, 2011

	Percentage of women who smoked a whole cigarette before age 15 [1]	Number of women age 15-49 years	Number of cigarettes in the last 24 hours						Number of women age 15-49 years who are current cigarette smokers
			Less than 5	5-9	10-19	20+	DK/ Missing	Total	
Age									
15-19	4.6	530	(36.0)	(41.2)	(21.4)	(1.3)	(.0)	100.0	42
20-24	7.2	541	18.5	26.5	40.3	14.1	.6	100.0	133
25-29	3.6	574	16.2	21.8	48.0	13.6	.2	100.0	166
30-34	6.4	567	17.0	18.0	43.3	21.1	.6	100.0	209
35-39	4.0	545	12.8	18.1	52.1	16.9	.0	100.0	212
40-44	6.7	555	18.9	10.1	54.5	16.5	.0	100.0	179
45-49	3.5	519	8.7	14.7	60.5	16.2	.0	100.0	203
Region									
Vardar	12.9	243	7.4	15.4	51.3	25.9	.0	100.0	104
East	4.7	258	15.3	19.2	44.9	20.6	.0	100.0	93
Southwest	2.5	353	27.7	17.2	41.5	13.7	.0	100.0	72
Southeast	5.1	317	13.1	23.4	52.6	9.6	1.4	100.0	129
Pelagonia	5.7	512	18.9	17.6	41.9	21.6	.0	100.0	146
Polog	5.0	597	24.1	28.8	32.5	14.6	.0	100.0	122
Northeast	2.8	385	10.5	4.7	71.0	13.8	.0	100.0	106
Skopje	5.1	1166	14.5	18.9	52.3	14.0	.2	100.0	374
Area									
Urban	5.3	2092	14.9	17.2	50.3	17.5	.1	100.0	751
Rural	5.0	1739	17.5	21.4	47.3	13.4	.4	100.0	394
Education									
Primary or less	6.2	1174	17.0	16.8	47.2	19.0	.0	100.0	276
Secondary	4.8	1682	13.3	18.3	51.7	16.4	.3	100.0	585
High	4.6	976	19.9	20.9	46.2	12.7	.3	100.0	285
Maternity status									
Pregnant	3.3	113	(45.9)	(13.5)	(27.1)	(13.5)	(.0)	100.0	26
Breastfeeding (not pregnant)	(*)	5	(*)	(*)	(*)	(*)	(*)	(*)	1
Neither	5.2	3713	15.1	18.7	49.8	16.2	.2	100.0	1119
Wealth index quintile									
Poorest	8.3	695	22.2	19.8	41.8	16.2	.0	100.0	168
Second	4.9	725	20.5	15.7	48.4	15.1	.2	100.0	182
Middle	3.1	782	13.4	18.1	51.6	17.0	.0	100.0	220
Fourth	4.3	791	15.5	20.4	47.5	16.1	.5	100.0	259
Richest	5.5	839	11.7	18.5	53.5	16.1	.2	100.0	317
Ethnicity of household head									
Macedonian	5.5	2330	12.8	17.8	53.1	16.1	.2	100.0	879
Albanian	3.5	1199	26.2	25.1	32.4	15.8	.4	100.0	195
Other	8.9	302	25.0	10.3	47.5	17.2	.0	100.0	71
Total	**5.2**	**3831**	**15.8**	**18.6**	**49.3**	**16.1**	**.2**	**100.0**	**1145**

[1] MICS indicator TA.2

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Tobacco Use – Roma settlements

Table TA.1R presents the current and ever use of tobacco products by the 15-49 years old women in Roma settlements.

Use of tobacco products is common among the women in Roma settlements, with 54 percent reporting to have ever used a tobacco product.

42 percent of the women in Roma settlements smoked cigarettes, or used smoked or smokeless tobacco products on one or more days during the last month preceding the survey. The highest proportion of tobacco use by the women in Roma settlements is found in the poorest households (65 percent) as opposed to the richest households (49 percent). Using tobacco products is strongly associated with educational level of the respondents. The percentage of both ever users and current users are higher among the women with no education, compared to those with a primary or secondary education.

Table TA.1R: Current and ever use of tobacco

Percentage of women age 15-49 years by pattern of use of tobacco, Roma settlements, 2011

	Never smoked cigarettes or used other tobacco products	Ever users				Used tobacco products on one or more days during the last one month				Number of women age 15-49 years
		Only cigarettes	Cigarettes and other tobacco products	Only other tobacco products	Any tobacco product	Only cigarettes	Cigarettes and other tobacco products	Only other tobacco products	Any tobacco product[1]	
Age										
15-19	67.8	32.0	.2	.0	32.2	20.4	.0	.0	20.4	173
20-24	53.4	44.2	2.5	.0	46.6	34.4	.0	.0	34.4	190
25-29	45.1	52.8	2.1	.0	54.9	42.7	.0	.0	42.7	166
30-34	44.2	53.4	2.5	.0	55.8	41.1	.0	.0	41.1	172
35-39	42.4	55.3	1.2	1.1	57.6	45.8	1.2	.0	47.0	112
40-44	25.0	75.0	.0	.0	75.0	63.6	.0	.0	63.6	149
45-49	30.6	66.0	.0	.0	66.0	54.0	.0	.0	54.0	129
Education										
None	31.3	68.0	.8	.0	68.7	57.8	.8	.0	58.5	183
Primary	45.6	52.7	.9	.2	53.8	43.1	.0	.0	43.1	724
Secondary +	57.9	38.7	3.3	.0	42.1	21.9	.0	.0	21.9	184
Maternity status										
Pregnant	55.5	44.5	.0	.0	44.5	19.1	.0	.0	19.1	57
Breastfeeding (not pregnant)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	1
Neither	44.7	53.3	1.4	.1	54.8	43.2	.1	.0	43.3	1032
Wealth index quintile										
Poorest	32.9	64.2	.7	.0	64.9	55.7	.7	.0	56.4	200
Second	38.7	60.6	.0	.6	61.3	47.9	.0	.0	47.9	202
Middle	48.4	50.1	1.5	.0	51.6	41.2	.0	.0	41.2	214
Fourth	52.2	46.2	1.6	.0	47.8	35.8	.0	.0	35.8	231
Richest	51.5	46.2	2.4	.0	48.5	32.4	.0	.0	32.4	244
Total	**45.2**	**52.9**	**1.3**	**.1**	**54.4**	**42.0**	**.1**	**.0**	**42.1**	**1091**

[1] MICS indicator TA.1

(*) – figures based on less than 25 unweighted cases

23 percent of the women aged 15-49 years old in Roma settlements smoked a cigarette for the first time before age 15 (see Table TA.2R). While 17 percent of women aged 15-19 years and 24 percent of women aged 20-24 years smoked a cigarette before the age 15, 36 percent of women aged 40-45 years smoked a cigarette before age 15.

Smoking is prevalent among women in Roma settlements - 29 percent of women that currently smoke cigarettes smoked more than 20 cigarettes in the last 24 hours preceding the survey. 40 percent of women smoked 10-19 cigarettes in the last 24 hours, opposed to 15 percent who smoked less than 5 cigarettes. There are differentials by socioeconomic status of households; for example, there is a negative correlation between wealth index and smoking).

Table TA.2R: Age at first use of cigarettes and frequency of use

Percentage of women age 15-49 years who smoked a whole cigarette before age 15, and percent distribution of current smokers by the number of cigarettes smoked in the last 24 hours, Roma settlements, 2011

	Percentage of women who smoked a whole cigarette before age 15 [1]	Number of women age 15-49 years	Number of cigarettes in the last 24 hours						Number of women age 15-49 years who are current cigarette smokers
			Less than 5	5-9	10-19	20+	DK/ Missing	Total	
Age									
15-19	16.9	173	(15.0)	(26.2)	(38.3)	(20.4)	(.0)	100.0	35
20-24	24.2	190	25.5	22.1	33.2	19.2	.0	100.0	65
25-29	18.6	166	25.2	23.9	30.0	20.9	.0	100.0	71
30-34	19.8	172	6.5	18.7	46.9	27.9	.0	100.0	71
35-39	23.4	112	7.1	6.5	44.8	41.5	.0	100.0	53
40-44	35.7	149	10.5	10.7	42.1	35.5	1.1	100.0	95
45-49	22.1	129	14.3	8.6	45.3	31.9	.0	100.0	70
Education									
None	32.6	183	17.4	12.8	40.5	28.3	1.0	100.0	107
Primary	24.6	724	14.4	15.9	39.7	30.0	.0	100.0	312
Secondary +	5.5	184	(11.2)	(24.8)	(43.5)	(20.5)	(.0)	100.0	40
Maternity status									
Pregnant	24.9	57	(*)	(*)	(*)	(*)	(*)	100.0	11
Breastfeeding (not pregnant)	(*)	1	(*)	(*)	(*)	(*)	(*)	100.0	1
Neither	22.6	1032	14.0	16.2	40.6	29.0	.2	100.0	447
Wealth index quintile									
Poorest	30.8	200	18.4	12.1	31.1	38.3	.0	100.0	112
Second	29.3	202	11.4	9.9	48.5	29.1	1.1	100.0	97
Middle	23.3	214	21.2	22.0	37.0	19.8	.0	100.0	88
Fourth	18.4	231	11.8	16.9	45.8	25.5	.0	100.0	83
Richest	14.3	244	10.0	21.3	40.7	28.0	.0	100.0	79
Total	**22.7**	**1091**	**14.8**	**16.0**	**40.2**	**28.7**	**.2**	**100.0**	**459**

[1] MICS indicator TA.2

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Alcohol Use

Women's use of alcohol is presented in Table TA.3. 29 percent of women aged15-49 years had at least one drink of alcohol on one or more days during the last month preceding the survey. 3 percent of women of the same age group first drank alcohol before the age of 15, while 53 percent of women never had one drink of alcohol. Among the younger age groups, the proportion of women who had at least one drink of alcohol before age 15 is higher than among the older age groups.

The use of alcohol by women varies somewhat by wealth quintiles and by area. Alcohol use is more common in urban areas and among women belonging to the richest households and has a higher education. The lowest proportion of alcohol use is found in Polog (7 percent) and Northeast regions (14 percent).

Table TA.3: Use of alcohol

Percentage of women age 15-49 who have never had one drink of alcohol, percentage who first had one drink of alcohol before age 15, and percentage of women who have had at least one drink of alcohol on one or more days during the last one month, Macedonia, 2011

	Percentage of women who:			
	Never had one drink of alcohol	Had at least one drink of alcohol before age 15 [1]	Had at least one drink of alcohol on one or more days during the last one month [2]	Number of women age 15-49 years
Age				
15-19	63.4	7.7	23.2	530
20-24	50.8	3.9	33.3	541
25-29	47.2	2.3	27.7	574
30-34	45.9	.8	30.7	567
35-39	51.9	.5	30.1	545
40-44	55.6	1.8	26.8	555
45-49	54.3	1.4	27.5	519
Region				
Vardar	36.3	8.8	42.2	243
East	24.8	4.2	40.5	258
Southwest	68.8	1.2	20.9	353
Southeast	52.3	2.8	21.7	317
Pelagonia	35.0	2.5	42.1	512
Polog	86.8	1.2	7.3	597
Northeast	71.5	.5	14.0	385
Skopje	41.3	2.8	36.7	1166
Area				
Urban	36.1	3.6	39.7	2092
Rural	72.4	1.4	15.0	1739
Education				
Primary or less	86.4	.7	5.9	1174
Secondary	42.7	3.3	32.7	1682
High	29.0	3.7	48.4	976
Wealth index quintile				
Poorest	82.6	1.6	9.3	695
Second	71.6	1.1	15.3	725
Middle	49.9	2.5	27.1	782
Fourth	41.7	4.0	34.4	791
Richest	24.2	3.5	51.5	839
Ethnicity of household head				
Macedonian	29.1	3.9	42.9	2330
Albanian	94.8	.3	3.0	1199
Other	66.5	1.8	18.5	302
Total	**52.6**	**2.6**	**28.5**	**3831**

[1] MICS indicator TA.4

[2] MICS indicator TA.3

Alcohol Use – Roma settlements

The use of alcohol by the women in Roma settlements is presented in Table TA.3R. Only 11 percent of the women in Roma settlements aged15-49 years old had at least one drink of alcohol on one or more days during the last month preceding the survey. 5 percent of women of the same age group first drank alcohol before the age of 15, while 61 percent of women never had one drink of alcohol. The proportion of the women in Roma settlements who had at least one drink of alcohol before age 15 is higher in the youngest group (ages 15-19) compared with all other age groups.

The use of alcohol by women varies somewhat by the level of education. Alcohol use is more common among women with a higher education.

Table TA.3R: Use of alcohol

Percentage of women age 15-49 who have never had one drink of alcohol, percentage who first had one drink of alcohol before age 15, and percentage of women who have had at least one drink of alcohol on one or more days during the last one month, Roma settlements, 2011

	Percentage of women who:			
	Never had one drink of alcohol	Had at least one drink of alcohol before age 15 [1]	Had at least one drink of alcohol on one or more days during the last one month [2]	Number of women age 15-49 years
Age				
15-19	65.1	13.8	13.6	173
20-24	59.5	4.7	9.5	190
25-29	60.8	3.2	12.3	166
30-34	61.9	3.8	12.4	172
35-39	51.4	.5	12.5	112
40-44	65.0	3.1	7.8	149
45-49	59.6	2.3	10.2	129
Education				
None	73.8	3.4	5.9	183
Primary	61.6	3.9	10.6	724
Secondary +	45.3	9.7	18.7	184
Wealth index quintile				
Poorest	69.6	8.9	9.6	200
Second	69.1	4.0	6.0	202
Middle	55.1	5.2	13.0	214
Fourth	57.3	3.4	14.5	231
Richest	55.5	3.2	12.0	244
Total	**60.9**	**4.8**	**11.2**	**1091**

[1] MICS indicator TA.4

[2] MICS indicator TA.3

XIII SUBJECTIVE WELL-BEING

It is well-known that the subjective perceptions of individuals of their incomes, health, living environments and the like, play a significant role in their lives and can impact their perception of well-being, irrespective of objective conditions such as actual income and physical health status. In the Macedonia MICS, a set of questions were asked to women between 15-24 years of age to understand how satisfied they are in different areas of their lives, such as their family life, friendships, school, current job, health, living environment, how they are treated by others, how they look, and their current income.

Life satisfaction is a measure of an individual's perceived level of well-being. Understanding young women satisfaction in different areas of their lives can help gain a comprehensive picture of young people's life situations. A distinction can also be made between life satisfaction and happiness. Happiness is a fleeting emotion that can be affected by numerous factors, including day-to-day factors such as the weather, or a recent death in the family. It is possible for a person to be satisfied with her/his job, income, family life, friends, and other aspects of her life, but still be unhappy. In addition to the set of questions on life satisfaction, the 2011 Macedonia MICS also asked questions about happiness and the respondents' perceptions of a better life.

To assist respondents in answering the set of questions on happiness and life satisfaction they were shown a card with smiling faces (and not so smiling faces) that corresponded to the response categories (see the Questionnaires in Appendix F).

The indicators related to subjective well-being are as follows:

- Life satisfaction– the proportion of women aged 15-24 years who are very or somewhat satisfied with their family life, friendships, school, current job, health, where they live, how they are treated by others, and how they look
- Happiness – the proportion of women aged 15-24 years who are very or somewhat happy
- Perception of a better life– the proportion of women aged 15-24 years who think that their lives improved during the last one year and who expect that their lives will be better after one year

Table SW.1 shows the proportion of young women aged 15-24 years, who are very or somewhat satisfied in selected domains. Of the different domains, young women are the most satisfied with their family life (96 percent), the way they look (96 percent), their health (96 percent), treatment by others (93 percent), and their friendships (91 percent). Among the domains, young women are the least satisfied with their current income (71 percent) and current job (74 percent). Meanwhile, 77 percent of young women aged 15-24 years do not have any income at all.

Table SW.1: Domains of life satisfaction

Percentage of women age 15-24 years who are very or somewhat satisfied in selected domains, Macedonia,2011

	Percentage of women age 15-24 who are very or somewhat satisfied with selected domains:									Percentage of women age 15-24 who:			Number of women age 15-24 years
	Family life	Friendships	School	Current job	Health	Living environment	Treatment by others	The way they look	Current income	Are not currently attending school	Do not have a job	Do not have any income	
Age													
15-19	96.0	93.2	91.8	(86.4)	98.0	88.3	92.6	96.1	79.1	17.4	93.8	89.2	530
20-24	96.6	89.2	85.5	71.0	93.0	87.7	93.0	95.3	68.6	59.0	71.0	64.5	541
Area													
Urban	96.6	92.0	89.9	64.8	96.1	92.6	94.7	95.6	76.6	26.3	82.3	74.2	514
Rural	96.0	90.4	89.4	81.9	94.9	83.8	91.1	95.7	64.6	49.6	82.2	79.1	557
Marital Status													
Ever married/in union	94.6	88.6	(*)	75.3	90.1	89.2	94.2	93.7	72.4	92.2	73.2	70.5	199
Never married/in union	96.7	91.8	89.9	73.1	96.7	87.7	92.5	96.1	70.6	26.2	84.3	78.1	872
Education													
Primary or less	95.5	88.7	(*)	(53.0)	90.9	81.4	91.6	95.2	(51.9)	91.5	85.4	83.9	220
Secondary	95.8	91.5	92.3	82.2	97.1	89.7	91.7	95.9	77.6	31.3	83.0	79.3	553
High	97.8	92.5	85.8	71.7	95.8	89.7	95.8	95.6	70.3	12.4	78.5	66.6	299
Wealth index quintile													
Poorest	93.4	88.6	87.5	(63.7)	91.3	77.3	87.9	94.9	(46.6)	61.6	86.7	84.6	250
Second	96.0	93.0	91.2	(90.3)	96.7	88.7	92.2	98.2	79.9	51.8	81.1	78.8	210
Middle	96.7	89.1	95.3	(66.9)	96.3	91.5	93.0	95.8	67.3	35.2	80.7	77.0	220
Fourth	98.1	90.6	86.3	(70.8)	97.9	90.4	95.1	92.4	(65.6)	21.3	81.9	69.6	214
Richest	98.1	96.0	88.5	(75.8)	96.0	95.0	97.4	97.4	(92.4)	14.4	79.5	71.3	177
Ethnicity of household head													
Macedonian	96.9	91.7	89.6	73.0	96.2	89.8	93.5	95.8	76.4	27.2	80.2	71.3	574
Albanian	96.2	91.3	91.3	74.6	95.2	84.7	92.3	95.2	60.9	51.4	83.1	81.7	411
Other	92.6	87.0	(83.4)	(*)	92.1	92.0	90.6	96.6	(*)	50.7	91.6	89.3	87
Total	**96.3**	**91.2**	**89.7**	**73.7**	**95.5**	**88.0**	**92.8**	**95.6**	**71.0**	**38.4**	**82.2**	**76.7**	**1071**

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Table SW.2 presents the proportion of women aged 15-24 years with "life satisfaction". "Life satisfaction" is defined as those who are very or somewhat satisfied with their family life, friendships, school, current job, health, where they live, how they are treated by others, and how they look. 69 percent of 15-24 year old women are satisfied with life. 76 percent of women living in the richest households are satisfied with life as opposed to only 55 percent in the poorest households. The proportion of women that is satisfied with life is somewhat higher in urban areas (72 percent) than in rural areas (65 percent).

The average life satisfaction score is the arithmetic mean of responses to questions included in the calculation of life satisfaction. Lower scores indicate higher satisfaction levels.

According to Table SW.2, 94 percent of women aged 15-24 years are very or somewhat happy, with differences by wealth quintiles. Differentials can also be observed by region with the lowest proportion of life satisfaction among women found in the East region. 49 percent of women aged 15-24 years are very or somewhat satisfied with their income.

Table SW.2: Life satisfaction and happiness

Percentage of women age 15-24 years who are very or somewhat satisfied with their family life, friendships, school, current job, health, living environment, treatment by others, and the way they look, the average life satisfaction score, percentage of women with life satisfaction who are also very or somewhat satisfied with their income, and percentage of women age 15-24 years who are very or somewhat happy, Macedonia, 2011

	Percentage of women with life satisfaction[1]	Average life satisfaction score	Missing / Cannot be calculated	Women with life satisfaction who are very or somewhat satisfied with their income	No income / Cannot be calculated	Percentage who are very or somewhat happy [2]	Number of women age 15-24 years
Age							
15-19	73.4	1.4	.0	58.8	89.2	94.9	530
20-24	63.7	1.5	.4	46.4	64.8	93.1	541
Region							
Vardar	56.2	1.7	.0	(*)	82.9	90.3	58
East	52.5	1.6	.0	(*)	83.2	91.6	61
Southwest	61.5	1.5	.0	(41.5)	66.4	96.5	99
Southeast	66.4	1.5	.0	(*)	74.6	89.0	88
Pelagonia	72.5	1.4	.0	(*)	83.9	96.2	144
Polog	71.6	1.4	.0	(49.9)	86.3	92.3	199
Northeast	78.3	1.4	.0	(*)	84.2	96.7	108
Skopje	69.6	1.4	.6	49.3	66.9	95.0	316
Area							
Urban	72.5	1.4	.4	53.7	74.5	94.8	514
Rural	64.9	1.5	.0	44.4	79.1	93.3	557
Marital Status							
Ever married/in union	64.1	1.5	.0	53.4	70.5	92.9	199
Never married/in union	69.6	1.4	.2	48.0	78.4	94.3	872
Education							
Primary or less	61.8	1.5	.0	(30.7)	83.9	93.5	220
Secondary	71.2	1.4	.0	56.0	79.3	93.6	553
High	68.5	1.4	.7	48.2	67.2	95.2	299
Wealth index quintile							
Poorest	54.7	1.5	.0	(26.2)	84.6	90.5	250
Second	73.0	1.4	.0	62.0	78.8	93.8	210
Middle	68.3	1.4	.0	42.1	77.0	94.9	220
Fourth	74.4	1.4	.9	(50.1)	70.5	94.9	214
Richest	76.2	1.3	.0	(62.1)	71.3	97.0	177
Ethnicity of household head							
Macedonian	68.3	1.5	.0	53.6	71.3	94.5	574
Albanian	70.1	1.4	.5	40.6	82.1	94.7	411
Other	62.9	1.5	.0	(*)	89.3	87.2	87
Total	**68.5**	**1.4**	**.2**	**49.3**	**76.9**	**94.0**	**1071**

[1] MICS Indicator SW.1

[2] MICS indicator SW.2

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Table SW.3 presents women's perceptions of a better life. 55 percent of women aged 15-24 years think that their lives improved during the last one-year and expect their lives to get better after one year. Differences in the perception of a better life can be observed by wealth quintiles: 48 percent of young women that live in households in the poorest wealth quintile think that their lives improved during the last one year and expect that it will get better after one year, while the corresponding proportion for young women that live in households in the richest wealth quintile is 66 percent. Younger women and those with an increased educational level have a higher perception of a better life.

Table SW.3: Perception of a better life

Percentage of women age 15-24 years who think that their lives improved during the last one year and those who expect that their lives will get better after one year, Macedonia, 2011

	Percentage of women who think that their life			Number of women age 15-24 years
	Improved during the last one year	Will get better after one year	Both [1]	
Age				
15-19	63.2	84.2	58.9	530
20-24	54.0	82.8	50.5	541
Region				
Vardar	37.8	85.2	34.2	58
East	21.9	76.5	17.6	61
Southwest	47.4	73.2	46.9	99
Southeast	71.0	83.9	67.0	88
Pelagonia	60.4	83.4	54.5	144
Polog	65.0	87.3	61.9	199
Northeast	68.3	90.4	65.9	108
Skopje	61.3	82.9	56.1	316
Area				
Urban	59.9	81.6	54.3	514
Rural	57.3	85.1	54.9	557
Marital Status				
Ever married/in union	58.8	83.3	55.2	199
Never married/in union	58.5	83.5	54.5	872
Education				
Primary or less	53.2	80.5	50.4	220
Secondary	59.3	84.5	55.3	553
High	61.2	83.8	56.4	299
Wealth index quintile				
Poorest	49.7	82.9	47.8	250
Second	60.3	82.2	55.7	210
Middle	52.3	78.5	46.7	220
Fourth	64.8	83.4	60.5	214
Richest	69.4	92.0	65.6	177
Ethnicity of household head				
Macedonian	60.4	82.0	55.4	574
Albanian	58.2	86.9	55.5	411
Other	48.2	76.9	45.2	87
Total	**58.6**	**83.5**	**54.6**	**1071**

[1] MICS indicator SW.3

Subjective well-being – Roma settlements

Table SW.1R shows the proportion of young women aged 15-24 years in Roma settlements who are very or somewhat satisfied in selected domains. Of the different domains, they are the most satisfied with the way they look (91 percent), their family life (89 percent), their health (88 percent), treatment by others (86 percent), their living environment (85 percent). Among the domains, young women are the least satisfied with their current income (73 percent) and their current job (76 percent). Meanwhile, 82 percent of young women aged 15-24 years do not have any income.

Table SW.1R: Domains of life satisfaction

Percentage of women age 15-24 years who are very or somewhat satisfied in selected domains, Roma settlements, 2011

	Percentage of women age 15-24 who are very or somewhat satisfied with selected domains:									Percentage of women age 15-24 who:			Number of women age 15-24 years
	Family life	Friendships	School	Current job	Health	Living environment	Treatment by others	The way they look	Current income	Are not currently attending school	Do not have a job	Do not have any income	
Age													
15-19	89.6	81.9	82.2	(*)	91.4	88.2	87.6	93.5	(*)	57.7	93.1	90.3	173
20-24	87.8	80.9	(*)	(69.8)	84.3	82.3	84.5	87.7	67.0	91.5	84.7	74.6	190
Marital Status													
Ever married/in union	88.2	79.8	(*)	(*)	85.0	82.2	84.3	87.9	(71.4)	98.1	88.6	79.5	191
Never married/in union	89.1	83.1	82.7	(*)	90.6	88.3	87.7	93.3	(74.6)	50.2	88.9	85.0	172
Education													
None	(82.0)	(70.9)	(*)	(*)	(84.2)	(72.2)	(77.9)	(82.6)	(*)	(96.5)	(95.2)	(92.8)	39
Primary	89.0	80.6	(*)	(78.1)	85.9	87.3	84.9	91.0	(74.1)	93.3	88.0	80.1	215
Secondary +	90.2	86.7	81.1	(*)	92.4	85.5	90.9	92.3	(80.1)	32.4	87.7	82.2	109
Wealth index quintile													
Poorest	77.5	70.2	(*)	(*)	91.7	77.7	78.2	90.7	(*)	86.7	97.8	91.6	68
Second	88.3	75.5	(*)	(*)	75.2	77.6	87.1	86.9	(*)	90.1	88.8	86.3	63
Middle	89.0	84.9	(*)	(*)	90.2	87.8	89.2	92.6	(*)	76.7	93.7	85.0	83
Fourth	93.3	90.4	(*)	(*)	95.3	87.7	86.1	93.2	(*)	75.6	86.6	77.9	72
Richest	93.9	83.6	(90.0)	(*)	84.5	92.5	88.2	88.3	(67.6)	51.9	77.3	71.2	77
Total	**88.6**	**81.4**	**82.8**	**(75.8)**	**87.7**	**85.1**	**85.9**	**90.5**	**72.7**	**75.4**	**88.7**	**82.1**	**363**

(*) – figures based on less than 25 unweighted cases

( ) – figures based on 25–49 unweighted cases

Table SW.2R presents the proportion of Roma women aged 15-24 years with "life satisfaction". "Life satisfaction" is defined as those who are very or somewhat satisfied with their family life, friendships, school, current job, health, living environment, how they are treated by others, and how they look. 60 percent of 15-24 year old Roma women are satisfied with life. 61 percent of women living in the richest households are satisfied with life as opposed to the 48 percent living in the poorest households.

The average life satisfaction score is the arithmetic mean of responses to questions included in the calculation of life satisfaction. Lower scores indicate higher satisfaction levels.

According to Table SW.2R, 84 percent of the women in Roma settlements aged 15-24 years are very or somewhat happy. At the same time, 45 percent of them are very or somewhat satisfied with their income.

Table SW.2R: Life satisfaction and happiness

Percentage of women age 15-24 years who are very or somewhat satisfied with their family life, friendships, school, current job, health, living environment, treatment by others, and the way they look, the average life satisfaction score, percentage of women with life satisfaction who are also very or somewhat satisfied with their income, and percentage of women age 15-24 years who are very or somewhat happy, Roma settlements, 2011

	Percentage of women with life satisfaction[1]	Average life satisfaction score	Missing / Cannot be calculated	Women with life satisfaction who are very or somewhat satisfied with their income	No income / Cannot be calculated	Percentage who are very or somewhat happy [2]	Number of women age 15-24 years
Age							
15-19	62.8	1.5	.0	(*)	90.3	83.2	173
20-24	57.8	1.6	1.6	(39.6)	76.2	83.9	190
Marital Status							
Ever married/in union	58.5	1.6	1.6	(45.6)	81.1	84.7	191
Never married/in union	62.1	1.6	.0	(44.7)	85.0	82.3	172
Education							
None	(58.9)	(1.7)	(3.5)	(*)	(96.3)	(79.4)	39
Primary	60.9	1.6	.8	(46.4)	80.9	83.1	215
Secondary +	59.4	1.5	.0	(46.2)	82.2	86.1	109
Wealth index							
Poorest	48.2	1.8	.0	(*)	91.6	80.1	68
Second	57.1	1.7	2.2	(*)	88.5	79.9	63
Middle	62.6	1.5	1.0	(*)	86.1	85.9	83
Fourth	70.2	1.5	.0	(*)	77.9	86.7	72
Richest	61.4	1.5	1.0	(46.5)	72.3	84.2	77
Total	**60.2**	**1.6**	**.8**	**45.3**	**82.9**	**83.6**	**363**

[1] MICS Indicator SW.1

[2] MICS indicator SW.2

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Table SW.3R presents Roma women's perceptions of a better life. 39% of women in Roma settlements aged 15-24 years think that their lives improved during the last year and expect their lives to get better after a year. Differences in the perception of a better life can be observed by wealth quintiles: 28 percent of Roma young women that live in households in the poorest wealth quintile think that their lives improved during the last one year and expect that it will get better after one year, while the corresponding proportion for young women that live in households in the richest wealth quintile is 43 percent.

Table SW.3R: Perception of a better life

Percentage of women age 15-24 years who think that their lives improved during the last one year and those who expect that their lives will get better after one year, Roma settlements, 2011

	Percentage of women who think that their life			
	Improved during the last one year	Will get better after one year	Both [1]	Number of women age 15-24 years
Age				
15-19	43.8	77.8	40.3	173
20-24	42.9	70.2	37.8	190
Marital Status				
Ever married/in union	44.1	70.2	37.6	191
Never married/in union	42.4	77.9	40.4	172
Education				
None	(42.5)	(55.1)	(40.0)	39
Primary	41.3	69.1	34.7	215
Secondary +	47.6	90.0	46.9	109
Wealth index quintile				
Poorest	32.1	59.2	27.7	68
Second	43.2	74.0	34.5	63
Middle	41.6	76.6	40.4	83
Fourth	50.6	79.5	47.1	72
Richest	48.3	78.2	43.3	77
Total	**43.3**	**73.8**	**39.0**	**363**

[1] MICS indicator SW.3

( ) – figures based on 25–49 unweighted cases

APPENDICES

Appendix A1. Sample Design - Macedonia

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 Macedonia Multiple Indicator Cluster Survey was to produce statistically reliable estimates of most indicators, at the national level, for urban and rural areas, and for the eight regions (Vardar, East, Southwest, Southeast, Pelagonia, Polog, Northeast, Skopje) of the country. Urban and rural areas in each of the eight regions were defined as the sampling strata.

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

Sample Size and Sample Allocation

The target national sample size for the Macedonia MICS was 4703 households.
For the calculation of the sample size, the key indicator used was the incidence of stunting among children aged 0-4 years. The following formula was used to estimate the required sample size for this indicator:

$$n \quad \frac{[4(r)(1 \quad r)(f)(1.5)]}{[(0.12r)^2(p)(\bar{n})]}$$

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 (stunting prevalence) was assumed to be 8 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 11 percent, $\bar{n}$ (average household size) was taken as 3.4 members, and the response rate is assumed to be 90%.

The resulting number of households from this exercise was 14520 households which is the sample size needed to provide sufficient number of children under 5 for drawing reliable conclusions. In order to reduce the sample size with keeping the estimation reliability for most of the indicators, the sample was divided into groups of households with children under 5 and households without children under 5. The average number of households selected per cluster for the Macedonia MICS was determined as 15 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.

In total, 300 clusters were allocated to the regions with the number of sample clusters proportional to the population of the individual regions.

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

Region	Population (2002 Estimates)			Number of Clusters		
	Urban	Rural	Total	Urban	Rural	Total
Vardar	105846	48326	154172	16	7	23
East	118443	63411	181854	18	9	27
Southwest	104956	116539	221495	16	17	33
Southeast	77623	93570	171193	12	14	26
Pelagonija	162488	74982	237470	24	11	35
Polog	88755	215355	304110	13	32	45
Northeast	97624	75030	172654	15	11	26
Skopje	412657	164760	577417	61	24	85
Total	1168392	851973	2020365	175	125	300

Sampling Frame and Selection of Clusters

The 2002 census frame was used for the selection of clusters. Census enumeration areas were defined as primary sampling units (PSUs), and were selected from each of the sampling strata by using systematic pps (probability proportional to size) sampling procedures, based on the estimated sizes of the enumeration areas from the 2002 Population Census. The first stage of sampling was completed by selecting the required number of enumeration areas from each of the eight regions separately by urban and rural strata.

Listing Activities

Since the sampling frame (the 2002 Population Census) was not up-to-date, a new listing of households was conducted in all the sample numeration areas prior to the selection of households. For this purpose, listing teams were formed, who visited each enumeration area, and listed the occupied households. Listing activities were conducted by the same company that was responsible for the data collection. The same teams that were selected for the data collection process were used for listing. The listing took place in February 2012. All teams were given the descriptions and maps of the selected clusters. The teams visited all households in the sample clusters asking for the number of members, number of women aged 15-49 and for number of children under age 5.

Selection of Household

Lists of households with household members were prepared by the listing teams for each enumeration area. The number of selected households per enumeration area was different, depending on the total number inhabitants in the enumeration area and the number of households with children under 5 found in the enumeration area.

In the enumeration areas with less than 450 inhabitants, 5 households with children under 5 and 10 household without children under 5 were selected; in the enumeration areas with more than 450 but less than 600 inhabitants, 6 households with children under 5 and 11 households without children under 5 were selected; in the enumeration areas with more than 600 inhabitants, 7 households with children under 5 and 12 households without children under 5 were selected.
In the enumeration areas where 5 or less households with children under 5 were found, regardless of the number of inhabitants in the enumeration area, all households with children under 5 and 8 of the households without children under 5 were included in the sample.

The households within each second stage stratum (households with and without children under 5) were sequentially numbered from 1 to n (the total number of households in each enumeration area) by the responsible company. Selection of the households within each second stage stratum was carried out using random systematic selection procedures. The total number of households selected for the survey was 4397; of these 748 were households with children under 5.

Calculation of Sample Weights

The Macedonia Multiple Indicator Cluster Survey sample is not self-weighting. Essentially, by allocating equal numbers of households to each of the regions, different sampling fractions were used in each region since the size of the regions varied. For this reason, sample weights were calculated and these were used in the subsequent analyses of the survey data.

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

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

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

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

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.

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

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

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

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

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

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

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

The design weights for the households were calculated by multiplying the inverse of the probabilities of selection for all sampling stages for the households in each enumeration area. These weights were then standardized (or normalized), one purpose of which was to make the weighted sum of the interviewed sample units equal the total sample size at the national level. Normalization was achieved by dividing the full sample weights (adjusted for nonresponse) by the average of these weights across all households at the national level. This is performed by multiplying the sample weights by a constant factor equal to the unweighted number of households at the national level divided by the weighted total number of households (using the full sample weights adjusted for nonresponse). A similar normalization procedure was followed in obtaining standardized weights for the women's and under-5's questionnaires. Adjusted (normalized) weights varied between 0.25 and 4.23 in the 300 sample enumeration areas (clusters).

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

During the data collection, in a number of clusters, the interviewers were not able to conduct the survey in some of the sampled households as the household members live outside of the country most of the year. In 17 clusters where more than 20% of empty households were identified, it was decided to replace these households with a random sample of in-scope

households selected from the same segment and second-stage stratum (with and without children). A total of 101 households were replaced in three regions: Southwest, Polog and Northeast region.

The proposed sample replacement procedure affected the second stage component of the weights. The first stage component of the weight (calculated as the inverse of the probability of selection of the primary sampling unit) remained the same. Based on the sample design, a separate weight was calculated for the strata of households with and without children within each sample segment.

Since the selected households that were out-of-scope in each stratum of these sample segments were replaced, it was possible to simplify the second stage component of the weight as follows for the households with children:

$$W_{2hi\,(wc)} = \frac{M`_{hi\,(wc)}}{m`_{hi\,(wc)}},$$

where:

$W_{2hi(wc)}$ = second-stage weight component for the sample households with children in the i-th sample segment in stratum h

$M'_{hi(wc)}$ = number of in-scope households with children listed in the i-th sample segment in stratum h, after subtracting any households identified as residing outside of Macedonia most of the year

$m'_{hi(wc)}$ = number of sample households with children that have completed questionnaires in the i-th sample segment in stratum h, including any replacement households

It should be noted that this adjusted second stage component of the weight automatically adjusts the weight for any non-interviews as well as for any replacements for the households with children within the sample segment. Therefore it is not necessary to have a separate adjustment of the weights for household non-interviews.

The second stage component of the weight for the households without children within the sample segment was be calculated in a similar way, as follows:

$$W_{2hi\,(woc)} = \frac{M`_{hi\,(woc)}}{m`_{hi\,(woc)}},$$

where:

$W_{2hi(woc)}$ = second-stage weight component for the sample households without children in the i-th sample segment in stratum h

$M'_{hi(woc)}$ = number of in-scope households without children listed in the i-th sample segment in stratum h, after subtracting any households identified as residing outside of Macedonia most of the year

$m'_{hi(woc)}$ = number of sample households without children that have completed questionnaires in the i-th sample segment in stratum h, including any replacement households

Appendix A2. Sample Design – Roma Settlements

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 Roma settlements in the Macedonia Multiple Indicator Cluster Survey was to produce statistically reliable estimates of most indicators, for the Roma population living in Roma settlements at the national level.

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

Sample Size and Sample Allocation

The target national sample size for the Roma settlements in the Macedonia MICS was 1079 households.
For the calculation of the sample size, the key indicator used was the incidence of stunting among children aged 0-4 years. The following formula was used to estimate the required sample size for this indicator:

$$n \quad \frac{[4(r)(1 \quad r)(f)(1.5)]}{[(0.12r)^2(p)(\bar{n})]}$$

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 oferror 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 (stunting prevalence) was assumed to be 16 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 11 percent, $\bar{n}$ (average household size) was taken as 4.4 members, and the response rate is assumed to be 90%.

The resulting number of households from this exercise was 4972 households which is the sample size needed to provide a sufficient number of children under 5 for drawing reliable conclusions. This sample size was reduced to 1079 based on the original plan to stratify the listing in Roma sample PSUs by households with and without children under 5 for the second stage of selection. In this case a higher sampling rate would have been used for the households with children, similar to the sampling strategy for the national MICS. However, later it was decided that given the higher average number of children under 5 for the Roma households, the sampling procedure was simplified to select all households with equal probability in each Roma sample PSU at the second stage. The average number of households selected per cluster for the Macedonia Roma MICS was determined as 15 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.

In total, 70 clusters were allocated to the regions with the number of clusters proportional to the population of the individual regions.

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

Region	Roma population (2002 Estimates)			Number of Clusters		
	Urban	Rural	Total	Urban	Rural	Total
Vardar	633	709	1342	3	0	3
East	5196	301	5497	10	0	10
Southwest	1560	262	1822	3	0	3
Southeast	69	51	120	0	0	0
Pelagonija	6416	54	6470	11	0	11
Polog	2366	215	2581	4	0	4
Northeast	3406	107	3513	6	0	6
Skopje	19048	1207	20255	33	0	33
Total	38694	2906	41600	70	0	70

Sampling Frame and Selection of Clusters

The 2002 census frame was used for the selection of clusters. Census enumeration areas were defined as primary sampling units (PSUs), and were selected from each of the sampling strata by using systematic pps (probability proportional to size) sampling procedures, based on the estimated sizes of the enumeration areas from the 2002 Population Census. The first stage of sampling was thus completed by selecting the required number of enumeration areas at the regional level.

Listing Activities

Since the sampling frame (the 2002 Population Census) was not up-to-date, a new listing of households was conducted in all the sample numeration areas prior to the selection of households. For this purpose, listing teams were formed, who visited each enumeration area, and listed the occupied households. Listing activities were conducted by the same company that was responsible for the data collection. The same teams that were selected for the data collection process were used for listing. The listing took place in February 2012.
All teams were given the descriptions and maps of the selected clusters. The teams visited all households in the sample clusters asking for the number of members, number of women aged 15-49 and for number of children under age 5.

Selection of Household

Lists of households with household members were prepared by the listing teams for each enumeration area. The number of selected households per enumeration area was different, depending on the total number inhabitants in the enumeration area.
In the enumeration areas with less than 400 inhabitants, 15 households were selected; in the enumeration areas with more than 400 but less than 500 inhabitants, 17 households were selected; in the enumeration areas with more than 500 inhabitants, 19 households were selected.
The households were sequentially numbered from 1 to n (the total number of households in each enumeration area). Selection of the households was carried out using random systematic selection procedures. Total number of sampled Roma households was 1079

Calculation of Sample Weights

The Macedonia Multiple Indicator Cluster Survey sample is not self-weighting. Essentially, by allocating equal numbers of households to each of the regions, different sampling fractions were used in each region since the size of the regions varied. For this reason, sample weights were calculated and these were used in the subsequent analyses of the survey data.

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

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

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

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

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.

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

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

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

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

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

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

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

The design weights for the households were calculated by multiplying the inverse of the probabilities of selection for all sampling stages for the households in each enumeration area. These weights were then standardized (or normalized), one purpose of which was to make the weighted sum of the interviewed sample units equal the total sample size at the national level. Normalization was achieved by dividing the full sample weights (adjusted for nonresponse) by the average of these weights across all households at the national level. This was performed by multiplying the sample weights by a constant factor equal to the unweighted number of households at the national level divided by the weighted total number of households (using the full sample weights adjusted for nonresponse). A similar normalization procedure was followed in obtaining standardized weights for the women's and under-5's questionnaires. Adjusted (normalized) weights varied between 0.24 and 4.39 in the 70 sample enumeration areas (clusters).

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

Appendix B. List of Personnel Involved in the Survey

Steering Committee

Institute of Public Health – Chair;
Ministry of Education;
Ministry of Labor and Social Policy;
Institute for Social Activities;
State Statistics Office;
UNDP;
UNFPA;
WHO;
UNICEF;
IPSOS Strategic Puls;

Project Manager

Gjorgji Mitrevski – IPSOS Strategic Puls

Questionnaire Design

Tanja Ivanova – IPSOS Strategic Puls

Zoran Stojanov – UNICEF

Sample Design

Dragisa Bjeloglav – IPSOS Strategic Puls

Tanja Stojadinovic – IPSOS Strategic Puls

Field Manager

Jadranka Markoska – IPSOS Strategic Puls

Field Coordinators

Nevena Tashkovska – IPSOS Strategic Puls

Valjbona Emini – IPSOS Strategic Puls

Data Processing Manager

Ivica Sokolovski – IPSOS Strategic Puls

UNICEF

Sheldon Yett – Country Representative

Foroogh Foyouzat – Deputy Representative

Zoran Stojanov – Monitoring and Evaluation Officer

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Measurers

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Blagica Jakimovska
Desira Avdili
Hamije Osmani
Julijana Madzovska
Lidija Stevanoska
Ljupka Spasova
Marija Corbevska
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Nora Nedzipi
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Violeta Jovanovska

Medical teams
Immunization data from health centres

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Biljana Trajkova
Biljana Danilovska Filipovik
Blagoja Aleksoski
Jovanka Strulakova Korovesovska
Natka Karanfilova
Predrag GJorgjievski
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Vladimir Spasenovski

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Medical teams
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Daniela Dimovska
Dusanka Malinkova
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Elica Stanislevik
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Elizabeta Zisovska
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Fetah Elmazi
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Lidija Markovska
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Magda Manojlovska
Marija Hubreva
Marija Ilijevska
Marija Naneva
Marijana Kosturanova
Marijonka Vladimirovska
Marina Gacova
Meri Patce
Natasa Despotovska
Petre Krstev
Roza Angelova
Sandre GJorsevski
Snezana Stankovska -Koceva
Sonja Fileva
Strahil Gazepov
Sultana Asani
Suzana Ristovska
Suzana Tasevska
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Tatjana Kocankovska
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Biljana Ivanovska
Biljana Karakasova
Biljana Trajkovska
Daniela Dimitrova
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Julija Stojkovska
Karolina Arabadzieva
Katica Dojcinova
Kimet Ahmeti
Kristina Anakieva
Kristina Stojkova
Krstana Kostoska
Liridona Ramadani
Lizabet Redzepi
Ljaura Asani
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Marija Eftimova
Marija Marinkovska
Marija Mihajlovska
Marija Nikolova
Marija Veselinova
Martina Ristovska
Milena Lazovska
Milka Trajanova
Nadire Redzepi
Nadka Damjanova
Nailja Redzep
Natalija Cvetkovik
Natasa Kanevceva
Olivera Cavkar
Pavlina Asenova
Rabije Redzepi
Sameda Memed
Sanja Siljanoska
Sara Ramadani
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Silvana Kujumdzieva
Simona Radovska
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Vesna Misackovska
Viktorija Marinova

Appendix C. Estimates of Sampling Errors

The sample of respondents selected in the Macedonia 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 an 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 urban and rural areas, and for the regions. Six of the selected indicators are based on household members, 10 are based on women and 18 are based on children under 5. All indicators presented here are in the form of proportions. Table SE.1 shows the list of indicators for which sampling errors are calculated, including the base population (denominator) for each indicator. Tables SE.2 to SE.12 show the calculated sampling errors for selected domains.

Table SE.1: Indicators selected for sampling error calculations,

List of indicators selected for sampling error calculations, and base populations (denominators) for each indicator, Macedonia, 2011

MICS4 Indicator[1]		Base Population
HOUSEHOLD MEMBERS		
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
WOMEN		
5.3	Contraceptive prevalence rate	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
UNDER-5s		
2.1a	Underweight prevalence	Children under age 5
2.2a	Stunting prevalence	Children under age 5
2.3a	Wasting prevalence	Children under age 5
2.6	Exclusive breastfeeding under 6 months	Total number of infants under 6 months of age
2.14	Age-appropriate breastfeeding	Children age 0-23 months
-	Tuberculosis immunization coverage	Children age 18-29 months
-	Received polio immunization	Children age 18-29months
-	Received DPT immunization	Children age 18-29months
-	Received measles immunization	Children age 18-29months
-	Received Hepatitis B immunization	Children age 18-29months
-	Received HIB immunization	Children under age 5
-	Diarrhoea in the previous 2 weeks	Children under age 5
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

[1] The early childbearing indicator is only presented for the Roma Settlements survey.

Table SE.2: Sampling errors: Total sample, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.996	0.00236	0.002	5.065	2.250	14764	4018	0.991	1.000
Use of improved sanitation	4.3	0.929	0.00956	0.010	5.568	2.360	14764	4018	0.910	0.948
Secondary school net attendance ratio (adjusted)	7.5	0.857	0.01486	0.017	1.686	1.299	868	939	0.827	0.886
Child labour	8.2	0.166	0.01204	0.072	2.080	1.442	1702	1990	0.142	0.190
Prevalence of children with one or both parents dead	9.18	0.019	0.00340	0.181	2.571	1.603	3204	4085	0.012	0.026
Violent discipline	8.5	0.693	0.01581	0.023	2.031	1.425	2222	1729	0.662	0.725
WOMEN										
Contraceptive prevalence	5.3	0.402	0.01494	0.037	2.484	1.576	2537	2675	0.372	0.432
Unmet need	5.4	0.121	0.00795	0.066	1.590	1.261	2537	2675	0.105	0.137
Antenatal care coverage - at least once by skilled personnel	5.5a	0.986	0.00417	0.004	0.613	0.783	362	503	0.977	0.994
Antenatal care coverage – at least four times by any provider	5.5b	0.939	0.00956	0.010	0.800	0.895	362	503	0.920	0.958
Skilled attendant at delivery	5.7	0.983	0.00415	0.004	0.511	0.715	362	503	0.975	0.991
Institutional deliveries	5.8	0.984	0.00462	0.005	0.694	0.833	362	503	0.975	0.994
Caesarean section	5.9	0.249	0.01987	0.080	1.059	1.029	362	503	0.210	0.289
Literacy rate among young women	7.1	0.974	0.00564	0.006	1.347	1.161	1071	1084	0.963	0.985
Marriage before age 18	8.7	0.107	0.00810	0.076	2.275	1.508	3301	3302	0.090	0.123
UNDER-5s										
Underweight prevalence	2.1a	0.013	0.00303	0.237	0.968	0.984	1332	1332	0.007	0.019
Stunting prevalence	2.2a	0.049	0.00705	0.143	1.392	1.180	1318	1317	0.035	0.064
Wasting prevalence	2.3a	0.018	0.00567	0.311	2.329	1.526	1299	1297	0.007	0.030
Exclusive breastfeeding under 6 months	2.6	0.230	0.02023	0.088	0.256	0.506	114	112	0.190	0.271
Age-appropriate breastfeeding	2.14	0.224	0.02089	0.093	1.307	1.143	541	522	0.183	0.266
Tuberculosis immunization coverage	-	0.976	0.01097	0.011	1.472	1.213	270	282	0.955	0.998
Received polio immunization	-	0.958	0.01137	0.012	0.900	0.949	270	282	0.935	0.981
Received DPT immunization	-	0.952	0.01280	0.013	1.007	1.003	270	282	0.926	0.978
Received measles immunization	-	0.960	0.01207	0.013	1.073	1.036	270	282	0.936	0.984
Received Hepatitis B immunization	-	0.955	0.01171	0.012	0.893	0.945	270	282	0.931	0.978
Received HIB immunization	-	0.953	0.01279	0.013	1.010	1.005	266	280	0.927	0.978
Diarrhoea in the previous 2 weeks	-	0.064	0.00827	0.129	1.565	1.251	1376	1376	0.048	0.081
Support for learning	6.1	0.915	0.01175	0.013	0984	0.992	561	558	0.891	0.938
Attendance to early childhood education	6.7	0.218	0.02119	0.097	1.469	1.212	561	558	0.175	0.260
Birth registration	8.1	0.997	0.00124	0.001	0.824	0.908	1376	1376	0.995	1.000

Table SE.3: Sampling errors: Urban areas, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	1.000	0.00000	0.000	NA	NA	8202	2206	1.000	1.000
Use of improved sanitation	4.3	0.989	0.00258	0.003	1.373	1.172	8202	2206	0.984	0.994
Secondary school net attendance ratio (adjusted)	7.5	0.936	0.01587	0.017	1.421	1.192	387	341	0.904	0.967
Child labour	8.2	0.103	0.01401	0.136	1.850	1.360	860	874	0.075	0.131
Prevalence of children with one or both parents dead	9.18	0.021	0.00513	0.244	2.434	1.560	1604	1900	0.011	0.031
Violent discipline	8.5	0.667	0.02377	0.036	2.222	1.491	1130	875	0.619	0.714
WOMEN										
Contraceptive prevalence	5.3	0.427	0.02104	0.049	2.324	1.525	1333	1285	0.385	0.469
Unmet need	5.4	0.111	0.01052	0.095	1.438	1.199	1333	1285	0.090	0.132
Antenatal care coverage - at least once by skilled personnel	5.5a	0.996	0.00274	0.003	0.533	0.730	178	264	0.991	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.958	0.01352	0.014	1.202	1.096	178	264	0.931	0.985
Skilled attendant at delivery	5.7	0.983	0.00564	0.006	0.490	0.700	178	264	0.971	0.994
Institutional deliveries	5.8	0.993	0.00358	0.004	0.469	0.685	178	264	0.986	1.000
Caesarean section	5.9	0.338	0.02543	0.075	0.760	0.872	178	264	0.287	0.389
Literacy rate among young women	7.1	0.990	0.00540	0.005	1.173	1.083	514	415	0.979	1.000
Marriage before age 18	8.7	0.063	0.00786	0.125	1.724	1.313	1854	1650	0.047	0.079
UNDER-5s										
Underweight prevalence	2.1a	0.008	0.00324	0.429	1.003	1.002	671	718	0.001	0.014
Stunting prevalence	2.2a	0.041	0.00736	0.178	0.971	0.985	666	712	0.027	0.056
Wasting prevalence	2.3a	0.012	0.00390	0.313	0.864	0.930	657	701	0.005	0.020
Exclusive breastfeeding under 6 months	2.6	0.211	0.02332	0.111	0.186	0.432	58	58	0.164	0.258
Age-appropriate breastfeeding	2.14	0.256	0.02810	0.110	1.141	1.068	268	276	0.200	0.312
Tuberculosis immunization coverage	-	0.981	0.01412	0.014	1.557	1.248	132	146	0.953	1.000
Received polio immunization	-	0.947	0.01501	0.016	0.649	0.806	132	146	0.917	0.977
Received DPT immunization	-	0.935	0.01910	0.020	0.867	0.931	132	146	0.897	0.973
Received measles immunization	-	0.955	0.01718	0.018	0.988	0.994	132	146	0.920	0.989
Received Hepatitis B immunization	-	0.941	0.01569	0.017	0.639	0.800	132	146	0.909	0.972
Received HIB immunization	-	0.955	0.01670	0.017	0.930	0.964	129	145	0.921	0.988
Diarrhoea in the previous 2 weeks	-	0.059	0.00946	0.160	1.204	1.097	701	750	0.040	0.078
Support for learning	6.1	0.941	0.01370	0.015	1.018	1.009	284	304	0.913	0.968
Attendance to early childhood education	6.7	0.372	0.03399	0.091	1.498	1.224	284	304	0.304	0.440
Birth registration	8.1	0.999	0.00077	0.001	0.576	0.759	701	750	0.998	1.000

NA: "Not applicable"

Table SE.4: Sampling errors: Rural areas, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.990	0.00528	0.005	5.114	2.261	6562	1812	0.979	1.000
Use of improved sanitation	4.3	0.854	0.02091	0.024	6.340	2.518	6562	1812	0.812	0.896
Secondary school net attendance ratio (adjusted)	7.5	0.793	0.02358	0.030	2.023	1.422	481	598	0.746	0.840
Child labour	8.2	0.231	0.01785	0.077	2.002	1.415	842	1116	0.195	0.267
Prevalence of children with one or both parents dead	9.18	0.016	0.00446	0.270	2.679	1.637	1599	2185	0.008	0.025
Violent discipline	8.5	0.721	0.02033	0.028	1.751	1.323	1091	854	0.680	0.761
WOMEN										
Contraceptive prevalence	5.3	0.374	0.02063	0.055	2.524	1.589	1205	1390	0.333	0.416
Unmet need	5.4	0.132	0.01209	0.092	1.772	1.331	1205	1390	0.108	0.156
Antenatal care coverage - at least once by skilled personnel	5.5a	0.975	0.00792	0.008	0.616	0.785	183	239	0.959	0.991
Antenatal care coverage – at least four times by any provider	5.5b	0.920	0.01401	0.015	0.636	0.798	183	239	0.892	0.948
Skilled attendant at delivery	5.7	0.983	0.00606	0.006	0.524	0.724	183	239	0.971	0.995
Institutional deliveries	5.8	0.976	0.00854	0.009	0.744	0.862	183	239	0.959	0.993
Caesarean section	5.9	0.163	0.02587	0.159	1.168	1.081	183	239	0.111	0.215
Literacy rate among young women	7.1	0.959	0.00950	0.010	1.540	1.241	557	669	0.940	0.978
Marriage before age 18	8.7	0.163	0.01364	0.084	2.257	1.502	1447	1652	0.135	0.190
UNDER-5s										
Underweight prevalence	2.1a	0.018	0.00517	0.287	0.925	0.962	661	614	0.008	0.028
Stunting prevalence	2.2a	0.058	0.01230	0.213	1.679	1.296	653	605	0.033	0.082
Wasting prevalence	2.3a	0.024	0.01047	0.434	2.773	1.665	642	596	0.003	0.045
Exclusive breastfeeding under 6 months	2.6	0.250	0.03414	0.137	0.329	0.574	56	54	0.182	0.318
Age-appropriate breastfeeding	2.14	0.193	0.02885	0.149	1.307	1.143	273	246	0.136	0.251
Tuberculosis immunization coverage	-	0.972	0.01674	0.017	1.396	1.181	138	136	0.939	1.000
Received polio immunization	-	0.968	0.01680	0.017	1.246	1.116	138	136	0.935	1.000
Received DPT immunization	-	0.968	0.01680	0.017	1.246	1.116	138	136	0.935	1.000
Received measles immunization	-	0.966	0.01685	0.017	1.156	1.075	138	136	0.932	0.999
Received Hepatitis B immunization	-	0.968	0.01680	0.017	1.246	1.116	138	136	0.935	1.000
Received HIB immunization	-	0.950	0.01931	0.020	1.062	1.030	137	135	0.912	0.989
Diarrhoea in the previous 2 weeks	-	0.069	0.01377	0.199	1.837	1.355	675	626	0.042	0.097
Support for learning	6.1	0.888	0.01944	0.022	0.961	0.980	277	254	0.849	0.927
Attendance to early childhood education	6.7	0.059	0.01022	0.172	0.474	0.688	277	254	0.039	0.080
Birth registration	8.1	0.996	0.00238	0.002	0.801	0.895	675	626	0.991	1.000

Table SE.5: Sampling errors: Vardar region, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	1.000	0.00000	0.000	NA	NA	1064	338	1.000	1.000
Use of improved sanitation	4.3	0.931	0.01662	0.018	1.458	1.208	1064	338	0.898	0.965
Secondary school net attendance ratio (adjusted)	7.5	*	*	*	*	*	47	39	*	*
Child labour	8.2	0.073	0.02826	0.389	1.387	1.178	97	118	0.016	0.129
Prevalence of children with one or both parents dead	9.18	0.017	0.00557	0.324	0.519	0.720	193	284	0.006	0.028
Violent discipline	8.5	0.797	0.05732	0.072	2.726	1.651	143	135	0.683	0.912
WOMEN										
Contraceptive prevalence	5.3	0.381	0.07321	0.192	4.226	2.056	155	187	0.235	0.528
Unmet need	5.4	0.125	0.02542	0.203	1.096	1.047	155	187	0.075	0.176
Antenatal care coverage - at least once by skilled personnel	5.5a	*	*	*	*	*	16	37	*	*
Antenatal care coverage – at least four times by any provider	5.5b	*	*	*	*	*	16	37	*	*
Skilled attendant at delivery	5.7	*	*	*	*	*	16	37	*	*
Institutional deliveries	5.8	*	*	*	*	*	16	37	*	*
Caesarean section	5.9	*	*	*	*	*	16	37	*	*
Literacy rate among young women	7.1	0.959	0.02379	0.025	0.898	0.948	58	64	0.911	1.000
Marriage before age 18	8.7	0.188	0.03164	0.168	1.546	1.243	219	237	0.125	0.252
UNDER-5s										
Underweight prevalence	2.1a	0.013	0.01378	1.029	1.953	1.398	99	137	0.000	0.041
Stunting prevalence	2.2a	0.051	0.02666	0.519	1.968	1.403	98	136	0.000	0.105
Wasting prevalence	2.3a	0.038	0.01610	0.428	0.966	0.983	98	136	0.005	0.070
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	7	11	*	*
Age-appropriate breastfeeding	2.14	*	*	*	*	*	27	42	*	*
Tuberculosis immunization coverage	-	*	*	*	*	*	20	30	*	*
Received polio immunization	-	*	*	*	*	*	20	30	*	*
Received DPT immunization	-	*	*	*	*	*	20	30	*	*
Received measles immunization	-	*	*	*	*	*	20	30	*	*
Received Hepatitis B immunization	-	*	*	*	*	*	20	30	*	*
Received HIB immunization	-	*	*	*	*	*	20	30	*	*
Diarrhoea in the previous 2 weeks	-	0.040	0.01684	0.425	1.029	1.014	100	139	0.006	0.073
Support for learning	6.1	0.939	0.03791	0.040	1.525	1.235	51	62	0.863	1.000
Attendance to early childhood education	6.7	0.443	0.12733	0.288	4.008	2.002	51	62	0.188	0.697
Birth registration	8.1	1.000	0.00000	0.000	NA	NA	100	139	1.000	1.000

NA: "Not applicable"

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

Table SE.6: Sampling errors: East region, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.997	0.00353	0.004	1.319	1.148	1235	370	0.989	1.000
Use of improved sanitation	4.3	0.885	0.03313	0.037	3.984	1.996	1235	370	0.819	0.951
Secondary school net attendance ratio (adjusted)	7.5	*	*	*	*	*	45	39	*	*
Child labour	8.2	0.198	0.03545	0.179	1.107	1.052	123	141	0.127	0.269
Prevalence of children with one or both parents dead	9.18	0.021	0.01035	0.490	1.559	1.249	225	302	0.000	0.042
Violent discipline	8.5	0.638	0.07090	0.111	3.199	1.789	168	148	0.496	0.780
WOMEN										
Contraceptive prevalence	5.3	0.387	0.03092	0.080	0.794	0.891	185	198	0.325	0.449
Unmet need	5.4	0.146	0.02581	0.176	1.050	1.025	185	198	0.095	0.198
Antenatal care coverage - at least once by skilled personnel	5.5a	*	*	*	*	*	25	41	*	*
Antenatal care coverage – at least four times by any provider	5.5b	*	*	*	*	*	25	41	*	*
Skilled attendant at delivery	5.7	*	*	*	*	*	25	41	*	*
Institutional deliveries	5.8	*	*	*	*	*	25	41	*	*
Caesarean section	5.9	*	*	*	*	*	25	41	*	*
Literacy rate among young women	7.1	0.889	0.06716	0.076	2.706	1.645	61	60	0.755	1.000
Marriage before age 18	8.7	0.139	0.04515	0.326	3.909	1.977	228	230	0.048	0.229
UNDER-5s										
Underweight prevalence	2.1a	0.033	0.00892	0.272	0.326	0.571	110	131	0.015	0.051
Stunting prevalence	2.2a	0.063	0.01700	0.269	0.635	0.797	110	131	0.029	0.097
Wasting prevalence	2.3a	0.028	0.01373	0.487	0.888	0.942	109	130	0.001	0.056
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	6	5	*	*
Age-appropriate breastfeeding	2.14	*	*	*	*	*	37	41	*	*
Tuberculosis immunization coverage	-	*	*	*	*	*	27	32	*	*
Received polio immunization	-	*	*	*	*	*	27	32	*	*
Received DPT immunization	-	*	*	*	*	*	27	32	*	*
Received measles immunization	-	*	*	*	*	*	27	32	*	*
Received Hepatitis B immunization	-	*	*	*	*	*	27	32	*	*
Received HIB immunization	-	*	*	*	*	*	27	32	*	*
Diarrhoea in the previous 2 weeks	-	0.063	0.02086	0.332	0.962	0.981	110	131	0.021	0.105
Support for learning	6.1	0.855	0.04130	0.048	0.811	0.900	49	60	0.772	0.937
Attendance to early childhood education	6.7	0.240	0.05935	0.248	1.140	1.068	49	60	0.121	0.358
Birth registration	8.1	1.000	0.00000	0.000	NA	NA	110	131	1.000	1.000

NA: "Not applicable"

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

Table SE.7: Sampling errors: Southwest region, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.998	0.00250	0.003	1.083	1.040	1337	428	0.993	1.000
Use of improved sanitation	4.3	0.980	0.00699	0.007	1.046	1.023	1337	428	0.966	0.994
Secondary school net attendance ratio (adjusted)	7.5	0.798	0.05790	0.073	2.515	1.586	96	122	0.682	0.914
Child labour	8.2	0.230	0.03100	0.135	1.242	1.114	171	230	0.168	0.292
Prevalence of children with one or both parents dead	9.18	0.009	0.00584	0.616	1.636	1.279	312	451	0.000	0.021
Violent discipline	8.5	0.666	0.04010	0.060	1.358	1.165	208	189	0.585	0.746
WOMEN										
Contraceptive prevalence	5.3	0.207	0.01397	0.067	0.352	0.593	253	297	0.179	0.235
Unmet need	5.4	0.167	0.02509	0.150	1.337	1.156	253	297	0.117	0.217
Antenatal care coverage - at least once by skilled personnel	5.5a	0.994	0.00590	0.006	0.312	0.559	39	52	0.982	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.856	0.05476	0.064	1.243	1.115	39	52	0.747	0.966
Skilled attendant at delivery	5.7	1.000	0.00000	0.000	NA	NA	39	52	1.000	1.000
Institutional deliveries	5.8	0.994	0.00590	0.006	0.312	0.559	39	52	0.982	1.000
Caesarean section	5.9	0.303	0.06254	0.207	0.945	0.972	39	52	0.178	0.428
Literacy rate among young women	7.1	0.958	0.02669	0.028	2.086	1.444	99	120	0.904	1.000
Marriage before age 18	8.7	0.116	0.02084	0.179	1.466	1.211	296	348	0.075	0.158
UNDER-5s										
Underweight prevalence	2.1a	0.028	0.01670	0.595	1.278	1.130	117	126	0.000	0.061
Stunting prevalence	2.2a	0.133	0.04356	0.328	2.011	1.418	111	123	0.046	0.220
Wasting prevalence	2.3a	0.038	0.01977	0.525	1.252	1.119	103	117	0.000	0.077
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	5	8	*	*
Age-appropriate breastfeeding	2.14	0.153	0.05224	0.342	1.140	1.067	59	55	0.048	0.257
Tuberculosis immunization coverage	-	*	*	*	*	*	20	26	*	*
Received polio immunization	-	*	*	*	*	*	20	26	*	*
Received DPT immunization	-	*	*	*	*	*	20	26	*	*
Received measles immunization	-	*	*	*	*	*	20	26	*	*
Received Hepatitis B immunization	-	*	*	*	*	*	20	26	*	*
Received HIB immunization	-	*	*	*	*	*	20	26	*	*
Diarrhoea in the previous 2 weeks	-	0.041	0.01675	0.406	0.922	0.960	121	131	0.008	0.075
Support for learning	6.1	0.915	0.04572	0.050	1.346	1.160	47	51	0.824	1.000
Attendance to early childhood education	6.7	0.103	0.03335	0.324	0.603	0.776	47	51	0.036	0.169
Birth registration	8.1	0.991	0.00613	0.006	0.566	0.752	121	131	0.979	1.000

NA: "Not applicable"

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

Table SE.8: Sampling errors: Southeast region, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.976	0.02337	0.024	8.200	2.864	1293	354	0.929	1.000
Use of improved sanitation	4.3	0.927	0.02544	0.027	3.389	1.841	1293	354	0.876	0.978
Secondary school net attendance ratio (adjusted)	7.5	0.879	0.03955	0.045	1.057	1.028	82	73	0.800	0.958
Child labour	8.2	0.336	0.05709	0.170	2.233	1.494	142	154	0.222	0.451
Prevalence of children with one or both parents dead	9.18	0.024	0.01578	0.666	3.564	1.888	262	332	0.000	0.055
Violent discipline	8.5	0.652	0.04898	0.075	1.479	1.216	179	141	0.554	0.750
WOMEN										
Contraceptive prevalence	5.3	0.186	0.03691	0.199	1.955	1.398	211	218	0.112	0.260
Unmet need	5.4	0.146	0.02159	0.148	0.812	0.901	211	218	0.103	0.189
Antenatal care coverage - at least once by skilled personnel	5.5a	*	*	*	*	*	16	31	*	*
Antenatal care coverage – at least four times by any provider	5.5b	*	*	*	*	*	16	31	*	*
Skilled attendant at delivery	5.7	*	*	*	*	*	16	31	*	*
Institutional deliveries	5.8	*	*	*	*	*	16	31	*	*
Caesarean section	5.9	*	*	*	*	*	16	31	*	*
Literacy rate among young women	7.1	0.964	0.00271	0.003	0.017	0.129	88	80	0.959	0.969
Marriage before age 18	8.7	0.154	0.02559	0.166	1.292	1.137	263	258	0.103	0.205
UNDER-5s										
Underweight prevalence	2.1a	0.004	0.00454	1.019	0.530	0.728	81	115	0.000	0.014
Stunting prevalence	2.2a	0.013	0.00090	0.072	0.007	0.086	81	114	0.011	0.014
Wasting prevalence	2.3a	0.010	0.00988	0.985	1.092	1.045	79	112	0.000	0.030
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	6	8	*	*
Age-appropriate breastfeeding	2.14	*	*	*	*	*	24	33	*	*
Tuberculosis immunization coverage	-	*	*	*	*	*	20	30	*	*
Received polio immunization	-	*	*	*	*	*	20	30	*	*
Received DPT immunization	-	*	*	*	*	*	20	30	*	*
Received measles immunization	-	*	*	*	*	*	20	30	*	*
Received Hepatitis B immunization	-	*	*	*	*	*	20	30	*	*
Received HIB immunization	-	*	*	*	*	*	20	30	*	*
Diarrhoea in the previous 2 weeks	-	0.049	0.02565	0.519	1.639	1.280	83	118	0.000	0.101
Support for learning	6.1	*	*	*	*	*	34	48	*	*
Attendance to early childhood education	6.7	*	*	*	*	*	34	48	*	*
Birth registration	8.1	1.000	0.00000	0.000	NA	NA	83	118	1.000	1.000

NA: "Not applicable"

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

Table SE.9: Sampling errors: Pelagonia region, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	1.000	0.00000	0.000	NA	NA	1957	550	1.000	1.000
Use of improved sanitation	4.3	0.941	0.01088	0.012	1.176	1.085	1957	550	0.919	0.963
Secondary school net attendance ratio (adjusted)	7.5	0.957	0.01630	0.017	0.607	0.779	105	94	0.925	0.990
Child labour	8.2	0.099	0.02403	0.243	1.530	1.237	215	237	0.051	0.147
Prevalence of children with one or both parents dead	9.18	0.014	0.00658	0.455	1.538	1.240	392	508	0.001	0.028
Violent discipline	8.5	0.838	0.02646	0.032	1.203	1.097	274	234	0.785	0.891
WOMEN										
Contraceptive prevalence	5.3	0.765	0.03211	0.042	2.042	1.429	339	357	0.701	0.829
Unmet need	5.4	0.018	0.00690	0.383	0.960	0.980	339	357	0.004	0.032
Antenatal care coverage - at least once by skilled personnel	5.5a	1.000	0.00000	0.00000	NA	NA	42	78	1.000	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.990	0.00929	0.009	0.685	0.828	42	78	0.972	1.000
Skilled attendant at delivery	5.7	1.000	0.00000	0.000	NA	NA	42	78	1.000	1.000
Institutional deliveries	5.8	1.000	0.00000	0.000	NA	NA	42	78	1.000	1.000
Caesarean section	5.9	0.271	0.05597	0.207	1.222	1.105	42	78	0.159	0.383
Literacy rate among young women	7.1	0.991	0.00318	0.003	0.135	0.367	144	126	0.984	0.997
Marriage before age 18	8.7	0.094	0.01703	0.181	1.452	1.205	431	427	0.060	0.128
UNDER-5s										
Underweight prevalence	2.1a	0.018	0.01014	0.577	1.149	1.072	152	194	0.000	0.038
Stunting prevalence	2.2a	0.041	0.01187	0.289	0.693	0.832	152	195	0.017	0.065
Wasting prevalence	2.3a	0.023	0.01025	0.451	0.914	0.956	152	194	0.002	0.043
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	17	20	*	*
Age-appropriate breastfeeding	2.14	0.109	0.01989	0.182	0.321	0.566	62	80	0.070	0.149
Tuberculosis immunization coverage	-	*	*	*	*	*	34	42	*	*
Received polio immunization	-	*	*	*	*	*	34	42	*	*
Received DPT immunization	-	*	*	*	*	*	34	42	*	*
Received measles immunization	-	*	*	*	*	*	34	42	*	*
Received Hepatitis B immunization	-	*	*	*	*	*	34	42	*	*
Received HIB immunization	-	*	*	*	*	*	34	42	*	*
Diarrhoea in the previous 2 weeks	-	0.048	0.01516	0.319	1.005	1.002	156	199	0.017	0.078
Support for learning	6.1	0.911	0.02890	0.032	0.760	0.872	58	75	0.853	0.969
Attendance to early childhood education	6.7	0.212	0.05538	0.262	1.361	1.166	58	75	0.101	0.322
Birth registration	8.1	0.997	0.00346	0.003	0.691	0.831	156	199	0.990	1.000

NA: "Not applicable"

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

Table SE.10: Sampling errors: Polog region, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.997	0.00184	0.002	0.823	0.907	2059	625	0.994	1.000
Use of improved sanitation	4.3	0.814	0.05769	0.071	13.708	3.702	2059	625	0.698	0.929
Secondary school net attendance ratio (adjusted)	7.5	0.771	0.03476	0.045	1.515	1.231	152	222	0.702	0.841
Child labour	8.2	0.304	0.03660	0.120	2.280	1.510	242	361	0.231	0.377
Prevalence of children with one or both parents dead	9.18	0.020	0.01019	0.515	3.994	1.998	513	747	0.000	0.040
Violent discipline	8.5	0.684	0.03378	0.049	1.526	1.235	339	290	0.617	0.752
WOMEN										
Contraceptive prevalence	5.3	0.380	0.02343	0.062	1.258	1.122	409	541	0.333	0.427
Unmet need	5.4	0.164	0.02150	0.131	1.822	1.350	409	541	0.121	0.207
Antenatal care coverage - at least once by skilled personnel	5.5a	0.997	0.00361	0.004	0.315	0.561	69	85	0.989	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.952	0.01750	0.018	0.564	0.751	69	85	0.917	0.987
Skilled attendant at delivery	5.7	1.000	0.00000	0.000	NA	NA	69	85	1.000	1.000
Institutional deliveries	5.8	0.966	0.01873	0.019	0.904	0.951	69	85	0.929	1.000
Caesarean section	5.9	0.142	0.04696	0.330	1.517	1.232	69	85	0.048	0.236
Literacy rate among young women	7.1	0.972	0.01151	0.012	1.208	1.099	199	251	0.949	0.995
Marriage before age 18	8.7	0.132	0.01960	0.149	2.175	1.475	500	648	0.092	0.171
UNDER-5s										
Underweight prevalence	2.1a	0.005	0.00504	1.018	1.078	1.038	251	210	0.000	0.015
Stunting prevalence	2.2a	0.050	0.01802	0.358	1.391	1.179	250	206	0.014	0.086
Wasting prevalence	2.3a	0.034	0.02465	0.730	3.670	1.916	244	198	0.000	0.083
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	23	19	*	*
Age-appropriate breastfeeding	2.14	0.195	0.06186	0.317	2.070	1.439	103	86	0.072	0.319
Tuberculosis immunization coverage	-	*	*	*	*	*	39	38	*	*
Received polio immunization	-	*	*	*	*	*	39	38	*	*
Received DPT immunization	-	*	*	*	*	*	39	38	*	*
Received measles immunization	-	*	*	*	*	*	39	38	*	*
Received Hepatitis B immunization	-	*	*	*	*	*	39	38	*	*
Received HIB immunization	-	*	*	*	*	*	38	37	*	*
Diarrhoea in the previous 2 weeks	-	0.084	0.02379	0.285	1.588	1.260	256	216	0.036	0.131
Support for learning	6.1	0.914	0.03690	0.040	1.485	1.219	102	87	0.840	0.988
Attendance to early childhood education	6.7	0.059	0.01830	0.313	0.523	0.723	102	87	0.022	0.095
Birth registration	8.1	0.997	0.00254	0.003	0.545	0.738	256	216	0.992	1.000

NA: "Not applicable"

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

Table SE.11: Sampling errors: Northeast region, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.990	0.00945	0.010	3.198	1.788	1466	341	0.972	1.000
Use of improved sanitation	4.3	0.941	0.02283	0.024	3.204	1.790	1466	341	0.896	0.987
Secondary school net attendance ratio (adjusted)	7.5	0.806	0.05513	0.068	2.215	1.488	109	115	0.696	0.916
Child labour	8.2	0.183	0.04209	0.230	2.464	1.570	190	209	0.099	0.267
Prevalence of children with one or both parents dead	9.18	0.038	0.01253	0.330	1.635	1.279	352	381	0.013	0.063
Violent discipline	8.5	0.657	0.05698	0.087	2.146	1.465	240	150	0.543	0.771
WOMEN										
Contraceptive prevalence	5.3	0.126	0.03121	0.248	1.966	1.402	254	223	0.063	0.188
Unmet need	5.4	0.221	0.05265	0.238	3.575	1.891	254	223	0.116	0.326
Antenatal care coverage - at least once by skilled personnel	5.5a	*	*	*	*	*	37	42	*	*
Antenatal care coverage – at least four times by any provider	5.5b	*	*	*	*	*	37	42	*	*
Skilled attendant at delivery	5.7	*	*	*	*	*	37	42	*	*
Institutional deliveries	5.8	*	*	*	*	*	37	42	*	*
Caesarean section	5.9	*	*	*	*	*	37	42	*	*
Literacy rate among young women	7.1	1.000	0.00000	0.000	NA	NA	108	112	1.000	1.000
Marriage before age 18	8.7	0.141	0.04531	0.322	4.940	2.223	327	292	0.050	0.231
UNDER-5s										
Underweight prevalence	2.1a	0.015	0.01088	0.717	0.714	0.845	135	91	0.000	0.037
Stunting prevalence	2.2a	0.050	0.02835	0.564	1.515	1.231	135	91	0.000	0.107
Wasting prevalence	2.3a	0.004	0.00050	1.125	0.006	0.074	130	89	0.003	0.005
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	8	7	*	*
Age-appropriate breastfeeding	2.14	*	*	*	*	*	54	42	*	*
Tuberculosis immunization coverage	-	*	*	*	*	*	38	23	*	*
Received polio immunization	-	*	*	*	*	*	38	23	*	*
Received DPT immunization	-	*	*	*	*	*	38	23	*	*
Received measles immunization	-	*	*	*	*	*	38	23	*	*
Received Hepatitis B immunization	-	*	*	*	*	*	38	23	*	*
Received HIB immunization	-	*	*	*	*	*	38	23	*	*
Diarrhoea in the previous 2 weeks	-	0.051	0.02645	0.517	1.326	1.152	136	93	0.000	0.104
Support for learning	6.1	*	*	*	*	*	58	35	*	*
Attendance to early childhood education	6.7	*	*	*	*	*	58	35	*	*
Birth registration	8.1	1.000	0.00000	0.000	NA	NA	136	93	1.000	1.000

NA: "Not applicable"

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

Table SE.12: Sampling errors: Skopje region, Macedonia, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.998	0.00085	0.001	0.432	0.657	4353	1012	0.997	1.000
Use of improved sanitation	4.3	0.971	0.00451	0.005	0.721	0.849	4353	1012	0.962	0.980
Secondary school net attendance ratio (adjusted)	7.5	0.894	0.02493	0.028	1.529	1.237	233	235	0.844	0.943
Child labour	8.2	0.067	0.01063	0.159	0.975	0.987	521	540	0.046	0.088
Prevalence of children with one or both parents dead	9.18	0.014	0.00660	0.461	3.335	1.826	955	1080	0.001	0.028
Violent discipline	8.5	0.663	0.03290	0.050	2.136	1.462	671	442	0.597	0.729
WOMEN										
Contraceptive prevalence	5.3	0.480	0.02980	0.062	2.323	1.524	730	654	0.420	0.539
Unmet need	5.4	0.079	0.01004	0.126	0.901	0.949	730	654	0.059	0.099
Antenatal care coverage - at least once by skilled personnel	5.5a	0.984	0.01134	0.012	1.116	1.056	118	137	0.961	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.942	0.01366	0.014	0.467	0.684	118	137	0.915	0.970
Skilled attendant at delivery	5.7	0.980	0.01208	0.012	0.997	0.998	118	137	0.956	1.000
Institutional deliveries	5.8	0.991	0.00864	0.009	1.191	1.091	118	137	0.974	1.000
Caesarean section	5.9	0.299	0.03189	0.107	0.660	0.812	118	137	0.235	0.363
Literacy rate among young women	7.1	0.985	0.00676	0.007	0.852	0.923	316	271	0.972	0.999
Marriage before age 18	8.7	0.050	0.00813	0.162	1.195	1.093	1037	862	0.034	0.066
UNDER-5s										
Underweight prevalence	2.1a	0.006	0.00466	0.728	1.115	1.056	388	328	0.000	0.016
Stunting prevalence	2.2a	0.031	0.01097	0.353	1.278	1.131	382	321	0.009	0.053
Wasting prevalence	2.3a	0.000	0.00000	0.000	NA	NA	382	321	0.000	0.000
Exclusive breastfeeding under 6 months	2.6	*	*	*	*	*	43	34	*	*
Age-appropriate breastfeeding	2.14	0.266	0.02918	0.110	0.619	0.787	175	143	0.208	0.325
Tuberculosis immunization coverage	-	0.970	0.02163	0.022	0.975	0.987	71	61	0.927	1.000
Received polio immunization	-	0.919	0.02082	0.023	0.348	0.590	71	61	0.877	0.960
Received DPT immunization	-	0.919	0.02082	0.023	0.348	0.590	71	61	0.877	0.960
Received measles immunization	-	0.933	0.02576	0.028	0.640	0.800	71	61	0.882	0.985
Received Hepatitis B immunization	-	0.900	0.02289	0.025	0.350	0.592	71	61	0.855	0.946
Received HIB immunization	-	0.929	0.02640	0.028	0.625	0.790	69	60	0.876	0.982
Diarrhoea in the previous 2 weeks	-	0.079	0.01805	0.229	1.564	1.250	415	349	0.043	0.115
Support for learning	6.1	0.908	0.02038	0.022	0.692	0.832	162	140	0.867	0.949
Attendance to early childhood education	6.7	0.276	0.02855	0.103	0.567	0.753	162	140	0.219	0.334
Birth registration	8.1	0.997	0.00309	0.003	1.059	1.029	415	349	0.991	1.000

NA: "Not applicable"

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

Table SE.1R: Indicators selected for sampling error calculations,

List of indicators selected for sampling error calculations, and base populations (denominators) for each indicator, Roma settlements, 2011

MICS4 Indicator		Base Population
HOUSEHOLD MEMBERS		
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
WOMEN		
5.2	Early childbearing	Women age 20-24 years
5.3	Contraceptive prevalence	Women age 15-49 years who are currently married or in union
5.4	Unmet need	Women age 15-49 years who are currently married or in union
5.5a	Antenatal care coverage - at least once by skilled personnel	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.5b	Antenatal care coverage – at least four times by any provider	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.7	Skilled attendant at delivery	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.8	Institutional deliveries	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.9	Caesarean section	Women age 15-49 years with a live birth in the 2 years preceding the survey
7.1	Literacy rate among young women	Women age 15-24 years
8.7	Marriage before age 18	Women age 20-49 years
UNDER-5s		
2.1a	Underweight prevalence	Children under age 5
2.2a	Stunting prevalence	Children under age 5
2.3a	Wasting prevalence	Children under age 5
2.6	Exclusive breastfeeding under 6 months	Total number of infants under 6 months of age
2.14	Age-appropriate breastfeeding	Children age 0-23 months
-	Tuberculosis immunization coverage	Children age 18-29 months
-	Received polio immunization	Children age 18-29months
-	Received DPT immunization	Children age 18-29months
-	Received measles immunization	Children age 18-29months
-	Received Hepatitis B immunization	Children age 18-29months
-	Received HIB immunization	Children under age 5
-	Diarrhoea in the previous 2 weeks	Children under age 5
3.8	Oral rehydration therapy with continued feeding	Children under age 5 with diarrhoea in the previous 2 weeks
3.10	Antibiotic treatment of suspected pneumonia	Children under age 5 with suspected pneumonia in the previous 2 weeks
6.1	Support for learning	Children age 36-59 months
6.7	Attendance to early childhood education	Children age 36-59 months
8.1	Birth registration	Children under age 5

Table SE.2R: Sampling errors: Total sample, Roma settlements, 2011

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

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	.9913	.00338	.003	1.261	1.123	4229	953	0.985	0.998
Use of improved sanitation	4.3	.9111	.01609	.018	3.045	1.745	4229	953	0.879	0.943
Secondary school net attendance ratio (adjusted)	7.5	.3919	.03702	.094	1.737	1.318	294	303	0.318	0.466
Child labour	8.2	.1033	.01670	.162	2.449	1.565	781	814	0.070	0.137
Prevalence of children with one or both parents dead	9.18	.0334	.00950	.285	4.330	2.081	1523	1548	0.014	0.052
Violent discipline	8.5	.8203	.01868	.023	1.332	1.154	1094	564	0.783	0.858
WOMEN										
Early childbearing	5.2	.273	.03291	.121	1.081	1.040	190	199	0.207	0.339
Contraceptive prevalence	5.3	.3700	.02933	.079	2.953	1.718	799	801	0.311	0.429
Unmet need	5.4	.2113	.01821	.086	1.592	1.262	799	801	0.175	0.248
Antenatal care coverage - at least once by skilled personnel	5.5a	.9401	.02126	.023	1.390	1.179	182	174	0.898	0.983
Antenatal care coverage – at least four times by any provider	5.5b	.8594	.03243	.038	1.506	1.227	182	174	0.795	0.924
Skilled attendant at delivery	5.7	.9948	.00378	.004	.479	.692	182	174	0.987	1.000
Institutional deliveries	5.8	.9906	.00573	.006	.609	.781	182	174	0.979	1.000
Caesarean section	5.9	.1312	.03681	.281	2.056	1.434	182	174	0.058	0.205
Literacy rate among young women	7.1	.7663	.02968	.039	1.835	1.354	363	374	0.707	0.826
Marriage before age 18	8.7	.4704	.02213	.047	1.798	1.341	918	916	0.426	0.515
UNDER-5s										
Underweight prevalence	2.1a	.0756	.01422	.188	1.354	1.164	470	469	0.047	0.104
Stunting prevalence	2.2a	.1647	.03016	.183	3.014	1.736	458	457	0.104	0.225
Wasting prevalence	2.3a	.0448	.01016	.227	1.098	1.048	457	456	0.024	0.065
Exclusive breastfeeding under 6 months	2.6	(*)	(*)	(*)	(*)	(*)	36	37	(*)	(*)
Age-appropriate breastfeeding	2.14	.4291	.04576	.107	1.556	1.247	178	183	0.338	0.521
Tuberculosis immunization coverage	-	.9817	.01269	.013	.853	.924	86	96	0.956	1.000
Received polio immunization	-	.9219	.02855	.031	1.076	1.037	86	96	0.865	0.979
Received DPT immunization	-	.9088	.03091	.034	1.095	1.046	86	96	0.847	0.971
Received measles immunization	-	.9629	.02271	.024	1.373	1.172	86	96	0.918	1.000
Received Hepatitis B immunization	-	.9173	.02733	.030	.936	.967	86	96	0.863	0.972
Received HIB immunization	-	.9429	.02209	.023	.852	.923	85	95	0.899	0.987
Diarrhoea in the previous 2 weeks	-	.1305	.01672	.128	1.169	1.081	476	476	0.097	0.164
Support for learning	6.1	.6185	.05228	.085	2.166	1.472	198	188	0.514	0.723
Attendance to early childhood education	6.7	.0385	.01227	.318	.760	.872	198	188	0.014	0.063
Birth registration	8.1	.9839	.00760	.008	1.734	1.317	476	476	0.969	0.999

Appendix D. Data Quality Tables

Table DQ.1: Age distribution of household population

Single-year age distribution of household population by sex, Macedonia, 2011

	Sex			
	Male		Female	
Age	Number	Percent	Number	Percent
0	83	1.1	78	1.1
1	87	1.2	91	1.2
2	80	1.1	92	1.3
3	88	1.2	81	1.1
4	94	1.3	84	1.2
5	96	1.3	111	1.5
6	83	1.1	81	1.1
7	97	1.3	77	1.1
8	79	1.1	66	.9
9	90	1.2	67	.9
10	99	1.3	81	1.1
11	107	1.4	88	1.2
12	90	1.2	66	.9
13	66	.9	80	1.1
14	86	1.2	92	1.3
15	96	1.3	100	1.4
16	127	1.7	101	1.4
17	131	1.8	88	1.2
18	120	1.6	102	1.4
19	117	1.6	103	1.4
20	96	1.3	121	1.7
21	126	1.7	104	1.4
22	96	1.3	92	1.3
23	101	1.4	95	1.3
24	115	1.5	111	1.5
25	108	1.5	102	1.4
26	113	1.5	110	1.5
27	122	1.6	115	1.6
28	116	1.6	105	1.4
29	121	1.6	122	1.7
30	123	1.7	94	1.3
31	125	1.7	104	1.4
32	91	1.2	101	1.4
33	122	1.6	108	1.5
34	117	1.6	115	1.6
35	111	1.5	111	1.5
36	108	1.4	116	1.6
37	106	1.4	81	1.1
38	92	1.2	84	1.2
39	108	1.4	111	1.5
40	102	1.4	95	1.3
41	102	1.4	99	1.4
42	90	1.2	86	1.2
43	106	1.4	111	1.5
44	97	1.3	103	1.4
45	127	1.7	82	1.1
46	103	1.4	90	1.2
47	107	1.4	95	1.3
48	95	1.3	111	1.5
49	97	1.3	90	1.2
50	79	1.1	99	1.4
51	114	1.5	103	1.4
52	97	1.3	120	1.6
53	108	1.5	101	1.4
54	112	1.5	101	1.4
55	89	1.2	99	1.4
56	99	1.3	126	1.7
57	108	1.4	107	1.5
58	110	1.5	117	1.6
59	94	1.3	88	1.2
60	93	1.2	81	1.1
61	81	1.1	74	1.0
62	91	1.2	115	1.6
63	82	1.1	102	1.4
64	70	.9	75	1.0
65	76	1.0	77	1.1
66	56	.8	60	.8
67	71	1.0	68	.9
68	48	.6	45	.6
69	62	.8	63	.9
70	59	.8	65	.9
71	63	.8	61	.8
72	33	.4	57	.8
73	32	.4	54	.7
74	44	.6	44	.6
75	52	.7	57	.8
76	60	.8	62	.9
77	40	.5	51	.7
78	25	.3	47	.6
79	17	.2	45	.6
80	26	.4	22	.3
81	16	.2	28	.4
82	8	.1	15	.2
83	19	.3	9	.1
84	6	.1	20	.3
85+	44	.6	62	.8
DK	3	.0	4	.1
Total	7445	100.0	7319	100.0

Figure DQ.1: Number of household population by single ages, Macedonia, 2011

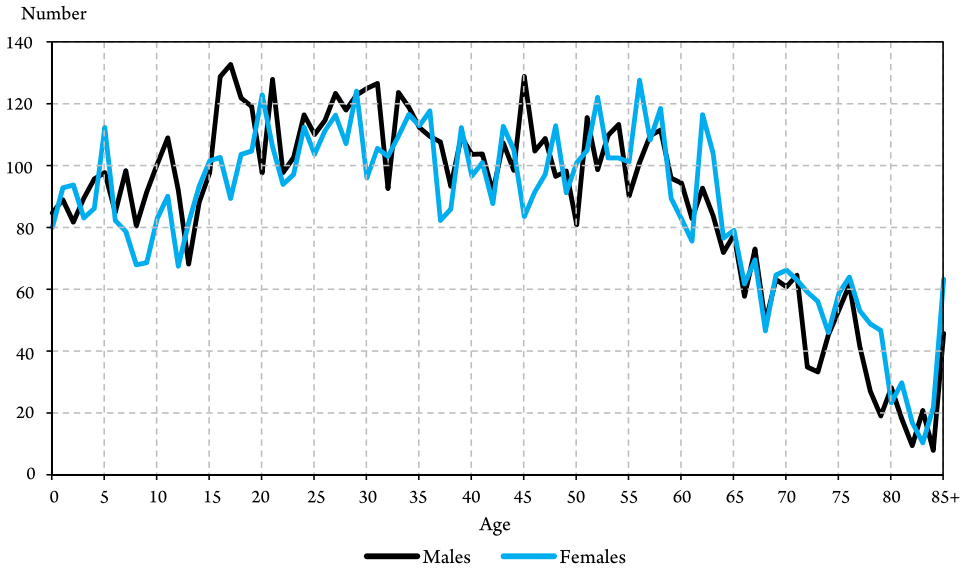

Table DQ.2: Age distribution of eligible and interviewed women

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, Macedonia, 2011

	Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed (Completion rate)
	Number	Number	Percent	
Age				
10-14	407	na	na	na
15-19	493	465	13.8	94.2
20-24	524	473	14.1	90.3
25-29	554	508	15.1	91.6
30-34	522	499	14.9	95.5
35-39	503	478	14.2	95.1
40-44	495	483	14.4	97.6
45-49	468	452	13.5	96.5
50-54	524	na	na	na
Total (15-49)	3559	3357	100.0	94.3

Ratio of 50-54 to 45-49: 1.12

na: not applicable

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, Macedonia, 2011

	Household population of children 0-7 years	Interviewed under-5 children		Percentage of eligible under-5s interviewed (Completion rate)
	Number	Number	Percent	
Age				
0	161	158	18.7	98.1
1	178	173	20.5	97.2
2	172	169	20.0	98.1
3	169	169	20.0	100.0
4	178	175	20.7	98.2
5	207	na	na	na
6	164	na	na	na
7	174	na	na	na
Total (0-4)	859	845	100.0	98.3

Ratio of 5 to 4: 1.16

na: not applicable

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, Macedonia, 2011

	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	
Region					
Vardar	225	6.3	218	6.5	96.9
East	240	6.8	233	6.9	96.8
Southwest	326	9.2	302	9.0	92.7
Southeast	294	8.3	278	8.3	94.5
Pelagonia	473	13.3	462	13.8	97.7
Polog	552	15.5	537	16.0	97.3
Northeast	355	10.0	349	10.4	98.2
Skopje	1093	30.7	978	29.1	89.4
Area					
Urban	1942	54.6	1805	53.8	92.9
Rural	1617	45.4	1552	46.2	96.0
Household size					
1-3	664	18.6	618	18.4	93.2
4-6	2315	65.1	2184	65.1	94.3
7+	580	16.3	554	16.5	95.6
Education of household head					
Primary or less	1354	38.1	1308	39.0	96.6
Secondary	1570	44.1	1481	44.1	94.4
High	633	17.8	566	16.8	89.3
Missing/DK	1	0.0	1	0.0	100.0
Wealth index quintiles					
Poorest	640	18.0	619	18.4	96.7
Second	668	18.8	644	19.2	96.3
Middle	723	20.3	687	20.5	95.0
Fourth	722	20.3	687	20.5	95.1
Richest	805	22.6	720	21.5	89.5
Ethnicity of household head					
Macedonian	2184	61.4	2034	60.6	93.1
Albanian	1089	30.6	1059	31.5	97.3
Other	286	8.0	263	7.8	92.2
Total	3559	100.0	3357	100.0	94.3

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, Macedonia, 2011

	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	
Region					
Vardar	63	7.3	63	7.4	100.0
East	68	8.0	68	8.1	99.7
Southwest	75	8.7	72	8.5	96.3
Southeast	52	6.0	52	6.1	100.0
Pelagonia	98	11.4	98	11.5	100.0
Polog	161	18.7	157	18.6	97.4
Northeast	85	9.9	83	9.9	98.4
Skopje	259	30.1	253	29.9	97.7
Area					
Urban	437	50.9	433	51.2	98.9
Rural	422	49.1	412	48.8	97.7
Household size					
1-3	95	10.9	92	10.8	97.5
4-6	508	59.1	502	59.4	98.8
7+	258	30.0	252	29.8	97.6
Education of household head					
Primary or less	397	46.2	392	46.3	98.7
Secondary	328	38.2	321	38.0	97.9
High	134	15.6	132	15.6	98.4
Wealth index quintiles					
Poorest	196	22.8	193	22.9	98.9
Second	169	19.7	167	19.8	98.6
Middle	161	18.7	156	18.5	97.1
Fourth	164	19.1	160	19.0	97.7
Richest	169	19.7	168	19.9	99.1
Ethnicity of household head					
Macedonian	445	51.8	437	51.7	98.1
Albanian	322	37.4	317	37.6	98.6
Other	92	10.7	91	10.7	98.3
Total	859	100.0	845	100.0	98.3

Table DQ.6: Completeness of reporting

Percentage of observations that are missing information for selected questions and indicators, Macedonia, 2011

Questionnaire and type of missing information	Reference group	Percent with missing/ incomplete information*	Number of cases
Household			
Age	All household members	.1	16323
Starting time of interview	All households interviewed	.5	4018
Ending time of interview	All households interviewed	.5	4018
Women			
Woman's date of birth	All women age 15-49		
Only month		.1	3831
Both month and year		.0	3831
Date of last birth	All women age 15-49 with a live birth in last 2 years		
Only month		.2	2423
Both month and year		.0	2423
Date of first marriage/union	All ever married women age 15-49		
Only month		3.9	2656
Both month and year		2.4	2656
Age at first marriage/union	All ever married women age 15-49 with year of first marriage not known	.9	2656
Starting time of interview	All women interviewed	.8	3831
Ending time of interview	All women interviewed	.8	3831
Under-5			
Date of birth	All under-5 children		
Only month		.0	1376
Both month and year		.0	1376
Anthropometric measurements	All under-5 children		
Weight		2.9	1376
Height		3.6	1376
Both weight and height		2.8	1376
Starting time of interview	All under-5 children	.3	1376
Ending time of interview	All under-5 children	.3	1376

* 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, Macedonia, 2011

	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 not measured, incomplete date of birth	Flagged cases (outliers)			
Weight by age								
<6 months	96.4	2.7	.0	.0	.9	100.0	3.6	112
6-11 months	97.2	2.8	.0	.0	.0	100.0	2.8	145
12-23 months	95.8	3.4	.0	.0	.8	100.0	4.2	265
24-35 months	98.0	2.0	.0	.0	.0	100.0	2.0	296
36-47 months	97.1	2.2	.0	.0	.7	100.0	2.9	273
48-59 months	96.1	3.5	.0	.0	.4	100.0	3.9	285
Total	96.8	2.8	.0	.0	.4	100.0	3.2	1376

	Valid height and date of birth	Reason for exclusion from analysis				Total	Percent of children excluded from analysis	Number of children under 5
		Height not measured	Incomplete date of birth	Height not measured, incomplete date of birth	Flagged cases (outliers)			
Height by age								
<6 months	95.5	4.5	.0	.0	.0	100.0	4.5	112
6-11 months	95.2	2.8	.0	.0	2.1	100.0	4.8	145
12-23 months	95.1	3.4	.0	.0	1.5	100.0	4.9	265
24-35 months	94.3	5.1	.0	.0	.7	100.0	5.7	296
36-47 months	97.8	2.2	.0	.0	.0	100.0	2.2	273
48-59 months	96.1	3.9	.0	.0	.0	100.0	3.9	285
Total	95.7	3.6	.0	.0	.7	100.0	4.3	1376

	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 and height not measured	Flagged cases (outliers)			
Weight by height								
<6 months	93.8	.0	1.8	2.7	1.8	100.0	6.3	112
6-11 months	93.8	.0	.0	2.8	3.4	100.0	6.2	145
12-23 months	93.2	.8	.8	2.6	2.6	100.0	6.8	265
24-35 months	94.6	.0	3.0	2.0	.3	100.0	5.4	296
36-47 months	96.3	.0	.0	2.2	1.5	100.0	3.7	273
48-59 months	93.3	.4	.7	3.2	2.5	100.0	6.7	285
Total	94.3	.2	1.1	2.5	1.9	100.0	5.7	1376

Table DQ.8: Heaping in anthropometric measurements

Distribution of weight and height/length measurements by digits reported for decimals, Macedonia, 2011

	Weight		Height or length	
	Number	Percent	Number	Percent
Digits				
0	173	12.9	297	22.1
1	140	10.5	126	9.4
2	147	11.0	145	10.8
3	115	8.6	122	9.1
4	113	8.4	105	7.8
5	149	11.1	161	12.0
6	123	9.2	115	8.6
7	132	9.9	100	7.5
8	123	9.2	93	6.9
9	123	9.2	77	5.7
0 or 5	322	24.1	458	34.2
Total	1338	100.0	1341	100.0

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, Macedonia, 2011

	Child does not have birth certificate	Child has birth certificate		Missing/ DK	Total	Percent of birth certificates seen by the interviewer (1)/ (1+2)*100	Number of children under age 5
		Seen by the interviewer (1)	Not seen by the interviewer (2)				
Region							
Vardar	1.4	83.5	15.1	.0	100.0	84.7	139
East	.8	72.5	26.7	.0	100.0	73.1	131
Southwest	4.6	69.5	26.0	.0	100.0	72.8	131
Southeast	.0	54.2	45.8	.0	100.0	54.2	118
Pelagonia	2.0	54.8	43.2	.0	100.0	55.9	199
Polog	3.7	67.6	28.7	.0	100.0	70.2	216
Northeast	.0	50.5	49.5	.0	100.0	50.5	93
Skopje	1.1	73.4	25.5	.0	100.0	74.2	349
Area							
Urban	.8	68.0	31.2	.0	100.0	68.5	750
Rural	3.0	66.1	30.8	.0	100.0	68.2	626
Child's age							
0	6.3	66.0	27.7	.0	100.0	70.4	256
1	1.1	65.0	33.8	.0	100.0	65.8	266
2	.7	68.9	30.4	.0	100.0	69.4	296
3	.4	70.6	29.0	.0	100.0	70.8	272
4	1.0	65.0	33.9	.0	100.0	65.7	286
Total	1.8	67.2	31.0	.0	100.0	68.4	1376

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, Macedonia, 2011

	Child does not have vaccination card		Child has vaccination card		Missing/ DK	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)				
Region								
Vardar	.7	.7	91.4	7.2	.0	100.0	92.7	139
East	.0	.8	91.6	7.6	.0	100.0	92.3	131
Southwest	.8	2.3	89.3	7.6	.0	100.0	92.1	131
Southeast	.8	.0	94.1	5.1	.0	100.0	94.9	118
Pelagonia	1.5	1.0	94.0	3.5	.0	100.0	96.4	199
Polog	2.8	3.2	80.6	13.4	.0	100.0	85.7	216
Northeast	.0	1.1	91.4	7.5	.0	100.0	92.4	93
Skopje	1.4	.9	94.8	2.9	.0	100.0	97.1	349
Area								
Urban	.9	.4	92.7	6.0	.0	100.0	93.9	750
Rural	1.6	2.4	89.0	7.0	.0	100.0	92.7	626
Child's age								
0	2.7	3.1	91.8	2.3	.0	100.0	97.5	256
1	.4	.4	92.1	7.1	.0	100.0	92.8	266
2	.7	.7	92.2	6.4	.0	100.0	93.5	296
3	1.8	.4	91.5	6.3	.0	100.0	93.6	272
4	.7	2.1	87.4	9.8	.0	100.0	89.9	286
Total	1.2	1.3	91.0	6.5	.0	100.0	93.4	1376

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, Macedonia, 2011

	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		
Age								
0	100.0	.0	.0	.0	.0	.0	100.0	161
1	100.0	.0	.0	.0	.0	.0	100.0	178
2	98.1	.0	.0	.0	1.9	.0	100.0	172
3	99.6	.0	.0	.0	.4	.0	100.0	169
4	98.6	.0	.0	.0	.6	.8	100.0	178
Total	99.3	.0	.0	.0	.6	.2	100.0	859

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, Macedonia, 2011

	Percent of households where correct selection was performed	Number of households with 2 or more children age 2-14 years
Region		
Vardar	95.5	67
East	100.0	69
Southwest	95.7	92
Southeast	100.0	79
Pelagonia	98.1	106
Polog	90.8	141
Northeast	90.4	73
Skopje	98.3	231
Area		
Urban	97.9	390
Rural	94.7	468
Number of children age 2-14 years		
2	96.8	660
3	95.9	148
4	89.5	38
5+	83.3	12
Total	96.2	858

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, Macedonia, 2011

	Not attending school	Currently attending													Total	Number of household members
		Preschool	Primary school Grade								Secondary school Grade				Higher than secondary	
			1	2	3	4	5	6	7	8	1	2	3	4		
Age at beginning of school year																
5	62.0	15.0	22.6	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	171
6	4.2	2.6	60.6	31.4	.9	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	170
7	.2	.0	4.1	73.9	21.4	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	152
8	.2	.0	1.1	2.8	67.7	27.0	1.2	.0	.0	.0	.0	.0	.0	.0	.0	100.0	154
9	.6	.0	.5	.2	2.9	52.1	41.8	1.9	.0	.0	.0	.0	.0	.0	.0	100.0	164
10	.2	.0	.0	.0	1.0	4.7	89.8	4.2	.0	.0	.0	.0	.0	.0	.0	100.0	193
11	.7	.0	.0	.0	.0	.3	43.9	51.2	3.4	.3	.0	.0	.2	.0	.0	100.0	184
12	1.8	.0	.0	.0	.0	.0	1.2	36.9	57.8	2.3	.0	.0	.0	.0	.0	100.0	150
13	1.7	.0	.0	.0	.0	.0	1.8	.3	40.6	53.4	1.5	.6	.0	.0	.0	100.0	163
14	3.2	.0	.0	.0	.0	.4	.0	.3	1.5	46.4	47.6	.3	.0	.2	.0	100.0	192
15	4.5	.0	.0	.0	.0	.0	.0	.0	.0	2.7	37.7	52.1	3.0	.0	.0	100.0	221
16	10.6	.0	.0	.0	.0	.0	.0	.5	.0	.0	2.1	49.4	36.4	1.0	.0	100.0	208
17	16.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	39.0	40.9	1.5	100.0	240
18	36.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.5	4.9	36.1	22.0	100.0	199
19	42.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.8	55.1	100.0	241
20	56.1	.0	.0	.7	.0	.0	.0	.0	.0	.0	.0	.4	.3	.0	42.5	100.0	216
21	56.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	44.0	100.0	199
22	74.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0	25.3	100.0	192
23	73.2	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.1	.1	26.3	100.0	207
24	86.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	13.6	100.0	236

Table DQ.1R: Age distribution of household population

Single-year age distribution of household population by sex, Roma settlements, 2011

	Sex			
	Male		Female	
Age	Number	Percent	Number	Percent
0	47	2.2	37	1.7
1	53	2.5	49	2.3
2	43	2.1	62	2.9
3	45	2.2	53	2.5
4	58	2.8	53	2.5
5	47	2.2	44	2.1
6	48	2.3	36	1.7
7	46	2.2	48	2.2
8	37	1.8	46	2.1
9	33	1.6	48	2.2
10	33	1.6	35	1.6
11	35	1.7	29	1.3
12	35	1.7	39	1.8
13	35	1.7	32	1.5
14	35	1.7	41	1.9
15	32	1.5	42	2.0
16	53	2.5	35	1.7
17	37	1.8	45	2.1
18	35	1.7	33	1.5
19	30	1.4	23	1.1
20	38	1.8	35	1.6
21	37	1.8	43	2.0
22	31	1.5	36	1.7
23	30	1.4	40	1.9
24	43	2.0	35	1.6
25	48	2.3	34	1.6
26	31	1.5	21	1.0
27	38	1.8	48	2.2
28	29	1.4	30	1.4
29	38	1.8	29	1.4
30	36	1.7	40	1.9
31	39	1.8	31	1.5
32	26	1.2	29	1.4
33	34	1.6	36	1.7
34	28	1.3	35	1.7
35	29	1.4	23	1.1
36	26	1.2	28	1.3
37	23	1.1	25	1.2
38	37	1.8	21	1.0
39	19	.9	20	.9
40	22	1.0	33	1.5
41	27	1.3	32	1.5
42	20	.9	27	1.3
43	25	1.2	27	1.3
44	20	1.0	33	1.6
45	20	1.0	25	1.2
46	31	1.5	24	1.1
47	25	1.2	31	1.5
48	30	1.4	24	1.1
49	28	1.3	23	1.1
50	23	1.1	24	1.1
51	35	1.7	30	1.4
52	26	1.2	19	.9
53	16	.8	29	1.4
54	32	1.5	38	1.8
55	14	.7	19	.9
56	29	1.4	21	1.0
57	20	1.0	23	1.1
58	20	1.0	18	.8
59	9	.4	19	.9
60	19	.9	13	.6
61	13	.6	15	.7
62	14	.7	13	.6
63	8	.4	8	.4
64	14	.7	8	.4
65	9	.4	11	.5
66	5	.2	10	.5
67	5	.3	6	.3
68	4	.2	10	.4
69	3	.1	13	.6
70	8	.4	8	.4
71	2	.1	3	.1
72	10	.5	3	.2
73	4	.2	13	.6
74	3	.1	2	.1
75	4	.2	4	.2
76	6	.3	3	.2
77	6	.3	0	.0
78	2	.1	0	.0
79	1	.1	0	.0
80	0	.0	3	.1
81	0	.0	0	.0
82	0	.0	1	.0
83	0	.0	0	.0
84	0	.0	0	.0
85+	4	.2	3	.1
DK	0	.0	0	.0
Total	2093	100.0	2136	100.0

Figure DQ.1R: Number of household population by single ages, Roma settlements, 2011

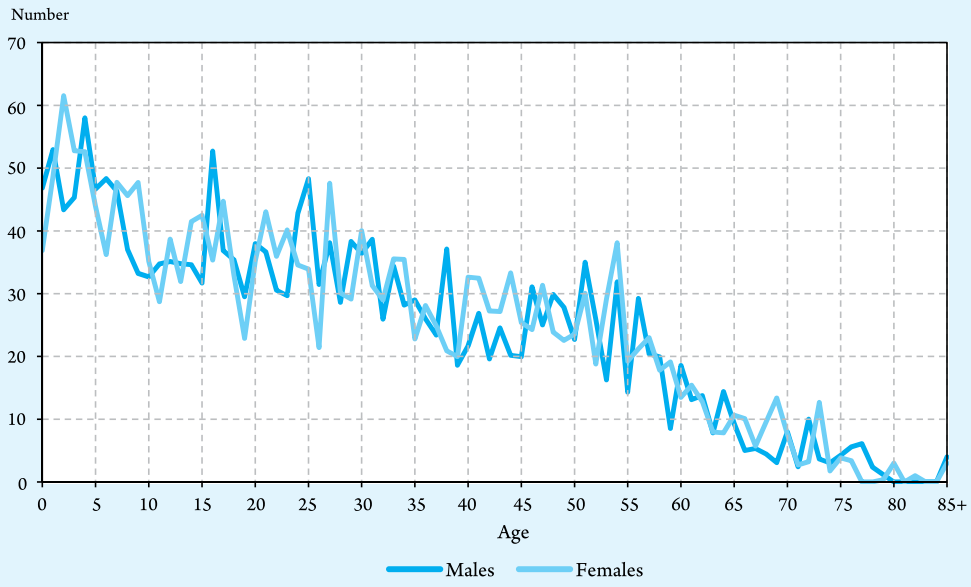

Table DQ.2R: Age distribution of eligible and interviewed women

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, Roma settlements, 2011

	Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed (Completion rate)
	Number	Number	Percent	
Age				
10-14	176	na	na	na
15-19	178	167	15.8	93.8
20-24	189	183	17.4	97.1
25-29	162	160	15.2	98.9
30-34	171	166	15.8	97.0
35-39	117	108	10.3	92.9
40-44	153	144	13.7	94.5
45-49	127	125	11.9	98.4
50-54	140	na	na	na
Total (15-49)	1098	1055	100.0	96.2
Ratio of 50-54 to 45-49: 1.10				

na: not applicable

Table DQ.3R: 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, Roma settlements, 2011

	Household population of children 0-7 years	Interviewed under-5 children		Percentage of eligible under-5s interviewed (Completion rate)
	Number	Number	Percent	
Age				
0	84	82	16.7	98.0
1	102	101	20.5	99.1
2	105	105	21.3	100.0
3	98	96	19.5	97.7
4	111	109	22.1	98.4
5	91	na	na	na
6	85	na	na	na
7	94	na	na	na
Total (0-4)	499	492	100.0	98.7
Ratio of 5 to 4: .82				

na: not applicable

Table DQ.4R: 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, Roma settlements, 2011

	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	
Household size					
1-3	168	15.3	167	15.8	99.2
4-6	649	59.2	633	59.9	97.4
7+	280	25.5	256	24.3	91.4
Education of household head					
Primary or less	132	12.0	128	12.2	97.2
Secondary	750	68.3	725	68.7	96.6
High	215	19.6	202	19.2	93.8
Wealth index quintiles					
Poorest	195	17.8	193	18.3	99.1
Second	199	18.2	196	18.5	98.2
Middle	222	20.2	207	19.6	93.3
Fourth	234	21.4	224	21.2	95.4
Richest	247	22.5	236	22.3	95.6
Total	1098	100.0	1055	100.0	96.2

Table DQ.5R: 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, Roma settlements, 2011

	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	
Household size					
1-3	29	5.9	29	6.0	100.0
4-6	289	57.9	288	58.4	99.7
7+	181	36.3	175	35.6	96.9
Education of household head					
Primary or less	86	17.2	86	17.4	100.0
Secondary	350	70.1	347	70.5	99.2
High	63	12.7	60	12.1	94.0
Wealth index quintiles					
Poorest	126	25.3	126	25.7	100.0
Second	113	22.6	112	22.8	99.4
Middle	97	19.5	96	19.5	99.0
Fourth	85	17.0	82	16.7	96.8
Richest	78	15.6	76	15.4	97.2
Total	499	100.0	492	100.0	98.7

Table DQ.6R: Completeness of reporting

Percentage of observations that are missing information for selected questions and indicators, Roma settlements, 2011

Questionnaire and type of missing information	Reference group	Percent with missing/ incomplete information*	Number of cases
Household			
Age	All household members	.0	4359
Starting time of interview	All households interviewed	.6	953
Ending time of interview	All households interviewed	.7	953
Women			
Woman's date of birth	All women age 15-49		
Only month		.1	1091
Both month and year		.1	1091
Date of first birth	All women age 15-49 with at least one live birth		
Only month		.9	837
Both month and year		2.2	837
Completed years since first birth	All women age 15-49 with at least one live birth with year of first birth unknown	.0	21
Date of last birth	All women age 15-49 with a live birth in last 2 years		
Only month		.4	837
Both month and year		.1	837
Date of first marriage/union	All ever married women age 15-49		
Only month		9.2	891
Both month and year		9.4	891
Age at first marriage/union	All ever married women age 15-49 with year of first marriage not known	.4	891
Starting time of interview	All women interviewed	.6	1091
Ending time of interview	All women interviewed	.8	1091
Under-5			
Date of birth	All under-5 children		
Only month		.0	476
Both month and year		.0	476
Anthropometric measurements	All under-5 children		
Weight		1.1	476
Height		1.9	476
Both weight and height		1.0	476
Starting time of interview	All under-5 children	.9	476
Ending time of interview	All under-5 children	.9	476

* Includes "Don't know" responses

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

Distribution of children under 5 by completeness of information for anthropometric indicators, Roma settlements, 2011

	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 not measured, incomplete date of birth	Flagged cases (outliers)			
Weight by age								
<6 months	100.0	.0	.0	.0	.0	100.0	.0	37
6-11 months	97.7	2.3	.0	.0	.0	100.0	2.3	44
12-23 months	99.0	.0	.0	.0	1.0	100.0	1.0	102
24-35 months	96.2	3.8	.0	.0	.0	100.0	3.8	105
36-47 months	100.0	.0	.0	.0	.0	100.0	.0	83
48-59 months	99.0	1.0	.0	.0	.0	100.0	1.0	105
Total	98.5	1.3	.0	.0	.2	100.0	1.5	476

	Valid height and date of birth	Reason for exclusion from analysis				Total	Percent of children excluded from analysis	Number of children under 5
		Height not measured	Incomplete date of birth	Height not measured, incomplete date of birth	Flagged cases (outliers)			
Height by age								
<6 months	94.6	5.4	.0	.0	.0	100.0	5.4	37
6-11 months	97.7	.0	.0	.0	2.3	100.0	2.3	44
12-23 months	95.1	2.9	.0	.0	2.0	100.0	4.9	102
24-35 months	94.3	3.8	.0	.0	1.9	100.0	5.7	105
36-47 months	96.4	1.2	.0	.0	2.4	100.0	3.6	83
48-59 months	98.1	1.0	.0	.0	1.0	100.0	1.9	105
Total	96.0	2.3	.0	.0	1.7	100.0	4.0	476

	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 and height not measured	Flagged cases (outliers)			
Weight by height								
<6 months	89.2	.0	5.4	.0	5.4	100.0	10.8	37
6-11 months	97.7	2.3	.0	.0	.0	100.0	2.3	44
12-23 months	97.1	.0	2.9	.0	.0	100.0	2.9	102
24-35 months	93.3	.0	.0	3.8	2.9	100.0	6.7	105
36-47 months	96.4	.0	1.2	.0	2.4	100.0	3.6	83
48-59 months	98.1	.0	.0	1.0	1.0	100.0	1.9	105
Total	95.8	.2	1.3	1.1	1.7	100.0	4.2	476

Table DQ.8R: Heaping in anthropometric measurements

Distribution of weight and height/length measurements by digits reported for decimals, Roma settlements, 2011

	Weight		Height or length	
	Number	Percent	Number	Percent
Digits				
0	44	9.4	64	13.6
1	41	8.7	47	10.0
2	56	11.9	59	12.5
3	50	10.6	58	12.3
4	45	9.6	39	8.3
5	39	8.3	42	8.9
6	57	12.1	50	10.6
7	43	9.1	44	9.3
8	46	9.8	41	8.7
9	49	10.4	27	5.7
0 or 5	83	17.7	106	22.5
Total	470	100.0	471	100.0

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

Percent distribution of children under 5 by presence of birth certificates, and percentage of birth calendar seen, Roma settlements, 2011

	Child does not have birth certificate	Child has birth certificate		Missing/ DK	Total	Percent of birth certificates seen by the interviewer (1)/ (1+2)*100	Number of children under age 5
		Seen by the interviewer (1)	Not seen by the interviewer (2)				
Child's age							
0	7.4	63.0	29.6	.0	100.0	68.0	81
1	3.0	63.4	33.7	.0	100.0	65.3	101
2	3.8	53.8	42.5	.0	100.0	55.9	106
3	1.2	68.7	30.1	.0	100.0	69.5	83
4	.0	64.8	35.2	.0	100.0	64.8	105
Total	2.9	62.4	34.7	.0	100.0	64.3	476

Table DQ.12R: 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, Roma settlements, 2011

	Child does not have vaccination card		Child has vaccination card		Missing/ DK	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)				
Child's age								
0	2.5	3.7	84.0	8.6	1.2	100.0	90.7	81
1	.0	2.0	95.0	3.0	.0	100.0	97.0	101
2	2.8	1.9	87.7	7.5	.0	100.0	92.1	106
3	1.2	1.2	85.5	12.0	.0	100.0	87.7	83
4	1.0	1.0	93.3	4.8	.0	100.0	95.1	105
Total	1.5	1.9	89.5	6.9	.2	100.0	92.8	476

Table DQ.13R: 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, Roma settlements, 2011

	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		
Age									
0	100.0	.0	.0	.0	.0	.0	.0	100.0	84
1	100.0	.0	.0	.0	.0	.0	.0	100.0	102
2	98.1	.0	.0	.0	.9	1.0	.0	100.0	105
3	99.1	.0	.0	.0	.0	.0	.9	100.0	98
4	98.6	.0	.0	.0	.8	.6	.0	100.0	111
Total	99.1	.0	.0	.0	.4	.4	.2	100.0	499

Table DQ.14R: 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, Roma settlements, 2011

	Percent of households where correct selection was performed	Number of households with 2 or more children age 2-14 years
Number of children age 2-14 years		
2	100.0	212
3	100.0	93
4	96.7	30
5+	100.0	14
Total	99.7	349

Table DQ.15R: 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, Roma settlements, 2011

		Currently attending															
	Not attending school	Preschool	Primary school Grade								Secondary school Grade				Higher than secondary	Total	Number of household members
			1	2	3	4	5	6	7	8	1	2	3	4			
Age at beginning of school year																	
5	66.2	17.2	12.6	4.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	92
6	12.3	1.2	61.8	22.5	2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	74
7	7.9	.0	5.4	65.3	21.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	101
8	8.0	.0	1.1	5.7	58.4	26.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	75
9	10.4	.0	3.2	2.6	12.4	42.0	25.8	3.6	.0	.0	.0	.0	.0	.0	.0	100.0	78
10	11.0	.0	1.3	1.4	5.5	6.3	69.2	3.1	2.1	.0	.0	.0	.0	.0	.0	100.0	64
11	14.0	.0	1.0	.0	7.0	3.2	35.8	39.0	.0	.0	.0	.0	.0	.0	.0	100.0	66
12	14.0	.0	.0	.0	1.5	2.5	15.0	44.8	19.0	3.2	.0	.0	.0	.0	.0	100.0	61
13	23.7	.0	.0	.8	.0	1.5	1.2	4.9	42.5	23.0	2.5	.0	.0	.0	.0	100.0	78
14	32.6	.0	.0	.0	.0	.9	2.5	2.9	6.5	32.6	20.5	1.5	.0	.0	.0	100.0	79
15	49.9	.0	.0	2.2	.0	.0	.0	.0	2.7	8.8	23.7	12.7	.0	.0	.0	100.0	66
16	50.4	.0	.0	.5	.0	.0	.9	.0	.0	1.3	7.4	27.9	10.9	.7	.0	100.0	106
17	63.6	.0	.0	.0	.0	.0	.0	1.1	.0	.0	1.6	4.0	16.3	13.4	.0	100.0	66
18	73.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	.0	24.0	1.8	100.0	55
19	89.4	.0	.0	.0	.0	.0	1.9	1.0	.0	.0	.0	.0	1.0	1.7	4.9	100.0	67
20	87.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	12.8	100.0	81
21	89.0	.0	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	2.7	6.3	100.0	68
22	95.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.9	.0	3.4	100.0	72
23	100.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	74
24	100.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	82

Appendix E. MICS Indicators: Numerators and Denominators

1. MORTALITY					
1.1	Under-five mortality rate	CM	Probability of dying by exact age 5 years		MDG 4.1
1.2	Infant mortality rate	CM	Probability of dying by exact age 1 year		MDG 4.2
2. NUTRITION					
2.1a 2.1b	Underweight prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median weight for age of the WHO standard	Total number of children under age 5	MDG 1.8
2.2a 2.2b	Stunting prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median height for age of the WHO standard	Total number of children under age 5	
2.3a 2.3b	Wasting prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median weight for height of the WHO standard	Total number of children under age 5	
2.4	Children ever breastfed	MN	Number of women with a live birth in the 2 years preceding the survey who breastfed the child at any time	Total number of women with a live birth in the 2 years preceding the survey	
2.5	Early initiation of breastfeeding	MN	Number of women with a live birth in the 2 years preceding the survey who put the newborn infant to the breast within 1 hour of birth	Total number of women with a live birth in the 2 years preceding the survey	
2.6	Exclusive breastfeeding under 6 months	BF	Number of infants under 6 months of age who are exclusively breastfed[27]	Total number of infants under 6 months of age	
2.7	Continued breastfeeding at 1 year	BF	Number of children age 12-15 months who are currently breastfeeding	Total number of children age 12-15 months	
2.8	Continued breastfeeding at 2 years	BF	Number of children age 20-23 months who are currently breastfeeding	Total number of children age 20-23 months	
2.9	Predominant breastfeeding under 6 months	BF	Number of infants under 6 months of age who received breast milk as the predominant source of nourishment[28] during the previous day	Total number of infants under 6 months of age	
2.10	Duration of breastfeeding	BF	The age in months when 50 percent of children age 0-35 months did not receive breast milk during the previous day		
2.11	Bottle feeding	BF	Number of children age 0-23 months who were fed with a bottle during the previous day	Total number of children age 0-23 months	
2.12	Introduction of solid, semi-solid or soft foods	BF	Number of infants age 6-8 months who received solid, semi-solid or soft foods during the previous day	Total number of infants age 6-8 months	
2.13	Minimum meal frequency	BF	Number of children age 6-23 months receiving solid, semi-solid and soft foods (plus milk feeds for non-breastfed children) the minimum times[29] or more, according to breastfeeding status, during the previous day	Total number of children age 6-23 months	

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

28 Infants who receive breast milk and certain fluids (water and water-based drinks, fruit juice, ritual fluids, oral rehydration solution, drops, vitamins, minerals, and medicines), but do not receive anything else (in particular, non-human milk and food-based fluids)

29 Breastfeeding children: Solid, semi-solid, or soft foods, two times for infants age 6-8 months, 3 times for children 9-23 months; Non-breastfeeding children: Solid, semi-solid, or soft foods, or milk feeds, four times for children age 6-23 months

2.14	Age-appropriate breastfeeding	BF	Number of children age 0-23 months appropriately fed[30] during the previous day	Total number of children age 0-23 months	
2.15	Milk feeding frequency for non-breastfed children	BF	Number of non-breastfed children age 6-23 months who received at least 2 milk feedings during the previous day	Total number of non-breastfed children age 6-23 months	
2.18	Low-birthweight infants	MN	Number of last live births in the 2 years preceding the survey weighing below 2,500 grams at birth	Total number of last live births in the 2 years preceding the survey	
2.19	Infants weighed at birth	MN	Number of last live births in the 2 years preceding the survey who were weighed at birth	Total number of last live births in the 2 years preceding the survey	
3. CHILD HEALTH					
3.1	Tuberculosis immunization coverage	IM	Number of children age 18-29 months who received BCG vaccine before their first birthday	Total number of children age 18-29 months	
3.2	Polio immunization coverage	IM	Number of children age 18-29 months who received OPV3 vaccine before their first birthday	Total number of children age 18-29 months	
3.3	Immunization coverage for diphtheria, pertussis and tetanus (DPT)	IM	Number of children age 18-29 months who received DPT3 vaccine before their first birthday	Total number of children age 18-29 months	
3.4	Measles immunization coverage	IM	Number of children age 18-29 months who received measles vaccine before their first birthday	Total number of children age 18-29 months	MDG 4.3
3.5	Hepatitis B immunization coverage	IM	Number of children age 18-29 months who received the third dose of Hepatitis B vaccine before their first birthday	Total number of children age 18-29 months	
3.8	Oral rehydration therapy with continued feeding	CA	Number of children under age 5 with diarrhoea in the previous 2 weeks who received ORT (ORS packet or recommended homemade fluid or increased fluids) and continued feeding during the episode of diarrhoea	Total number of children under age 5 with diarrhoea in the previous 2 weeks	
3.9	Care-seeking for suspected pneumonia	CA	Number of children under age 5 with suspected pneumonia in the previous 2 weeks who were taken to an appropriate health provider	Total number of children under age 5 with suspected pneumonia in the previous 2 weeks	
3.10	Antibiotic treatment of suspected pneumonia	CA	Number of children under age 5 with suspected pneumonia in the previous 2 weeks who received antibiotics	Total number of children under age 5 with suspected pneumonia in the previous 2 weeks	
3.11	Solid fuels	HC	Number of household members in households that use solid fuels as the primary source of domestic energy to cook	Total number of household members	
4. WATER AND SANITATION					
4.1	Use of improved drinking water sources	WS	Number of household members using improved sources of drinking water	Total number of household members	MDG 7.8
4.2	Water treatment	WS	Number of household members using unimproved drinking water who use an appropriate treatment method	Total number of household members in households using unimproved drinking water sources	
4.3	Use of improved sanitation	WS	Number of household members using improved sanitation facilities which are not shared	Total number of household members	MDG 7.9
4.4	Safe disposal of child's faeces	CA	Number of children age 0-2 years whose last stools were disposed of safely	Total number of children age 0-2 years	
5. REPRODUCTIVE HEALTH					
5.1	Adolescent birth rate	CM	Age-specific fertility rate for women age 15-19 years for the one year period preceding the survey		MDG 5.4
5.2	Early childbearing	CM	Number of women age 20-24 years who had at least one live birth before age 18	Total number of women age 20-24 years	
5.3	Contraceptive prevalence rate	CP	Number of women age 15-49 years currently married or in union who are using (or whose partner is using) a (modern or traditional) contraceptive method	Total number of women age 15-49 years who are currently married or in union	MDG 5.3

30 Infants age 0-5 who are exclusively breastfed, and children age 6-23 months who are breastfed and ate solid, semi-solid or soft foods

5.4	Unmet need[31]	UN	Number of women age 15-49 years who are currently married or in union who are fecund and want to space their births or limit the number of children they have and who are not currently using contraception	Total number of women age 15-49 years who are currently married or in union	MDG 5.6
5.5a 5.5b	Antenatal care coverage	MN	Number of women age 15-49 years who were attended during pregnancy in the 2 years preceding the survey (a) at least once by skilled personnel (b) at least four times by any provider	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	MDG 5.5
5.6	Content of antenatal care	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who had their blood pressure measured and gave urine and blood samples during the last pregnancy	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
5.7	Skilled attendant at delivery	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who were attended during childbirth by skilled health personnel	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	MDG 5.2
5.8	Institutional deliveries	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who delivered in a health facility	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
5.9	Caesarean section	MN	Number of last live births in the 2 years preceding the survey who were delivered by caesarean section	Total number of last live births in the 2 years preceding the survey	
6. CHILD DEVELOPMENT					
6.1	Support for learning	CE	Number of children age 36-59 months with whom an adult has engaged in four or more activities to promote learning and school readiness in the past 3 days	Total number of children age 36-59 months	
6.2	Father's support for learning	CE	Number of children age 36-59 months whose father has engaged in one or more activities to promote learning and school readiness in the past 3 days	Total number of children age 36-59 months	
6.3	Learning materials: children's books	CE	Number of children under age 5 who have three or more children's books	Total number of children under age 5	
6.4	Learning materials: playthings	CE	Number of children under age 5 with two or more playthings	Total number of children under age 5	
6.5	Inadequate care	CE	Number of children under age 5 left alone or in the care of another child younger than 10 years of age for more than one hour at least once in the past week	Total number of children under age 5	
6.6	Early child development Index	CE	Number of children age 36-59 months who are developmentally on track in literacy-numeracy, physical, social-emotional, and learning domains	Total number of children age 36-59 months	
6.7	Attendance to early childhood education	CE	Number of children age 36-59 months who are attending an early childhood education programme	Total number of children age 36-59 months	
7. LITERACY AND EDUCATION					
7.1	Literacy rate among young women	WB	Number of women age 15-24 years who are able to read a short simple statement about everyday life or who attended secondary or higher education	Total number of women age 15-24 years	MDG 2.3
7.2	School readiness	ED	Number of children in first grade of primary school who attended pre-school during the previous school year	Total number of children attending the first grade of primary school	
7.3	Net intake rate in primary education	ED	Number of children of school-entry age who enter the first grade of primary school	Total number of children of school-entry age	
7.4	Primary school net attendance ratio (adjusted)	ED	Number of children of primary school age currently attending primary or secondary school	Total number of children of primary school age	MDG 2.1

31 See MICS4 manual for a detailed description

7.5	Secondary school net attendance ratio (adjusted)	ED	Number of children of secondary school age currently attending secondary school or higher	Total number of children of secondary-school age	
7.6	Children reaching last grade of primary	ED	Proportion of children entering the first grade of primary school who eventually reach last grade		MDG 2.2
7.7	Primary completion rate	ED	Number of children (of any age) attending the last grade of primary school (excluding repeaters)	Total number of children of primary school completion age (age appropriate to final grade of primary school)	
7.8	Transition rate to secondary school	ED	Number of children attending the last grade of primary school during the previous school year who are in the first grade of secondary school during the current school year	Total number of children who are attending the first grade of secondary school	
7.9	Gender parity index (primary school)	ED	Primary school net attendance ratio (adjusted) for girls	Primary school net attendance ratio (adjusted) for boys	MDG 3.1
7.10	Gender parity index (secondary school)	ED	Secondary school net attendance ratio (adjusted) for girls	Secondary school net attendance ratio (adjusted) for boys	MDG 3.1
8. CHILD PROTECTION					
8.1	Birth registration	BR	Number of children under age 5 whose births are reported registered	Total number of children under age 5	
8.2	Child labour	CL	Number of children age 5-14 years who are involved in child labour	Total number of children age 5-14 years	
8.3	School attendance among child labourers	ED - CL	Number of children age 5-14 years who are involved in child labour and are currently attending school	Total number of children age 5-14 years involved in child labour	
8.4	Child labour among students	ED - CL	Number of children age 5-14 years who are involved in child labour and are currently attending school	Total number of children age 5-14 years attending school	
8.5	Violent discipline	CD	Number of children age 2-14 years who experienced psychological aggression or physical punishment during the past month	Total number of children age 2-14 years	
8.6	Marriage before age 15	MA	Number of women age 15-49 years who were first married or in union by the exact age of 15	Total number of women age 15-49 years	
8.7	Marriage before age 18	MA	Number of women age 20-49 years who were first married or in union by the exact age of 18	Total number of women age 20-49 years	
8.8	Young women age 15-19 years currently married or in union	MA	Number of women age 15-19 years who are currently married or in union	Total number of women age 15-19 years	
8.10a 8.10b	Spousal age difference	MA	Number of women currently married or in union whose spouse is 10 or more years older, (a) for women age 15-19 years, (b) for women age 20-24 years	Total number of women currently married or in union (a) age 15-19 years, (b) age 20-24 years	
8.14	Attitudes towards domestic violence	DV	Number of women who state that a husband/ partner is justified in hitting or beating his wife in at least one of the following circumstances: (1) she goes out without telling him, (2) she neglects the children, (3) she argues with him, (4) she refuses sex with him, (5) she burns the food	Total number of women age 15-49 years	
9.17	Children`s living arrangements	HL	Number of children age 0-17 years not living with a biological parent	Total number of children age 0-17 years	
9.18	Prevalence of children with one or both parents dead	HL	Number of children age 0-17 years with one or both parents dead	Total number of children age 0-17 years	
11. SUBJECTIVE WELL-BEING					
SW.1	Life satisfaction	LS	Number of women age 15-24 years who are very or somewhat satisfied with their family life, friendships, school, current job, health, where they live, how they are treated by others, and how they look	Total number of women age 15-24 years	
SW.2	Happiness	LS	Number of women age 15-24 years who are very or somewhat happy	Total number of women age 15-24 years	

SW.3	Perception of a better life	LS	Number of women age 15-24 years whose life improved during the last one year, and who expect that their life will be better after one year	Total number of women age 15-24 years	
12. TOBACCO AND ALCOHOL USE					
TA.1	Tobacco use	TA	Number of women age 15-49 years who smoked cigarettes, or used smoked or smokeless tobacco products on one or more days during the last one month	Total number of women age 15-49 years	
TA.2	Smoking before age 15	TA	Number of women age 15-49 years who smoked a whole cigarette before age 15	Total number of women age 15-49 years	
TA.3	Alcohol use[j]	TA	Number of women age 15-49 years who had at least one alcoholic drink on one or more days during the last one month	Total number of women age 15-49 years	
TA.4	Use of alcohol before age 15	TA	Number of women age 15-49 years who had at least one alcoholic drink before age 15	Total number of women age 15-49 years	

Appendix F. Questionnaires

MICS

HOUSEHOLD QUESTIONNAIRE
MACEDONIA

HOUSEHOLD INFORMATION PANEL		HH
HH1. Cluster number:		**HH2.** Household number:
HH3. Interviewer's name and number:		**HH4.** Supervisor's name and number:
Name		Name
HH5. Day / Month / Year of interviewing:	Day / Month / Year	

HH6. Area:

Urban	1
Rural	2

HH7. Region:

Vardar	1	Pelagonia	5
East	2	Polog	6
Southwest	3	Northeast	7
Southeast	4	Skopje	8

We are from Ipsos Strategic Puls. We are working on a project related to family health and education. I would like to talk to you about these issues. The interview will last for about 30 minutes. All information obtained will remain strictly confidential and your answers will only be analysed as group data by the project team, without any direct correlations to your personal data.

Can we start now?

☐ *Yes, permission is given ⇨ Go to HH18 to record time and start the interview.*

☐ *No, permission is not given ⇨ Complete HH9. Talk to your supervisor about this result.*

HH8. Name of the head of household:

HH9. Results from the household interview:

Completed	01
No household member or no competent respondent was found at home during all the 4 visits	02
The entire household is absent for a longer period	03
Refused	04
Vacant dwelling / Address is not a dwelling	05
Ruined dwelling	06
Dwelling not found	07
Other (specify)	96

HH10. The respondent who answers the household questionnaire:

Name:

Row number:

HH11. Total number of household members:

HH12. Number of women aged between 15-49 years:	**HH13.** Number of women questionnaires completed:
HH14. Number of children aged 5 or less:	**HH15.** Number of under-5 children questionnaires completed:
HH15A. Number of children aged between 2-9 years:	**HH15B.** Number of questionnaires for child disability (children 2-9) completed:

HH16. Editor in the field (Name and number):	**HH17.** Data entered by (Name and number):
Name	Name

HOUSEHOLD LIST — HL

HH18.
Record momentary time.

As first, can you please tell me the name of each person who usually lives here, starting with the head of household?
List the head of the household in row 01. List all household members (HL2), their relationship to the household head (HL3), and their gender (HL4)
Then ask: Are there any other persons living here, even if they are not at home at the moment?
If yes, fill in the list for questions HL2-HL4. Then, ask all the questions starting with HL5 for each person individually.
Use an additional questionnaire if all the rows in the household roster form have been used.

Hour								For women aged **15-49**
Minutes								

HL1. Row number	**HL2.** Name	**HL3.** What is the relation-ship of (name) to the head of house-hold? (See codes for re-lationship below the table)	**HL4.** Is (name) male or female? 1 Male 2 Female		**HL5.** What is (name)'s birth date?		**HL6.** How old is (*name*)? *Record full years. If the age is 95 or above, record '95'*	**HL7.** Circle row number if the woman is aged 15-49
					98 DK	9998 DK		
Row	Name	Relation*	M	F	Month	Year	Age	15-49
01		0 1	1	2				01
02			1	2				02
03			1	2				03
04			1	2				04
05			1	2				05
06			1	2				06
07			1	2				07
08			1	2				08
09			1	2				09
10			1	2				10
11			1	2				11
12			1	2				12
13			1	2				13
14			1	2				14
15			1	2				15
Tick this box if an additional questionnaire is used								

Check for additional household members.
Probe in particular for any **newborns** or small children not listed above and other persons who are not family members (like for ex. **retainers**, friends) but they happen to live in the household.
Insert the names of all the additional members in the household roster and complete the for each of them.

Now, for each woman aged between 15 and 49, write the name and the row number and other information in the data panel of the separate Individual Women's Questionnaire.

For each child under 5 years of age, write his/her name and row number AND the raw number of his/her mother or guardian in the data panel of the separate Under-5 Questionnaire.

And, for each child aged between 2 and 9, write his/her name and row number AND the raw number of his/her mother or guardian in the data panel of the separate Child Disability Questionnaire.

Now, you should have a separate questionnaire per each eligible woman, per each child under five, and per each child aged between 2 and 9 in the household.

If there are children aged from 0 to 5 within this household, inform the mother/guardian that these children will have to be measured after the interviewing process is complete.

	For children aged **5-14**	For children under **5**	For children aged **2-9**	For children aged 0-17 years			
	HL8. who is this child's mother or primary guardian? Record row number for mother/ guardian	***HL9.*** who is this child's mother or primary guardian? Record row number for mother/ guardian	***HL9a.*** Copy child's mother or primary guardian raw number for each child between 2 and nine. Use the previous 2 columns – HL8 and HL9. don't ask again	***HL11.*** Is (name)'s birth mother alive? 1 Yes 2 No↘ HL13 8 DK↘ HL13	***HL12.*** Does (name)'s birth mother live in this household? Record row number for the mother or 00 for "No"	***HL13.*** Is (name)'s natural father alive? 1 Yes 2 No↘ Next Row 8 DK↘ Next Row	***HL14.*** Does (name)'s natural father live in this household? Record row number for the father or 00 for "No"
	Mother	Mother	Mother	**y n dk**	Mother	**y n dk**	Father
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	
				1 2 8		1 2 8	

** Codes for HL3: Relationship to the 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 as a relative
05 Grandchild	10 Uncle / Aunt	98 Don't know

EDUCATION

For ALL the household members aged 5 and above, including the adult members as well

ED1. Row number	ED2. Name and age *Copy from the Household List, HL2 and HL6*		ED3. Has (*name*) ever attended school or pre-school education? 1 Yes 2 No ↘ Next Row		ED4a. What is the highest level of education (*name*) attended? Level: 0 Preschool 1 Primary 2 Secondary 3 Higher 8 DK If level=0, skip to ED5	ED4b. What is the highest grade (*name*) completed at this level (ED4a)? Grade/year: 98 DK If less than 1, enter 00.	ED5. During the school year (**2010-2011**), has (*name*) attended school or preschool at any time? 1 Yes 2 No ↘	
Row	Name	Age	Yes	No	Level	Grade/year	Yes	No
01			1	2	0 1 2 3 4 8		1	2
02			1	2	0 1 2 3 4 8		1	2
03			1	2	0 1 2 3 4 8		1	2
04			1	2	0 1 2 3 4 8		1	2
05			1	2	0 1 2 3 4 8		1	2
06			1	2	0 1 2 3 4 8		1	2
07			1	2	0 1 2 3 4 8		1	2
08			1	2	0 1 2 3 4 8		1	2
09			1	2	0 1 2 3 4 8		1	2
10			1	2	0 1 2 3 4 8		1	2
11			1	2	0 1 2 3 4 8		1	2
12			1	2	0 1 2 3 4 8		1	2
13			1	2	0 1 2 3 4 8		1	2
14			1	2	0 1 2 3 4 8		1	2
15			1	2	0 1 2 3 4 8		1	2

For those household members aged 5-24

ED6. During this/that school year, which level and grade does/did (*name*) attend?		***ED7.*** During the previous school year, (**2009-2010**), did (*name*) attend school or preschool at any time?	***ED8.*** During that previous school year, which level and grade did (name) attend?	
Level: 0 Preschool 1 Primary 2 Secondary 3 Higher 8 DK If level=0, skip to ED7	Grade/year: 98 DK	1 Yes 2 No ⇘ Next Row 8 DK ⇘ Next Row	Level: 0 Preschool 1 Primary 2 Secondary 3 Higher 8 DK If level=0, go to next person	Grade/year: 98 DK

Level	Grade/year	y	n	dk	Level	Grade/year
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	
0 1 2 3 4 8		1	2	8	0 1 2 3 4 8	

HOUSEHOLD CHARACTERISTICS			HC
HC1a. What is the religion the head of household practices?	Orthodox Christian	01	
	Catholic	02	
	Muslim	03	
	Protestant	04	
	Other religion (*specify*)	06	
	None	07	
HC1b. What is head household's mother tongue?	Macedonian	01	
	Albanian	02	
	Roma	03	
	Turkish	04	
	Serbian	05	
	Vlach	06	
	Bosnian	07	
	Other language (*specify*)	96	
	Does not want to specify	15	
HC1c. What ethnic group does the head of household belong to?	Macedonian	01	
	Albanian	02	
	Roma	03	
	Turkish	04	
	Serbian	05	
	Vlach	06	
	Bosnian	07	
	Other ethnic group (*specify*)	96	
	Does not want to specify	15	
HC2. How many rooms in this household do you use for sleeping?	Number of rooms	__ __	
HC3. *Main material the dwelling floor is made from.*	Natural floor		
	Soil/ Sand	11	
Record your own observation.	Dung floor	12	
	Rudimentary floor		
	Wood planks	21	
	Refined floor		
	Parquet or polished wood	31	
	Vinyl or asphalt stripes	32	
	Ceramic tiles	33	
	Cement	34	
	Carpet	35	
	Laminate	36	
	Other (*specify*)	96	
HC4. *Main material the dwelling roof is made from.*	Natural roofing		
	No Roof at all	11	
Record your own observation.	Thatch / Palm leaf roof	12	
	Sod	13	
	Stone slabs / leaf stone	14	
	Rudimentary Roofing		
	Rustic rug	21	
	Wood planks	23	
	Cardboard	24	
	Refined roofing		
	Metal	31	
	Wood	32	
	Calamine / Cement fibre	33	
	Ceramic tiles	34	
	Cement	35	
	Shingles	36	
	Salonit / Asbestos	37	
	Other (*specify*)	96	

HC5. *Main material the exterior walls are made from.* *Record your own observation.*	Natural walls No walls Cane / Wood trunks Soil Rudimentary walls Hey and mud (plitar) Stone and mud ('clayed') Uncovered adobe Plywood Cardboard Recycled wood/boards,planks Refined walls Cement Limestone/ cement (constructed) Bricks Cement blocks Covered adobe Wood planks / shingles Other (*specify*)	 11 12 13 21 22 23 24 25 26 31 32 33 34 35 36 96	
HC6. What type of fuel does your household mostly utilise for cooking?	Electricity Liquefied Petroleum Gas (LPG) Biogas Coal / Lignite Charcoal Wood Hay / Shrubs / Grass Animal dung Agricultural crop residue No food is cooked in the household Other (*specify*)	01 02 04 06 07 08 09 10 11 95 96	01⇨HC8 02⇨HC8 04⇨HC8 95⇨HC8
HC7. Does cooking usually take place in the house, in a separate construction, or outdoors? *If 'In the house', check*: does it take place in a separate room used as a kitchen?	In the house In a separate room used as a kitchen Elsewhere in the house In a separate construction Outdoors Other (*specify*)	 1 2 3 4 6	

HC8. Is there in your household:		Yes	No
[A] Electricity?	Electricity	1	2
[B] Radio?	Radio	1	2
[C] Television – classical (CRT)?	Television – classical (CRT)	1	2
[D] Plasma/ LCD TV?	Plasma/ LCD TV	1	2
[E] Landline telephone?	Landline telephone	1	2
[F] Refrigerator?	Refrigerator	1	2
[G] Washing machine?	Washing machine	1	2
[H] Cooker?	Cooker	1	2
[I] Water boiler?	Water boiler	1	2
[J] Air-conditioning?	Air-conditioning	1	2
[K] Dish-washer?	Dish-washer	1	2
[L] Microwave-oven?	Microwave-oven	1	2
[M] Dryer?	Dryer	1	2
[N] Sitting set/sofa?	Sitting set/sofa	1	2
[O] sleeping bed?	Sleeping bed	1	2
[P] Dining table?	Dining table	1	2

HC9. Does any member in your household own:		Yes	No	
[A] A watch?	Watch	1	2	
[B] A mobile phone?	Mobile phone	1	2	
[C] A bicycle?	Bicycle	1	2	
[D] A motorcycle or a scooter?	Motorcycle / Scooter	1	2	
[E] A cart pulled by animals?	Cart pulled by animals	1	2	
[F] A car or a truck?	Car / Truck	1	2	
[G] A motor boat?	Motor boat	1	2	
[H] Computer/PC	Computer	1	2	
[I] Laptop	Laptop	1	2	
[J] Caravan	Caravan	1	2	
HC10. Are you or someone else living in this household an owner of this dwelling? *If the answer is "No", ask:* Do you rent this dwelling from someone who does not live in this household? *If the answer is "Rented from someone else", circle "2". For other responses, circle "6".*	Owner Rented Other (neither owned nor rented)		1 2 6	
HC11. Does any member of this household own any land that can be utilized for agricultural purposes?	Yes No		1 2	 ⇨HC13
HC12. How many hectares of agricultural land do the members of this household possess? *If less than 1, record "00". If 95 or more, record '95'. If don't know, record '98'.*	Hectares	___ ___		
HC13. Does this household own any livestock herds, other animals, or poultry?	Yes No		1 2	 ⇨HC15
HC14. How many of the mentioned 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	___ ___		
[E] Chickens?	Chickens	___ ___		
[F] Pigs? *If none, record '00'.* *If 95 or more, record '95'.* *If unknown, record '98'.*	Pigs	___ ___		
HC15. Does any member of this household own a bank account?	Yes No		1 2	

CHILD LABOUR

To be filled in for those children in the household aged **5-17**. *For those household members that are below 5 or above 17 years of age, leave rows as blank.*

Now I would like to ask you about each work that the children in this household may be doing.

CL1. *Row number*	CL2. *Name and Age* *Copy from the Household Roster HL2 and HL6*		CL3. During the last week, did (*name*) do any kind of work for a person who is not a member of this household? *If yes*: For payment in cash or in kind? 1 Yes, for payment (cash or kind) 2 Yes, but no payment 3 No ⇨CL5			CL4. Since last (*day of the week*), how many hours did he/she work for the person who is not a member of this household? *If more than one job, include all hours for all the jobs executed.*		CL5. During the last week, did (*name*) bring any water or collect firewood for the household's use? 1 Yes 2 No ⇨CL7	
			Yes		No	Number			
Row	Name	Age	Paid	Unpaid		of hours		Yes	No
01			1	2	3			1	2
02			1	2	3			1	2
03			1	2	3			1	2
04			1	2	3			1	2
05			1	2	3			1	2
06			1	2	3			1	2
07			1	2	3			1	2
08			1	2	3			1	2
09			1	2	3			1	2
10			1	2	3			1	2
11			1	2	3			1	2
12			1	2	3			1	2
13			1	2	3			1	2
14			1	2	3			1	2
15			1	2	3			1	2

CL

	CL6. Since last (*day of the week*), how many working hours did he/she spend to bring water or collect firewood for the household?		CL7. During the last week, did (*name*) perform any paid or unpaid work on a family farm or in a family business or by selling goods in the street? *Include also the work from a business run by the child, alone or with one or more partners.* 1 Yes 2 No ⇨CL9		CL8. Since last (*day of the week*), working hours did he/she spend for his/her family or himself/ herself?		CL9. During the last week, did (*name*) help with household chores such as shopping, cleaning, washing the clothes, cooking; or taking care for the children, older or sick people? 1 Yes 2 No ⇨ Next child		CL10. Since last (*day of the week*), how many working hours did he/she spend on these chores?	
	Number of hours		Yes	No	Number of hours		Yes	No	Number of hours	
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		
			1	2			1	2		

CHILD DISCIPLINE CD

TABLE 1: CHILDREN AGED BETWEEN 2-14 YEARS ARE ELIGIBLE FOR THE CHILD DISCIPLINE QUESTIONS

- *Record each of the children aged 2-14 years below according to the order they appear in the Household List. Do not include other household members who are outside the age range of 2-14 years.*
- *Indicate the row number, the name, and the age for each child.*
- *Then insert the total number of children aged between 2-14, in the appropriate box below (CD6).*
- *If there are no children aged 2 to14 in this household, go to next module.*

CD1. Rank number	CD2. Row number from HL1	CD3. Name from HL2	CD4. Sex from HL4		CD5. Age from HL6	
Rank	Row	Name	M	F	Age	
1						
2						
3						
4						
5						
6						
7						
8						
CD6.	Total number of children aged 2-14 years					

- *If there is only one child in the household aged 2-14 years, skip table 2 and go to CD8; write down'1' and carry on with CD9*

TABLE 2: RANDOM SELECTION OF A CHILD FOR THE CHILD DISCIPLINE QUESTIONS

- *Use Table 2 to select one child between the age of 2 and 14, if there is more than one child in the household belonging to this age group.*
- *Check the last digit of the household number (HH2) from the front page. This is the number of the row you should move to in the table given below.*
- *Check the total number of the eligible children (2-14) in CD6 above. This is the number of the column you should move to.*
- *Find the box where the row and the column cross along and circle the number that appears in that box. This is the rank number of the child (CD1) that is going to be the subject of the questions you will be asking.*

CD7. Last digit from the household number (HH2)	Total number of the 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 (CD1)*			
CD9. *Write the name and the row number for the child selected for this module from CD3 and CD2, according to the rank number in CD8.*	Name(CD3)		
	Row number (CD2)		
CD10. Adults exercise certain ways to teach children to proper behaviour or to approach a behavioural problem. I will read you some methods that are used and I would like you to tell me if you or any other person in your household has ever used this method with *(name)* in the past month.			
CD11. Took privileges, or have forbidden something *(name)* wanted to do or grounded him/her not to leave the house.	Yes No	1 2	
CD12. Explained why (*name*)'s behavior was incorrect.	Yes No	1 2	
CD13. Shook him/her with hands.	Yes No	1 2	

CD14. Shouted, or yelled at him/her.	Yes No	1 2	
CD15. Gave him/her something else to do.	Yes No	1 2	
CD16. Spanked, or slapped him/her on the bottom.	Yes No	1 2	
CD17. Hit him/her on the bottom or somewhere else on the body with something like a belt, a hairbrush, a stick or another hard object.	Yes No	1 2	
CD18. Called him/her stupid, lazy, or with similar adjectives.	Yes No	1 2	
CD19. Hit or slapped him/her in the face, head, or ears.	Yes No	1 2	
CD20. Hit or slapped him/her on his/her hand, arm, or leg.	Yes No	1 2	
CD21. Beat him/her up, that is hit him/her over and over as hard as one could.	Yes No	1 2	
CD22. Do you believe that for the purpose of properly bringing up, rising, or educating a child, one needs to physically punish the child?	Yes No Don't know / No opinion	1 2 8	

HH19. *Record the momentary time.* Hour and minutes | | | : | | |

HH20. *Thank the respondent for his/her cooperation and check the Household List:*

- ☐ *One Questionnaire for Women is issued for each eligible woman listed in the Household List(HL7)*
- ☐ *One Questionnaire for Children Under 5 is issued for each eligible child under the age of 5 listed in the Household List(HL9)*
- ☐ *One Questionnaire for Child Disability is issued for each eligible child between the age of 2 and 9 listed in the Household List(HL9a)*

Return to the cover page and confirm that all the information about the number of eligible women (HH12), all children under 5 (HH14), and all children aged between 2 and 9 (HH15A) is properly entered.

Make all the necessary steps for all the individual questionnaires to be filled in correctly for this household.

Interviewer's Observations

Field Editor's Observations

Supervisor's Observations

MICS

QUESTIONNAIRE FOR WOMEN
MACEDONIA

WOMEN'S INFORMATION PANEL — WM

This questionnaire is to be filled for all women aged 15 to 49 (see Household List, column HL7). A separate questionnaire should be used for each woman qualified.

WM1. Cluster number:	**WM2.** Household number:
WM3. Woman's name:	**WM4.** Woman's line number:
Name	
WM5. Interviewer's name and number:	**WM6.** Day / Month / Year of interviewing:
Name	

Repeat the introduction if you haven't read it to this woman already:

We are from ***Ipsos Strategic Puls***. We are working on a project related to family health and education. I would like to talk to you about these issues. The interview will last about 30 minutes. All information obtained will remain strictly confidential and your answers will only be analysed as group data by the project team without any direct correlations to your personal data..

If you have already read it to this woman at the beginning from the household questionnaire, then read the following:

We are working on a project related to family health and education. I would like to talk to you about these issues. This interview will last about 30 minutes. All information obtained will remain strictly confidential and your answers will only be analysed as group data by the project team without any direct correlations to your personal data..

Can we start now?

☐ *Yes, permission is given ⇨ Go to WM10 to record time and start the interview.*

☐ *No, permission is not given ⇨ Complete WM7. Talk to your supervisor about this result.*

WM7. Result of woman's interview	Completed	01
	Not at home	02
	Refused	03
	Partly completed	04
	Incapacitated	05
	Other (*specify*)	**96**

WM8. Editor in the field (Name and number):	WM9. Data entered by (Name and number):
Name	Name

WM10. *Record the momentary time.* Hour and minutes :

WOMAN'S BACKGROUND — WB

WB1. In what month and year were you born?	Birth date		
	Month		
	DK month	98	
	Year		
	DK year	9998	
WB2. How old are you? *Probe:* How old were you at your last birthday? *Compare age with the given date and immediately correct WB1 and/or WB2 if the answers are not consistent*	Age (completed years)		
WB3. Have you ever attended school or preschool?	Yes	1	
	No	2	2⇨WB7
WB4. What is the highest level of education that you have attended?	Preschool	0	
	Primary	1	
	Secondary	2	0⇨WB7
	Higher	3	

WB5. What is the highest grade/year you completed at that level? *If less than 1 grade, enter "00"*	Grade/year	
WB6. *Check WB4:* ☐ Secondary or higher. ⇨ Go to Next Module ☐ Primary ⇨ Continue with WB7		
WB7. Now I would like you to read this sentence to me. *Show the sentence on the card to the respondent.* *If the respondent cannot read whole sentence, probe:* Can you read one 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 the language she understands 4 *(specify language)* Blind / mute, visually / speech impaired 5	

CHILD MORTALITY CM

Questions CM0 – CM12 refer to LIVE BIRTHS only.

CM0. *Check in WM1, for cluster number:*

☐ If the number of the cluster where you currently are interviewing belongs to the additional clusters with mostly Roma population ⇨ Go to CM1

☐ Other cases⇨ Continue with CM0A

CM0A. Now i want to ask you about the births you have had during your lifetime. How many live born children have you had in your entire life? What I mean is have you given birth to a child who ever breathed or cried or shown any signs of life – even if that child had lived for only few minutes or hours? *If none, circle '00'.*	None 00 Number of live born children	⇨CM12A
CM0B. When did you gave your last birth (even if the child has died)? Month and year must be recorded.	Date of last birth Day Doesn't know day 98 Month Year	⇨CM12A
CM1. Now I'd like to ask you about all the births you have given in your lifetime. Have you ever given any birth?	Yes 1 No 2	2⇨CM8
CM2. What is the date of your first birth? What I mean is the very first time you gave birth, even if the child is not alive anymore, or even if his/her father is not your current partner. *Move to CM4 only if the year of her first birth is given, if not, continue with CM3.*	Date of first birth Day Doesn't know day 98 Month DK month 98 Year Doesn't know year 9998	⇨CM4
CM3. How many years ago did you you first give birth to a child?	Total completed years since first birth	
CM4. Are any sons or daughters you have given birth to living with you now?	Yes 1 No 2	2⇨CM6

CM5. How many sons are living with you? How many daughters are living with you? *If none, record '00'.*	Sons at home ☐☐ Daughters at home ☐☐	
CM6. Are there any sons or daughters you have given birth to who are alive but are not living with you?	Yes 1 No 2	2⇨CM8
CM7. How many sons are alive but are not living with you? How many daughters are alive but are not living with you? *If none, record '00'.*	Sons living elsewhere ☐☐ Daughters living elsewhere ☐☐	
CM8. Have you ever given birth to a boy or a girl that was born alive but died later? *If the answer is "No" probe:* What I mean is given birth to a child who breathed, or cried, or showed any other signs of life, even if it had lived for only a few minutes or hours?	Yes 1 No 2	2⇨CM10
CM9. How many boys have died? How many girls have died? *If none, record '00'.*	Dead boys ☐☐ Dead girls ☐☐	
CM10. Sum all the answers in CM5, CM7, and CM9 and write down the total number of live born children.	Sum ☐☐	

CM11. Let's make sure I have understood you correctly, you have had (*total number in CM10*) live born children in total during your lifetime. Is this right?

☐ Yes. Check below:

- ☐ No live born children (i.e. the sum equals 0)⇨ Go to CM12A
- ☐ One or more live born children ⇨ Continue with CM12

☐ No ⇨ Check the answers from CM1-CM10 and make any necessary corrections, before you proceed and move to CM12

CM12. Out of all these (*total number in CM10*) live born children you have had, tell me when did you deliver the last one (even if that child has died)? *Month and year must be recorded.*	Date of last birth Day ☐☐ DK day 98 Month ☐☐ Year ☐☐☐☐	
CM12A. Sometimes women have pregnancies that might not end with a live birth. Have you ever had any pregnancy that was miscarried, ended in a stillbirth, or that was aborted?	Yes 1 No2	2⇨CM13
CM12B. How many miscarriages have you had during your lifetime? By miscarriage, I mean an early and involuntary end of pregnancy within the first 5th month of pregnancy	None 00 Number of miscarriages ☐☐	
CM12C. How many of your pregnancies have ended with a stillbirth? By stillbirth, I mean a birth that took place after the 5th month of pregnancy, but the child did not show any signs of life.	None 00 Number of stillbirths ☐☐	
CM12D. And how many abortions have you had during your lifetime? By abortion, i mean a pregnancy that was voluntarily terminated within the first 5 months of pregnancy	None 00 Number of abortions ☐☐	00⇨CM13

CM12E. When did your (last) abortion took place? *Month and year must be recorded.*	Date of (last) abortion Month Year

CM12F. *Check in CM12E when the last abortion took place and if:*

- ☐ There are no abortions during the last 2 years. ⇨ Go to CM13
- ☐ The last abortion took place during the last 2 years, that is, since (the month of interviewing) in 2009, ⇨ Continue with CM12G

CM12G. *If the respondent has mentioned more than one abortion, i.e. CM12D is higher than 1, then ask her for the exact month and year of each mentioned abortion that took place during the last 2 years, i.e. since (the month of interviewing) 2009.Write down month and year for each abortion in CM12H, starting from the last, and for each recorded abortion ask the respondent to tell you how many weeks/months she was pregnant when she aborted and record this appropriately.*

	Last abortion	Previous to the last abortion	Second last from the last abortion	Third last from the last abortion
CM12H. What month and year your (last) abortion took place?	*Don't ask, it is given in CM12E*	Month Year	Month Year	Month Year
CM12I. How many Months (weeks) were you pregnant when your pregnancy was aborted? *If the respondent answers in weeks, write down on the appropriate line for weeks, otherwise just record the given months*	Weeks1 Months2	Weeks1 Months2	Weeks1 Months2	Weeks1 Months2

CM13. *Check CM0B or CM12: Her last birth occurred during the last 2 years, i.e., since (the day and month of interview) in* ***2009***

- ☐ *No live births during the last 2 years. ⇨ Go to ILLNESS SYMPTOMS Module.*
- ☐ *One or more live births during the last 2 years. ⇨ Ask about the name of the last born child*

*Child's name*_____

If the child has passed away, please be very careful when you are referring to this child by its name in the modules that follow. If the child has passed away right after it was given birth and it did not get any name at all, refer to this child as 'the baby/the infant' and be very careful in your approach.

Continue with the next module.

DESIRE FOR LAST BIRTH — DB

This module is to be filled with all the women with a live birth in the last 2 years, preceding the date of the interview.

Check the module for Child Mortality CM13 and record the name of the last-born child here _____.
Use this child's name in the questions that follow, where indicated.

DB1. When you became pregnant with (*name*), did you want to get pregnant at that period?	Yes No	1 2	1⇨Next Module
DB2. Did you want to become pregnant sometime later, or you did not want to have any (more) children?	Later No more	1 2	2⇨Next Module
DB3. How much longer did you want to wait?	Months Years DK	1 2 998	

MATERNAL AND NEWBORN HEALTH — MN

This module is to be filled with all the women with live births during the last 2 years.
Record the name of the last-born child here _____.
Use this child's name in the following questions, where indicated in brackets, like this: (name).

MN1. Did you see anyone for care during your pregnancy with (*name of child*)?	Yes 1 No2	2⇨MN17
MN2. Whom did you see? *Probe:* Anyone else? *Probe until you are sure about the type of person seen and circle all the answers given, if more than one mentioned.*	Health professional: Doctor A Auxiliary midwife C Midwife D Nurse E Other person Non-medical person that traditionally attends birth in the local community F Community health worker G Other (*specify*) X	
MN3. How many times did you receive care during this pregnancy?	Number of times __ __ DK 98	
MN4. As part of your 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?	Yes No Blood pressure 1 2 Urine sample 1 2 Blood sample 1 2	
MN17. Who assisted you with the delivery of (*name of child*)? *Probe:* Anyone else? *Probe for the type of person assisting and circle all answers given.* *If respondent says 'No one' assisted, probe to determine whether any adults were present at the delivery and write down under 'Other' if the given answer is not listed as an option.*	Health professional: Doctor A Auxiliary midwife C Midwife D Nurse E Other person Non-medical person that traditionally attends birth in the local community F Community health worker G Relative / Friend H **Other (*specify*)** **X** No one Y	

MN18. Where did you give birth to (*name of child*)? *Probe to closely identify the type of place before you circle any of the given answer codes.* *If unable to determine whether it is a public or private institution, write the name of the place where birth was given on the line below.* *(Name of place)*	Home Your home 11 Other home 12 Public sector Clinical Hospital 21 General Hospital 22 Health post (birth post) 23 Clinical Centre – Skopje 24 Gynaecology Hospital – Chair 25 **Other public institution (*specify*) 26** Private Medical Sector Private hospital 31 Private clinic 32 Private maternity home 33 **Other private medical (*specify*) 36** **Other (*specify*) 96**	11⇨MN20 12⇨MN20 96⇨MN20
MN19. Was (*name*) delivered by caesarean section? That is, did they cut your belly open to take the baby out?	Yes 1 No 2	
MN20. When (*name*) was born, was he/she a very large, larger than average, average, smaller than average, or very small baby?	Very large 1 Larger than average 2 Average 3 Smaller than average 4 Very small 5 DK 8	
MN21. Was (*name*) weighed at birth?	Yes 1 No 2 DK 8	2⇨MN23 8⇨MN23
MN22. How much did (*name*) weigh? *If card is available, give it a priority and copy the answer from there.*	From card 1 (kg) ____ From recall 2 (kg) ____ DK 99998	
MN23. Has your menstrual period returned since the birth of (*name*)?	Yes 1 No 2	
MN24. Did you ever breastfeed (*name*)?	Yes 1 No 2	2⇨Next Module
MN25. How long after birth did you first put (*name*) on your breast for feeding? *If less than 1 hour, record '00' hours.* *If less than 24 hours, circle code 1 and write down the exact number of hours.* *Otherwise, record the number of days and circle code 2.*	Immediately 000 Hours 1 ____ Days 2 ____ Don't know / remember 998	
MN26. In the first three days after delivery, was (*name*) given anything to drink other than breast milk?	Yes 1 No 2	2⇨Next Module

MN27. What else was (*name*) given to drink? *Probe:* Anything else? *Record all mentioned answers*	Milk (other than breast milk) Plain water Sugar or glucose water Gripe water Sugar-salt-water solution Fruit juice Infant formula (artificial milk) Tea Honey Other (*specify*)	A B C D E F G H I X	

ILLNESS SYMPTOMS — IS

IS1. *Check Household List, column HL9 in the Household Questionnaire*
Is the respondent the mother or guardian of at least one child aged under 5?

☐ *Yes ⇨ Continue with IS2.*
☐ *No ⇨ Go to Next Module.*

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? *Probe additionally:* Any other symptoms? Keep asking for more signs or symptoms until the mother/ guardian cannot recall any additional symptoms. Circle all symptoms mentioned, but do NOT prompt with any suggestions and write down all additional answers not listed in the given answer options under 'other'	Child not able to drink or breastfeed Child becomes sicker Child develops a fever Child has fast breathing Child has difficult breathing Child has blood in stool Child is drinking poorly Child has a rush **Other (*specify*)** **Other (*specify*)** **Other (*specify*)**	A B C D E F G H **X** **Y** **Z**	

CONTRACEPTION — CP

CP0. Couples use different ways or methods in order to postpone or avoid pregnancy.			
Have you heard of :	Yes	1	
[A]Sterilization of Female?	No	2	
Probe: Women can have an operation in order to avoid having more children.			
[B]Sterilization of Male?	Yes	1	
Probe: Men can have an operation in order to avoid having more children.	No	2	
[C]Coil?	Yes	1	
Probe: Women can have a coil placed inside them by a doctor or a nurse.	No	2	
[D] Injections?	Yes	1	
Probe: Women can use injections from a health provider, which have effects on their hormones and stop them from getting pregnant for one or more months.	No	2	
[E] Implants?	Yes	1	
Probe: Women can have one or more small rods implanted in their upper arm (by a doctor or a nurse) and thus prevent pregnancy for one or more years.	No	2	
[F] Pills?	Yes	1	
Probe: Women can take pills on every day basis to avoid getting pregnant.	No	2	
[G] Male Condom?	Yes	1	
Probe: Men can put a rubber cover on their penis before the sexual intercourse.	No	2	
[H] Female Condom?	Yes	1	
Probe: Women can put a cover in their vagina before the sexual intercourse.	No	2	
[I] Diaphragm?	Yes	1	
Probe: Women can insert a soft rubber cup in their vagina to block the sperm from entering their uterus or tubes	No	2	
[J] Foam, Jelly?	Yes	1	
Probe: Women may use spermicidal products (like for ex. foam, jelly, cream) that can kill or prevent the sperm from moving and reaching the egg.	No	2	
[K] Lactational Amenorrhea Method (LAM)?			
[L] Rhythm Method?	Yes	1	
Probe: Every month when the woman is sexually active, she can avoid pregnancy by not having a sexual intercourse on the fertile days in the month, i.e. days she is most likely to get pregnant.	No	2	
[M] Withdrawal?	Yes	1	
Probe: Men can be cautious and pull out before reaching climax.	No	2	
[N]Urgent Contraception?			
Probe: As an emergency measure, within a period of 3 days, after having unprotected sexual intercourse, women can take special pills to prevent getting pregnant.	Yes	1	
[X] Have you heard of any other ways or methods that men or women can utilise in order to avoid pregnancy?	*(specify)*		
	(specify)		
	No	2	
CP1. Now, I would like to talk to you about another topic – planning the family. Are you pregnant at the moment?	Yes, she is pregnant	1	1⇨Next Module
	No	2	
	Not sure or don't know	8	

CP2. At the moment, are you doing anything or using any method to postpone or avoid pregnancy?	Yes No2	1	2⇨Next Module
CP3. What are you doing to postpone or avoid pregnancy? If more than one method is mentioned, circle each one as appropriate.	Female sterilization Male sterilization IUD Injections Implants Pills Male condom Female condom Diaphragm Foam / Jelly Lactational amenorrhoea method (LAM) Rhythm / Periodic abstinence Withdrawal Other (specify)	A B C D E F G H I J K L M X	

UNFULFILLED NEED FOR CONTRACEPTION — UN

UN1. *Check CP1. Is she currently pregnant?*

☐ Yes, she is currently pregnant ⇨ Continue with UN2
☐ No, not sure or doesn't know ⇨ Go to UN5

UN2. Now I'd like to talk to you about your current pregnancy. When you got pregnant, did you want to get pregnant?	Yes No2	1	1⇨UN4
UN3. Did you want to have a baby sometime later or you did not want to have any (more) children?	Later No more	1 2	
UN4. Now I'd like to ask a few questions about the future. After the child you are expecting right now, would you like to have another child, or you would rather not have any more children?	To have another child No more / None Indecisive / Doesn't know	1 2 8	1⇨UN7 2⇨UN13 8⇨UN13

UN5. *Check CP3. Currently using "Female sterilization"?*

☐ Yes ⇨ Go to UN13
☐ No ⇨ Continue with UN6

UN6. Now I would like to ask you about the future. Would you like to have (another) child, or you would rather not have any (more) children?	Wants to have (other) children Doesn't want any/no more children She says she cannot get pregnant Indecisive / Doesn't know	1 2 3 8	2⇨UN9 3⇨UN11 8⇨UN9
UN7. For how long would you like to wait before you give birth to (another) child?	Months Years Soon / Now She says she cannot get pregnant After the marriage Other Don't know	1 ☐☐ 2 ☐☐ 993 994 995 996 998	994⇨UN11

UN8. *Check CP1. Currently pregnant?*

☐ Yes, currently pregnant ⇨ Go to UN13
☐ No, not sure or doesn't know ⇨ Continue with UN9

UN9. *Check CP2. At the moment is she using any method?*

☐ Yes ⇨ Go to UN13
☐ No ⇨ Continue with UN10

UN10. Do you think that you are physically able to get pregnant at the moment?	Yes	1	1 ⇨UN13
	No	2	
	Don't know	8	8 ⇨UN13
UN11. Why do you think you are not physically able to get pregnant? Multiple answers are possible	Irregular sex / No sex	A	
	Menopause	B	
	Never menstruated	C	
	Hysterectomy (surgical removal of uterus)	D	
	Trying to get pregnant for 2 years or more without any results	E	
	Postpartum amenorrhea	F	
	Breastfeeding	G	
	Too old	H	
	Fatalistic	I	
	Other (*specify*)	X	
	Don't know	Z	

UN12. *Check UN11. "Never menstruated"- has it been mentioned?*

☐ Mentioned ⇨ Go to Next Module
☐ Not mentioned ⇨ Continue with UN13

UN13. When did your last menstrual cycle start?	Days ago	1	☐☐
	Weeks ago	2	☐☐
	Months ago	3	☐☐
	Years ago	4	☐☐
	In menopause / Has had hysterectomy	994	
	Before her last birth	995	
	Has never menstruated	996	

ATTITUDES TOWARD DOMESTIC VIOLENCE — DV

DV1. Sometimes a husband can be annoyed or irritated by things that his wife does. In your opinion, is a husband justified to hit or beat 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

MARRIAGE/UNION — MA

MA1. Are you currently married or living together with a man as married?	Yes, currently married Yes, living with a man No, not in union	1 2 3	3⇨MA5
MA2. How old is your husband/partner? *Probe additionally*: How old was your husband/partner on his last birthday?	Age in years DK 98		⇨MA7 98⇨MA7
MA5. Have you ever been married or lived together with a man as if married?	Yes, formerly married Yes, formerly lived with a man No 3	1 2	3 ⇨Next Module
MA6. What is your marital status now: are you widowed, divorced or separated?	Widowed Divorced Separated	1 2 3	
MA7. Have you been married or lived with a man only once or more than once?	Only once More than once	1 2	
MA8. In what month and year did you first marry or start living with a man as if married?	Date of first marriage/ living together Month DK month Year DK year	 98 9998	 ⇨Next Module ⇨MA9
MA9. How old were you when you started living with your first husband/partner?	Age in years		

TOBACCO AND ALCHOHOL CONSUMPTION — TA

TA1. have you ever tried smoking, at least one or two puffs?	Yes No 2	1	2⇨TA6
TA2. At what age did you first smoke a whole cigarette?	I have never smoked a whole cigarette Age	00	00⇨TA6
TA3. Do you smoke cigarettes today?	Yes No 2	1	2⇨TA6
TA4. During the last 24 hours, how many cigarettes have you smoked?	Number of cigarettes		

TA5. During the last month, for how many days have you smoked cigarettes? *If less than 10 days, write the number of days.* *If 10 days or more, circle „10".* *If „every day" or „almost every day", circle „30"*	Number of days 10 days or more Every day/Almost every day	0 [ ] 10 30	
TA6. Have you ever tried to smoke tobacco products, except cigarettes, like for example, cigars, water pipe, cigarillo or dry tobacco?	Yes No	1 2	2⇨TA10
TA7. During the last month, have you consumed any type of smoking tobacco products, excluding cigarettes?	Yes No	1 2	2⇨TA10
TA8. What type of smoked tobacco product did you use or smoke during the last one month? *Circle all mentioned.*	Cigars Water pipe Cigarillos Pipe Other (*specify*) [ ]	A B C D X	
TA9. During the last one month, on how many days did you use smoked tobacco products, excluding cigarettes? *If less than 10 days, record the number of days.* *If 10 days or more but less than a month, circle "10".* *If "everyday" or "almost every day", circle "30"*	Number of days 10 days or more but less than a month Everyday / Almost every day	0 [ ] 10 30	
TA10. Have you ever tried any type of product made from tobacco, like for example tobacco chewing gum, burmut, or tobacco for soaking?	Yes No	1 2	2 ⇨TA14
TA11. During the last month, have you consumed any type of products from non-smoking tobacco?	Yes No	1 2	2 ⇨TA14
TA12. What type of smokeless tobacco product did you use during the last one month? *Circle all mentioned.*	Chewing tobacco Snuff Dip Other (*specify*)	A B C X	
TA13. During the last one month, on how many days did you use smokeless tobacco products? *If less than 10 days, record the number of days.* *If 10 days or more but less than a month, circle "10".* *If "everyday" or "almost every day", circle "30"*	Number of days 10 days or more but less than a month Everyday / Almost every day	0 [ ] 10 30	
TA14. Now a few questions about alcohol consumption. Have you ever tried consuming alcohol?	Yes No	1 2	2⇨NEXT MODULE
TA15. One intake of alcohol refers to one can or bottle of beer, one glass of wine or a glass of Rakia, cognac, vodka, whiskey, or rum. At what age did you drink your first glass of alcohol, excluding any time you had a few sips?	I have never drank a whole glass Age	00 [ ]	

TA16. During the last month, how many days have you had at least one glass of alcohol? *If the respondent has drunk zero glasses, circle „00“* *If less than 10 days, write the number of days.* *If 10 days or more, circle „10“.* *If „every day“ or „almost every day“, circle „30“*	Has not drank any glass during the last month 00 Number of days 0 ☐ 10 days or more 10 Every day/almost every day 30	00⇨ NEXT MODULE
TA17. During the last month, on days you had alcohol, how many glasses have you mostly had?	Number of glasses ☐	

LIFE SATISFACTION — ls

LS1. *Check WB2: Is respondent's age between 15и 24?*

☐ Aged 25-49 ⇨ go to WM11
☐ Aged 15-24 ⇨ continue with LS2

LS2. Now, I would like to ask you a few simple questions about happiness and satisfaction. First, taking all things together, would you say you are very happy, somewhat happy, neither happy nor unhappy, somewhat unhappy or very unhappy? You can also look at these pictures to help you with your response. *Show response card 1 to the respondent and explain what each symbol represents. Circle the answer pointed by the respondent.*	Very happy Somewhat happy Neither happy nor unhappy Somewhat unhappy Very unhappy	1 2 3 4 5	
LS3. Now I'd like to ask a few simple questions about the level of your satisfaction from various fields. For any of the questions, we have five possible answers: please let me know, for each question, are you very or somewhat satisfied, neither satisfied nor unsatisfied, or somewhat or very unsatisfied? Once again, you can take a look at these images that might help you with your answer. *Please hand the answer card 2 to the respondent and explain what each of the symbols represents. For each question from LS3 to LS13, circle the response given by the respondent* how satisfied are you from your family life?	Very satisfied Somewhat satisfied Neither satisfied nor unsatisfied Somewhat unsatisfied Very unsatisfied	1 2 3 4 5	
LS4. How satisfied are you from your friendships?	Very satisfied Somewhat satisfied Neither satisfied nor unsatisfied Somewhat unsatisfied Very unsatisfied	1 2 3 4 5	
LS5. During the current (2010-2011) school year, have you attended school at all?	Yes No 2	1	 2⇨LS7
LS6. How satisfied are /were you from the school you have attended?	Very satisfied Somewhat satisfied Neither satisfied nor unsatisfied Somewhat unsatisfied Very unsatisfied	1 2 3 4 5	
LS7. How satisfied are you from your current job? *If the respondent says that he/she does not have a job, circle "0" and continue with the next question. Do not probe to find out how she feels about not having a job, unless she tells you herself.*	Doesn't have a job Very satisfied Somewhat satisfied Neither satisfied nor unsatisfied Somewhat unsatisfied Very unsatisfied	0 1 2 3 4 5	

LS8. How satisfied are you from your health?	Very satisfied Somewhat satisfied Neither satisfied nor unsatisfied Somewhat unsatisfied Very unsatisfied	1 2 3 4 5	
LS9. How satisfied are you with your place of living? *If necessary, explain that the questions refer to their life environment, including their neighbourhood and dwelling.*	Very satisfied Somewhat satisfied Neither satisfied nor unsatisfied Somewhat unsatisfied Very unsatisfied	1 2 3 4 5	
LS10. How satisfied are you from the treatment you receive by the people around you?	Very satisfied Somewhat satisfied Neither satisfied nor unsatisfied Somewhat unsatisfied Very unsatisfied	1 2 3 4 5	
LS11. How satisfied are you from your looks?	Very satisfied Somewhat satisfied Neither satisfied nor unsatisfied Somewhat unsatisfied Very unsatisfied	1 2 3 4 5	
LS12. How satisfied are you from your own life, in general?	Very satisfied Somewhat satisfied Neither satisfied nor unsatisfied Somewhat unsatisfied Very unsatisfied	1 2 3 4 5	
LS13. How satisfied are you from your current income? *If the respondent responds that he/she does not have any income, circle "0" and continue with the next question. Do not probe to find out how she feels about not having any income, unless she tells you herself.*	No income Very satisfied Somewhat satisfied Neither satisfied nor unsatisfied Somewhat unsatisfied Very unsatisfied	0 1 2 3 4 5	
LS14. Compared to the same period last year, would you say that, in general, your life has improved or become worse?	Improved Remained the same, more or less Got worse	1 2 3	
LS15. And in a year time from now, do you expect that your life, in general, will be improved or will get worse?	Will be improved Remained the same, more or less Will get worse	1 2 3	

WM11. *Record the momentary time.*	Hour and minutes		:		

WM12. *Check Household roster, column HL9, in the Household Questionnaire.*
Is the respondent a mother or a guardian to at least one child aged between 0 and 4 that lives in this household or is she a mother/guardian to at least one child aged between 2 and 9?

- ☐ *Yes, she has a child aged between 0 and 4⇨ Go to the QUESTIONNAIRE FOR CHILDREN UNDER FIVE for that particular child and start the interview with this respondent – mother/guardian to this child.*
- ☐ *Yes, she has a child aged between 2 and 9⇨ Go to the QUESTIONNAIRE FOR CHILDREN DISABILITY for that particular child and start the interview with this respondent – mother/guardian to this child.*
- ☐ *No ⇨ End the interview with this respondent by thanking her for the collaboration.*

Check if there is any the presence of any other suitable women, children under 5, or children aged between 2 and 9 in the household.

Interviewer's Observations

Field Editor's Observations

Supervisor's Observations

MICS

QUESTIONNAIRE FOR CHILDREN UNDER FIVE
MACEDONIA

INFORMATION PANEL FOR CHILDREN UNDER FIVE — UF

This questionnaire is to be filled with all the mothers or guardians (see Household List, column HL9 in the Household Questionnaire) who take care for a child that lives with them and is less than 5 years old (see Household Roster Form, column HL6 in the Household Questionnaire).
A separate questionnaire should be filled in for each eligible child, with the correspondent parent/guardian.

UF1. Cluster number:	UF2. Household number:
UF3. Child's name:	UF4. Child's row number:
Name	
UF5. Mother's / Guardian's name:	UF6. Mother's / Guardian's row number:
Name	
UF7. Interviewer's name and number:	UF8. Day / Month / Year of interviewing:
Name	

Repeat the introduction if you haven't read it to this respondent already:

We are from ***Ipsos Strategic Puls.*** We are working on a project related to family health and education. I would like to talk to you about these issues. The interview will last about ***30*** minutes. All information obtained will remain strictly confidential and your answers will never be shared with anyone outside the project team.

If you have already read it to this woman at the beginning from the household questionnaire, then read the following:

I would like to talk to you about (***child's name from UF3***)'s health and other issues. The interview will last about ***30*** minutes. All information obtained will remain strictly confidential and your answers will never be shared with anyone outside the project team.

Can we start now?

☐ *Yes, permission is given ⇨ Go to UF12 to record time and start the interview.*
☐ *No, permission is not given ⇨ Complete UF9. Talk to your supervisor about this result.*

UF9. Result of interview for children under 5 Codes refer to mother/guardian.	Completed	01
	Not at home	02
	Refused	03
	Partly completed	04
	Incapacitated	05
	Other (*specify*)	96

UF10. Editor in the field (Name and number):	***UF11.*** Data entered by (Name and number):
Name	Name
UF12. *Record the momentary time.*	Hour and minutes :

AGE — AG

AG1. Now I would like to ask you some questions about the health of (*name*).

In what month and year was (*name*) born?

Probe:
What is his / her birthday?

If the mother/guardian knows the exact birth date, enter the day at the required place; otherwise, circle 98 for day

Month and year must be recorded.

Birth date

Day ☐☐

DK day 98

Month ☐☐

Year ☐☐☐☐

AG2. How old is (*name*)?

Probe:
How old was (*name*) at his / her last birthday?

Record age in completed years.

Record '0' if less than 1 year.

Compare the age with the given date and immediately correct AG1 and/or AG2 if the answers are not consistent.

Age (completed years) ☐☐

BIRTH REGISTRATION — BR

BR1. Does (*name*) have a birth certificate?

If the answer is " yes", ask:
May I see it?

Yes, seen	1	1⇨Next Module
Yes, not seen	2	2⇨Next Module
No	3	
DK	8	

BR2. Has (*name*)'s birth been registered with the registry department?

Yes	1	1⇨Next Module
No	2	
DK	8	

BR3. Do you know how to report/register your child's birth?

Yes	1
No	2

EARLY CHILDHOOD DEVELOPMENT — EC

EC1. How many children's books or picture books do you have for (*name*)?

None	00
Number of children's books	0 ☐☐
Ten or more books	10

EC2. I am interested to learn about the things that (*name*) plays with when he/she is at home.

Does he/she play with:

[A] homemade toys (like dolls, cars, or other toys made at home)?

[B] toys from a shop or manufactured toys?

[C] household objects (like bowls or pots) or objects found outside (like sticks, rocks, shells or leaves)?

If the respondent says "YES" to the categories above, then probe to learn specifically what the child plays with to ascertain the given response

	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 that take care of children have to leave the house to go shopping, wash clothes, or for other reasons and then they have to leave young children alone. On how many days during the past week was (*name*): [A] left alone at home for more than an hour? [B] left in the care of another child (that is, someone under 10) for more than an hour? If "none" enter "0". If "don't know" enter"8".	Number of days left home alone for more than an hour Number of days left with other child for more than an hour					
EC4. *Check AG2: Age of child* ☐ *Child age 3 or 4 ⇨ Continue with EC5* ☐ *Child age 0, 1 or 2 ⇨ Go to Next Module*						
EC5. Does (*name*) attend any organized learning or early childhood education programme, like a private or government facility, including kindergarten or community child care center?	Yes No DK				1 2 8	2⇨EC7 8⇨EC7
EC6. Within the last seven days, about how many hours did (*name*) attend such learning programmes, i.e. attended kindergarten or community child care center?	Number of hours					
EC7. In the <u>past 3 days</u>, did you or any of your adult household members aged 15 or more engage in any of the following activities with (*name*): *I f the answer is " yes", ask for each given activity:* who engaged in this activity with (*name*)? *Circle all that apply and remind the respondent that you are talking about the last 3 days.*						
		Mother	Father	Other Over 15	No one	
[A] Read books to or looked at picture books with (*name*)?	Read books	A	B	X	Y	
[B] Told stories to (*name*)?	Told stories	A	B	X	Y	
[C] Sang songs to (*name*) or with (*name*), including lullabies?	Sang songs	A	B	X	Y	
[D] Took (*name*) outside the home, compound, yard for a walk?	Took outside	A	B	X	Y	
[E] Played with (*name*)?	Played with	A	B	X	Y	
[F] Named, counted, or drew things to or with (*name*)?	Named/counted	A	B	X	Y	
EC8. Now I would like to ask you some questions about the health and the development of your child. Children do not all develop and learn at the same rate. For example, some start walking earlier than others. These questions are related to several aspects of your child's development. Can (*name*) identify or name at least ten letters of the alphabet?	Yes No DK				1 2 8	
EC9. Can (*name*) read at least four simple and popular words?	Yes No DK				1 2 8	

EC10. Does (*name*) know the name and recognize the symbols for all numbers from 1 to 10?	Yes No DK	1 2 8	
EC11. Can (*name*) pick up small objects with two fingers, like for example a stick or a rock from the ground?	Yes No DK	1 2 8	
EC12. Is (*name*) sometimes too sick to play?	Yes No DK	1 2 8	
EC13. Can (*name*) follow simple directions on how to do something correctly?	Yes No DK	1 2 8	
EC14. When given something to do, is (*name*) able to do it independently?	Yes No DK	1 2 8	
EC15. Does (*name*) get along well with other children?	Yes No DK	1 2 8	
EC16. Does (*name*) kick, bite, or hit other children or adults?	Yes No DK	1 2 8	
EC17. Does (*name*) get distracted easily?	Yes No DK	1 2 8	

BREASTFEEDING — BF

BF1. Has (*name*) ever been breastfed?	Yes No DK	1 2 8	2⇨BF3 8⇨BF3
BF2. Is he/she still being breastfed?	Yes No DK	1 2 8	
BF3. Could you tell me please about the liquids that (*name*) may have had yesterday during the day or the night. I am interested in whether (*name*) had the mentioned liquid even if it was combined with other foods. Did (*name*) drink plain water yesterday, during the day or night?	Yes No DK	1 2 8	
BF4. Did (*name*) drink infant formula/substitution for mother's milk/ artificial milk yesterday, during the day or night?	Yes No DK	1 2 8	2⇨BF6 8⇨BF6
BF5. How many times did (*name*) drink infant formula?	Number of times		
BF6. Did (*name*) drink tetra pack milk, powdered or fresh animal milk yesterday, during the day or night?	Yes No DK	1 2 8	2⇨BF8 8⇨BF8
BF7. How many times did (*name*) drink tetra pack, powdered or fresh animal milk?	Number of times		
BF8. Did (*name*) drink juice yesterday, during the day or night?	Yes No DK	1 2 8	
BF9. Did (*name*) drink clear soup yesterday, during the day or night?	Yes No DK	1 2 8	
BF10. Did (*name*) drink or eat vitamin or mineral supplements or any medicines yesterday, during the day or night?	Yes No DK	1 2 8	

BF11. Did (*name*) drink oral rehydration solutions yesterday, during the day or night?	Yes No DK	1 2 8	
BF12. Did (*name*) drink any other liquids yesterday, during the day or night?	Yes No DK	1 2 8	
BF13. Did (*name*) drink or eat yogurt (sour milk) yesterday, during the day or night?	Yes No DK	1 2 8	2⇨BF15 8⇨BF15
BF14. How many times did (*name*) drink or eat yogurt(sour milk) yesterday, during the day or night?	Number of times		
BF15. Did (*name*) eat any porridge yesterday, during the day or night?	Yes No DK	1 2 8	
BF16. Did (*name*) eat solid or semi-solid (soft, mushy) food yesterday, during the day or night?	Yes No DK	1 2 8	2⇨BF18 8⇨BF18
BF17. How many times did (*name*) eat solid or semi-solid (soft, mushy) food yesterday, during the day or night?	Number of times		
BF18. Yesterday, during the day or night, did (*name*) drink anything from a bottle with a nipple?	Yes No DK	1 2 8	

CARE OF ILLNESS — CA

CA1. **In the last two weeks, has (***name*) had diarrhoea (the squirts)?	Yes No DK	1 2 8	2⇨CA7 8⇨CA7
CA2. I would like to know how much liquid (*name*) was given to drink during the diarrhoea (including breastmilk). During the time (*name*) had diarrhoea, was he/she given less than usual liquid to drink, about the same amount, or more than usual? *If" less", probe*: Was he/she given much less than usual to drink, or somewhat less?	Much less Somewhat less About the same More Nothing to drink DK	1 2 3 4 5 8	
CA3. During the time (*name*) had diarrhoea, was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? If "less", probe: Was he/she given much less than usual to eat or somewhat less?	Much less Somewhat less About the same More Stopped giving food Wasn't given any food at all DK	1 2 3 4 5 6 8	
CA4. During the episode of diarrhoea, was (*name*) given to drink any of the following: Read each item aloud and record response before proceeding to the next item. [A] A fluid prepared from rehidratation powder? [B] A pre-packaged fluid for rehidratation? [C] Homemade rehidratation fluid?		Y N DK	
	Fluid from packet	1 2 8	
	Pre-packaged fluid	1 2 8	
	Homemade fluid X	1 2 8	
CA5. Was anything (else) given to treat/cure the diarrhoea?	Yes No DK	1 2 8	2⇨CA7 8⇨CA7

CA6. What (else) was given to treat the diarrhoea? *Probe*: Anything else? *Record all treatments given. Write brand name(s) of all medicines mentioned.* (Names of all brands mentioned)	Pill or Syrup Antibiotic Antimotility Zinc Other (Not antibiotic, neither medicines for soothing peristaltics nor zinc) Unknown pill or syrup Injection (muscular) Antibiotic Non-antibiotic Unknown injection Intravenous infusion Home remedy / Herbal medicine Other (*specify*)	 A B C G H L M N O Q X	
CA7. At any time in the last two weeks, has (*name*) had an illness with a cough?	Yes No DK	1 2 8	2⇨CA14 8⇨CA14
CA8. When (*name*) had an illness with a cough, did he/she breathe faster than usual with short, fast breaths or had any difficulty breathing?	Yes No DK	1 2 8	2⇨CA14 8⇨CA14
CA9. Was the fast or difficult breathing due to a problem in the chest or a blocked or runny nose?	Problems in chest only Blocked or runny nose only Both Other (*specify*) DK	1 2 3 6 8	2⇨CA14 6⇨CA14
CA10. Did you seek any advice or treatment for the illness from anywhere/anybody?	Yes No DK	1 2 8	2⇨CA12 8⇨CA12
CA11. Where/whom did you seek advice or treatment from? *Probe:* Anywhere else? Circle all providers mentioned, but do NOT prompt with any suggestions. Probe to identify each type of source and write down the mentioned name below. If unable to determine if public or private sector, write the name of the place on the line below. (Name of place)	Public sector Hospital Health centre Health post Village health worker Mobile / Outreach clinic Other public service(*specify*) Private medical sector Private hospital / clinic Private physician Private pharmacy Mobile clinic Other private medical (*specify*) Other source Relative / Friend Shop Traditional practitioner Other (*specify*)	 A B C D E H I J K L O P Q R X	
CA12. Was (*name*) given any medicine to treat this illness?	Yes No DK	1 2 8	2⇨CA14 8⇨CA14

CA13. What medicine was (*name*) given? *Probe:* Any other medicine? Circle all medicines given. Write brand name(s) of all medicines mentioned. (brand names of all mentioned medicines)	Antibiotic Pill / Syrup A Injection B Paracetamol / Panadol / Acetaminophen P Aspirin Q Ibuprofen R Other (*specify*) X DK Z	
CA14. Check AG2: Child aged under 3? ☐		
CA15. The last time *(name)* defecated, how did you remove the stools?	Child uses toilet / latrine 01 Thrown into toilet or latrine 02 Thrown into drain or ditch 03 Thrown into garbage (solid waste) 04 Buried 05 Left in the open 06 Other (*specify*) 96 DK 98	

IMMUNIZATION — IM

If an immunization card is available, copy the dates in IM3 for each type of immunization recorded on the card.
IM6- IM16B will only be asked when a card is not available.

IM1. Do you have a card where (*name*)'s vaccinations are written down? (*If yes*) May I see it please?	Yes, seen 1 Yes, not seen 2 No card 3	1⇨IM3 2⇨IM6
IM2. Did you ever have a vaccination card for (*name*)?	Yes 1 No 2	1⇨IM6 2⇨IM6

IM3.
(a) Copy dates for each vaccination from the card.
(b) Write '44' in day column if the card has a record that vaccination was given but no date has been entered.

		Date of Immunization: Day		Month		Year			
BCG (tuberculosis)	BCG								
DPT1(diphtheria, tetanus, pertusis)	DPT1								
DTP2 (diphtheria, tetanus, pertusis)	DTP2								
DTP3 (diphtheria, tetanus, pertusis)	DTP3								
DTP4 (diphtheria, tetanus , pertusis)	DTP4								
DTP 5 (pertusis)	DTP5								
Polio 1(child paralysis)	OPV1								
Polio 2(child paralysis)	OPV2								
Polio 3(child paralysis)	OPV3								
Polio 4(child paralysis)	OPV4								
MRP (measles/rubeola)									
HepB at birth	H0								
HepB1 (hepatitis B)	H1								
HepB2 (hepatitis B)	H2								
HIB1 (hemofilus influenca B)									

HIB2 (hemofilus influenca B)										
HIB3 (hemofilus influenca B)										
HIB4 (hemofilus influenca B)										

IM4. *Check IM3. Are all vaccines (from BCG to HIB4) recorded?*

☐ Yes⇨ Go to IM20
☐ No ⇨ Continue with IM5

IM5. In addition to what is recorded on this card, did (*name*) receive any other vaccinations – including vaccinations received in campaigns, during epidemic or immunization days? *Record "Yes" only if respondent mentions vaccines shown in the previous table and record all extra mentioned according to the instructions on the right.*	Yes (Probe for vaccinations and write '66' in the corresponding day column for each vaccine mentioned. Then skip to IM19) No DK	1 2 8	2⇨IM19 8⇨ IM19
IM6. Has (*name*) ever received any vaccinations to prevent him/her from getting diseases, including vaccinations received in a campaigns or immunization days?	Yes No DK	1 2 8	2⇨ IM19 8⇨ IM19
IM7. Has (*name*) ever received a BCG vaccination against tuberculosis – i.e. an injection in the arm or shoulder that usually causes a blemish on the skin?	Yes No DK	1 2 8	
IM8. Has (*name*) ever received any "vaccine given as drops in the mouth or by spoon" to protect him/her from getting diseases – that is, polio?	Yes No DK	1 2 8	 2⇨IM11 8⇨IM11
IM10. How many times was the polio vaccine received?	Number of times		
IM11. Has (*name*) ever received a DTP vaccination – i.e.an injection in the thigh or upper arm – to prevent him/her from getting diphtheria, tetanus, whooping cough, or? *Probe by indicating that DTP vaccination is sometimes given at the same time as Polio*	Yes No DK	1 2 8	2⇨IM13 8⇨IM13
IM12. How many times was a DTP vaccine received?	Number of times		
IM13. Has (*name*) ever been given a Hepatitis B vaccination – i.e.an injection in the thigh or upper arm – to prevent him/her from getting Hepatitis B, i.e. …	Yes No DK	1 2 8	2⇨IM16 8⇨IM16
IM14. Was the first Hepatitis B vaccine received within 24 hours after birth, or later? *Ask for a birth card in which this information should be recorded*	Within 24 hours Later	1 2	
IM15. How many times was a hepatitis B vaccine received?	Number of times		
IM16. Has (*name*) ever received a Measles injection or an MRP injection – i.e.a shot in the arm at the age of 12 months or older - to prevent him/her from getting measles/rubeola?	Yes No DK	1 2 8	
IM16a. Has (*name*) ever received the hemophilus influence B (meningitis/lung inflammation) vaccination – that is, a shot in the arm or thigh - to prevent him/her from getting hemophilus influence B?	Yes No DK	1 2 8	
IM16b How many times has he/she got a hemophilus influenca vaccine?	Number of times		

IM19. Could you tell me please if (*name*) has been vaccinated in any of the following campaigns, national immunization days and/or vitamin A or child health days: [A] ***Immunization week – April*** [B] ***Parotitis (MrP) – Jan-Jun 2009*** [C] ***Measles – Since Sept 2010***		Y N DK	
	Campaign A	1 2 8	
	Campaign B	1 2 8	
	Campaign C	1 2 8	

IM20. *Issue a Questionnaire for Vaccinations Occurring in Health Institutions for this particular child. Fill in the panel in that questionnaire and continue further on. .*

UF13. *Record the momentary time.*	Hour and minutes		:		

UF14. *Is the respondent the mother or guardian of another child aged under 5 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 and fill it in with 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 any other members – women, children between 2 and 9 years of age, or children under-5 for which additional questionnaires should be administered in this household.
Move to the next questionnaire for women, for child disability, or for children under-5, or, if there aren't any, start making arrangements for anthropometric measurements of all the eligible children in the household.

ANTHROPOMETRY AN

After questionnaires for all children are complete, the measurer weights and measures each child.
Record weight and height/length below, taking care to record the measurements in the correct questionnaire for each separate child. Check the child's name and row number in the Household roster before recording the measurements.

AN1. *Measurer's name and number:*	Name		
AN2. *Result of height / length and weight measurement*	Either or both measured	1	2⇨AN6
	Child not present	2	3⇨AN6
	Child or guardian refused	3	6⇨AN6
	Other (*specify*)	6	
AN3. *Child's weight*	Kilograms (kg)		
	Weight not measured	99.9	
AN4. *Child's length or height* *Check age of child in AG2:* ☐ *Child aged under 2. ⇨ Measure length (lying down).* ☐ *Child aged 2 or more. ⇨ Measure height (standing up).*	Length (cm)		
	Lying down	1	
	Height (cm)		
	Standing up	2	
	Length / Height not measured	9999.9	

AN6. *Is there another child in the household who is eligible for measurement?*

- ☐ *Yes ⇨ Record measurements for the next child in the corresponding questionnaire filled for that particular child.*
- ☐ *No ⇨ Check if there is any additional questionnaire to be filled in within this household.*

Interviewer's Observations

Field Editor's Observations

Supervisor's Observations

MICS

QUESTIONNAIRE FOR VACCINATIONS AT A HEALTH FACILITY

INFORMATION PANEL FOR CHILDREN UNDER FIVE — HF

This questionnaire should be used at health facilities for recording information on the vaccinations performed on children aged between 0 and 4. A separate questionnaire is used for each eligible child.

Before you fill in this Questionnaire, you must have completed the Questionnaire for Children Under Five. Moreover, this panel has to be completed before you visit the health facility.

This questionnaire must be attached to the Questionnaire for Children Under Five for each child.

HF1. Cluster number:	***HF2.*** Household number:
HF3. Child's name:	***HF4.*** Child's line number:
HF5. Mother's /Guardian's name:	***HF6.*** Mother's /Guardian's line number:
Name	
HF7. Interviewer's name and number:	***HF8.*** Day / Month / Year of visit to the facility:
Name	
HF9. Day, month and year of birth *(From AG1 in the Questionnaire Under-5)*	***HF10.*** Name of health facility:

HF11. Results from the visit to the health facility	Vaccination record is seen	01
	Vaccination record is not seen	02
	Other (*specify*)	**96**

IMMUNIZATION — HF

HF12. *Record the day, month and the year of birth as stated on the vaccination record*

HF13.
(a) Copy dates for each vaccination from the card.
(b) In the column 'Day', write '44' if the card shows that the vaccination was given but there is no date properly recorded.

		Date of Immunization		
		Day	Month	Year
BCG (tuberculosis)	BCG			
DPT 1 (diphtheria, tetanus, pertusis)	DPT1			
DTP 2 (diphtheria, tetanus, pertusis)	DTP2			
DTP 3 (diphtheria, tetanus, pertusis)	DTP3			
DTP 4 (diphtheria, tetanus, pertusis)	DTP4			
DTP 5 (pertusis)	DTP5			
Polio 1 (child paralysis)	OPV1			
Polio 2 (child paralysis)	OPV2			
Polio 3 (child paralysis)	OPV3			
Polio 4 (child paralysis)	OPV4			
MRP (measles/rubeola)				

HepB at birth	H0									
HepB1 (hepatitis B)	H1									
HepB2 (hepatitis B)	H2									
HIB1 (hemofilus influenca B)										
HIB2 (hemofilus influenca B)										
HIB3 (hemofilus influenca B)										
HIB4 (hemofilus influenca B)										

QUESTIONNAIRE FORM FOR CHILDREN AGED BETWEEN 2 AND 9

INFORMATION PANEL FOR CHILDREN BETWEEN 2 AND 9	DA
DA1. Cluster number:	***DA2.*** Household number:
DA3. Child's name:	***DA4.*** Child's line number:
Name	
DA5. Mother's / Caretaker's name:	***DA6.*** Mother's / Caretaker's line number:
Name	
DA7. Interviewer name and number:	***DA8.*** Day / Month / Year of interview:
Name	

Repeat greeting if not already read to this respondent:

We are from ***Ipsos Strategic Puls*** We are working on a project concerned with family health and education. I would like to talk to you about (*name*)'s health condition. This will take only a few minutes. All the information you give me will remain strictly confidential and your answers will never be shared with those outside of team.

If greeting at the beginning of the household questionnaire has already been read to this respondent, then read the following:

Now I would like to talk to you more about (***child's name***)'s health condition. This will take only a few minutes. Again, all the information you give me will remain strictly confidential and your answers will never be shared with those outside our team.

May I start now?

- ☐ *Yes, permission is given* ⇨ *Go to DA12 to begin the interview.*
- ☐ *No, permission is not given* ⇨ *Complete DA9. Discuss this result with your supervisor*

DA9. Result of interview for child disability *Codes refer to mother/caretaker.*	Completed Not at home Refused Partly completed Incapacitated Other (*specify*)	01 02 03 04 05 96

DA10. Field edited by (Name and number):	***DA11.*** Data entry clerk (Name and number):
Name	Name

CHILD DISABILITY — DA

To be administered to mothers or caretakers of children age 2-9 years.

DA12. *Copy child's name and age from HL2 and HL6, from Household List.*	Name Age		
DA13. Compared to other children, did (*name*) have any serious delay in sitting standing, or walking?	Yes No	1 2	
DA14. Compared with other children, does (*name*) have difficulty seeing, either in the daytime or at night?	Yes No 2	1	
DA15. Does it seem that (*name*) has any difficulty hearing? (uses hearing aid, hears with difficulty or completely deaf)?	Yes No	1 2	
DA16. When you tell (*name*) to do something, does he/she seem to understand what you are saying?	Yes No	1 2	
DA17. Does (*name*) have difficulty in walking or moving the arms or does he/she have weakness and/or stiffness in the arms or legs?	Yes No	1 2	
DA18. Does (*name)* sometimes become rigid, or lose consciousness?	Yes No	1 2	
DA19. Does (*name*) learn to do things like other children his/her age?	Yes No	1 2	
DA20. Does (*name*) speak at all (can he/she speak in understandable way; can he/she say any recognizable words)?	Yes No	1 2	
DA21. *Check DA12: Age of child* ☐ *Child aged 3 through 9 ⇨ Continue with DA22* ☐ *Child aged 2 ⇨ Go to DA23*			
DA22. Is (*name*)'s speech in any way different from normal (not clear enough to be understood by people other than the immediate family)?	Yes No	1 2	1⇨DA24 2⇨DA24
DA23. Can (*name)* name at least one object (for example, an animal, a toy, a cup, a spoon)?	Yes No	1 2	
DA24. Compared with other children of the same age, does (*name*) appear in any way mentally backward, dull or slow?	Yes No	1 2	
DA25. As part of this survey, others in our team may visit you again to collect more information on some of the topics we have just talked about, concerning (*name*). Such a visit may take place within the next months. May I proceed and note that you would be fine with such a visit, if it occurs at all? Again, you may change your mind and decline to speak to our team if and when the visit happens.	Respondent has no objections to additional visit Respondent uncertain about additional visit/Depends Refused additional visit	1 2 3	

Appendix G. ISCED tables

Table ED.4 (a): Primary school attendance

Percentage of children of primary school age attending primary or secondary school (adjusted net attendance ratio), ISCED 1 standard classification, Macedonia,2011

	Male		Female		Total	
	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children
Region						
Vardar	(98.1)	30	(98.7)	20	98.4	50
East	(90.9)	37	(98.4)	26	94.0	63
Southwest	97.8	48	97.3	39	97.6	87
Southeast	(100.0)	39	(95.5)	32	98.0	71
Pelagonia	99.4	56	97.7	50	98.6	106
Polog	98.8	74	97.1	43	98.2	117
Northeast	(98.8)	36	(100.0)	51	99.5	87
Skopje	98.9	134	98.1	118	98.5	252
Area						
Urban	98.1	236	98.1	193	98.1	429
Rural	98.3	218	97.7	187	98.0	405
Age at beginning of school year						
6	93.1	93	91.6	77	92.4	170
7	100.0	85	97.9	67	99.1	152
8	99.6	83	100.0	72	99.8	154
9	98.9	88	100.0	76	99.4	164
10	99.6	105	100.0	88	99.8	193
Mother's education						
Primary or less	96.6	191	97.6	162	97.1	353
Secondary	99.7	186	98.3	168	99.0	354
High	98.6	77	97.7	49	98.2	126
Wealth index quintile						
Poorest	95.3	88	97.0	77	96.1	165
Second	97.2	91	98.3	83	97.7	174
Middle	99.7	89	97.3	80	98.5	169
Fourth	100.0	85	96.7	58	98.7	143
Richest	98.9	101	100.0	81	99.4	182
Ethnicity of household head						
Macedonian	99.6	258	98.8	218	99.2	476
Albanian	97.6	158	97.2	133	97.4	290
Other	91.7	38	(94.5)	29	92.9	67
Total	98.2	454	97.9	379	98.1	833

( ) – figures based on 25–49 unweighted cases

Table ED.5 (a): Lower secondary school attendance

Percentage of children of lower secondary school age attending lower secondary school or higher (adjusted net attendance ratio) and percentage of children attending primary school, ISCED 2 standard classification, Macedonia,2011

	Male		Female		Total	
	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children
Region						
Vardar	(*)	19	(*)	21	(93.7)	40
East	(*)	25	(*)	19	(97.7)	44
Southwest	(100.0)	38	94.2	38	97.1	76
Southeast	(100.0)	28	(100.0)	32	100.0	60
Pelagonia	(100.0)	43	(100.0)	43	100.0	86
Polog	98.1	56	99.0	46	98.5	102
Northeast	(100.0)	43	(100.0)	37	100.0	81
Skopje	99.6	104	98.3	96	99.0	200
Area						
Urban	99.4	161	99.0	166	99.2	327
Rural	98.4	195	97.9	166	97.5	361
Age at beginning of school year						
11	99.1	108	99.6	76	99.3	184
12	98.5	73	97.9	77	98.2	150
13	99.3	77	97.3	86	98.3	163
14	98.5	98	96.5	94	98.8	192
Mother's education						
Primary or less	97.8	187	97.5	137	97.6	325
Secondary	100.0	120	98.8	142	99.4	262
High	(100.0)	45	(100.0)	52	100.0	97
Mother not in the household	(*)	3	(*)	2	(*)	5
Wealth index quintile						
Poorest	95.9	89	96.1	69	96.0	157
Second	100.0	73	98.8	71	99.4	144
Middle	99.2	69	100.0	48	99.5	117
Fourth	100.0	62	97.6	68	98.7	130
Richest	100.0	63	100.0	76	100.0	139
Ethnicity of household head						
Macedonian	100.0	183	99.1	191	99.6	373
Albanian	99.4	144	98.4	111	98.9	255
Other	(89.0)	29	(94.4)	30	91.8	60
Total	98.9	356	98.5	332	98.7	688

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Table ED.4R (a): Primary school attendance

Percentage of children of primary school age attending primary or secondary school (adjusted net attendance ratio), ISCED 1 standard classification, Roma settlements,2011

	Male		Female		Total	
	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children
Age at beginning of school year						
6	(81.3)	36	(91.6)	38	86.6	74
7	(93.6)	44	90.9	56	92.1	101
8	(93.4)	37	(90.7)	38	92.0	75
9	(88.9)	35	(90.2)	43	89.6	78
10	(93.6)	37	(87.3)	27	90.9	64
Mother's education						
None	(91.0)	41	(83.3)	40	87.2	81
Primary	89.6	140	91.7	146	90.7	286
Secondary +	(*)	8	(*)	17	(96.6)	25
Wealth index quintile						
Poorest	(72.7)	45	(73.1)	42	72.9	87
Second	(89.2)	41	(97.7)	61	94.3	102
Middle	(98.0)	39	(78.8)	24	90.7	63
Fourth	(100.0)	36	(95.0)	38	97.4	74
Richest	(97.5)	27	(100.0)	39	99.0	66
Total	90.3	189	90.4	203	90.3	392

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Table ED.5R (a): Lower secondary school attendance

Percentage of children of lower secondary school age attending lower secondary school or higher (adjusted net attendance ratio) and percentage of children attending primary school, ISCED 2 standard classification, Roma settlements,2011

	Male		Female		Total	
	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children
Age at beginning of school year						
11	(*)	27	(85.4)	39	86.0	66
12	(83.0)	31	(89.1)	30	86.0	61
13	(76.7)	36	(75.9)	42	76.3	78
14	74.6	40	(70.1)	39	72.4	79
Mother's education						
None	(69.0)	23	(70.3)	35	69.8	59
Primary	82.7	98	81.3	108	82.0	207
Secondary +	(*)	11	(*)	6	(*)	17
Mother not in the household	(*)	1	(*)	0	(*)	1
Wealth index quintile						
Poorest	(56.1)	32	(65.3)	45	61.5	78
Second	(*)	19	(82.8)	26	(89.3)	45
Middle	(81.5)	29	(73.4)	31	77.3	60
Fourth	(77.9)	28	(92.2)	30	85.3	59
Richest	(95.1)	25	(*)	18	(97.1)	43
Total	79.5	134	79.5	150	79.5	284

( ) – figures based on 25–49 unweighted cases

(*) – figures based on less than 25 unweighted cases

Appendix H: Nutritional status of children based on NCHS/CDC/WHO International Reference Population

Table NU.1 (a): Nutritional status of children based on NCHS/CDC/WHO International Reference Population

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

	Weight for age			Number of children under age 5	Height for age			Number of children under age 5	Weight for height				Number of children under age 5
	Underweight		Mean Z-Score (SD)		Stunted		Mean Z-Score (SD)		Wasted		Overweight	Mean Z-Score (SD)	
	percent below				percent below				percent below		percent above		
	- 2 SD	- 3 SD			- 2 SD	- 3 SD			- 2 SD	- 3 SD	+ 2 SD		
Sex													
Male	1.6	.0	.4	669	2.7	1.0	.2	657	2.2	.2	11.0	.4	654
Female	1.8	.2	.4	663	3.3	.9	.2	649	1.6	.0	9.9	.5	646
Region													
Vardar	1.3	.0	.2	99	4.2	2.3	.3	98	2.6	.0	5.8	.1	97
East	5.2	.0	.0	110	5.3	1.1	-.1	108	1.6	.0	3.8	.2	108
Southwest	2.8	.0	.5	117	7.6	3.8	.0	106	3.7	1.5	19.4	.6	104
Southeast	1.0	.0	.5	81	1.3	.0	.5	81	1.0	.0	11.9	.5	80
Pelagonia	.9	.9	.3	152	2.0	.9	.1	152	1.7	.0	10.5	.4	151
Polog	1.7	.0	.1	251	3.6	.9	.1	248	4.4	.0	6.1	.1	248
Northeast	1.5	.0	.9	135	3.0	.0	.2	132	.4	.0	23.2	1.0	130
Skopje	.9	.0	.4	388	1.2	.4	.3	382	.4	.0	9.3	.5	382
Area													
Urban	1.3	.2	.5	670	2.2	.8	.2	661	1.0	.0	13.3	.6	656
Rural	2.0	.0	.2	661	3.8	1.0	.1	645	2.8	.2	7.5	.3	644
Age													
0-5 months	1.6	.0	.3	110	2.8	.0	-.1	108	.9	.0	3.8	.4	106
6-11 months	.4	.0	.1	141	.0	.0	.4	135	8.0	.0	3.1	-.1	135
12-23 months	2.3	.5	.2	273	3.6	.7	.0	266	2.9	.0	10.8	.4	264
24-35 months	.7	.0	.5	268	1.8	1.0	.4	260	.1	.0	10.2	.5	261
36-47 months	1.8	.0	.5	267	4.1	1.6	.2	267	.1	.0	14.7	.6	266
48-59 months	2.5	.0	.5	273	4.2	1.3	.1	270	1.6	.6	12.5	.5	268
Mother's education													
Primary or less	2.8	.0	.1	528	4.1	1.2	.0	520	2.7	.3	7.1	.2	519
Secondary	1.1	.3	.5	506	3.4	.9	.2	497	1.4	.0	13.0	.5	492
High	.4	.0	.7	297	.4	.4	.6	289	1.2	.0	12.2	.6	289
Wealth index quintile													
Poorest	2.1	.0	-.1	308	5.2	1.3	-.2	303	3.6	.0	4.6	.1	303
Second	1.9	.0	.2	268	3.8	.6	.0	264	1.0	.0	8.4	.3	264
Middle	1.8	.0	.5	241	2.6	1.2	.3	239	2.3	.7	15.3	.6	236
Fourth	2.5	.5	.6	250	2.0	1.0	.4	244	1.9	.0	13.0	.6	242
Richest	.0	.0	.7	264	1.0	.6	.5	256	.2	.0	12.7	.6	256
Ethnicity of household head													
Macedonian	1.1	.2	.5	683	2.5	1.0	.3	676	1.0	.0	12.4	.5	672
Albanian	1.2	.0	.3	508	2.2	.3	.2	491	2.8	.0	9.0	.3	489
Other	5.8	.0	-.1	141	8.6	2.8	-.3	140	2.8	1.1	6.4	.1	140
Total	1.7	.1	.4	1331	3.0	.9	.2	1307	1.9	.1	10.5	.4	1301

Table NU.1 (a) R: Nutritional status of children based on NCHS/CDC/WHO International Reference

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

	Weight for age			Number of children under age 5	Height for age			Number of children under age 5	Weight for height				Number of children under age 5
	Underweight		Mean Z-Score (SD)		Stunted		Mean Z-Score (SD)		Wasted		Overweight	Mean Z-Score (SD)	
	percent below				percent below				percent below		percent above		
	- 2 SD	- 3 SD			- 2 SD	- 3 SD			- 2 SD	- 3 SD	+ 2 SD		
Sex													
Male	11.9	2.1	-.6	235	17.4	1.6	-.7	224	5.4	.0	4.1	-.2	224
Female	12.7	2.3	-.7	235	9.5	1.8	-.6	231	5.5	1.2	3.3	-.3	230
Age													
0-5 months	(7.5)	(5.2)	(.2)	36	(8.3)	(5.8)	(-.5)	32	(6.7)	(.0)	(8.4)	(.6)	32
6-11 months	(10.6)	(1.5)	(-.7)	43	(4.0)	(1.5)	(-.4)	43	(10.7)	(5.0)	(.0)	(-.4)	43
12-23 months	15.5	3.0	-.8	98	16.0	1.0	-.9	95	8.8	.6	2.2	-.4	95
24-35 months	6.1	.0	-.2	96	7.1	.0	-.2	92	.9	.0	4.4	.1	92
36-47 months	15.9	5.2	-.7	92	18.8	4.6	-.8	88	4.1	.0	6.0	-.4	88
48-59 months	14.1	.0	-.8	105	17.4	.0	-.9	104	4.9	.0	2.7	-.4	104
Mother's education													
None	11.1	.0	-.8	101	17.3	.0	-.9	100	3.5	.0	4.2	-.2	99
Primary	13.8	3.0	-.6	321	13.1	2.5	-.7	309	5.3	.2	1.9	-.3	308
Secondary+	4.7	1.4	.0	48	6.8	.0	.0	47	10.6	4.6	14.5	.0	47
Wealth index quintile													
Poorest	17.5	5.6	-1.0	122	24.6	5.0	-1.1	121	7.2	.0	1.6	-.4	121
Second	11.6	1.1	-.8	107	11.6	1.6	-.7	103	5.8	.5	1.9	-.3	102
Middle	19.8	1.6	-.6	91	10.6	.0	-.6	85	4.2	.0	3.0	-.3	85
Fourth	4.5	.0	-.3	79	10.2	.0	-.5	77	.8	.0	7.6	.1	77
Richest	3.2	1.0	.0	71	3.5	.0	.1	70	8.2	3.1	6.8	.0	70
Total	12.3	2.2	-.6	470	13.4	1.7	-.7	455	5.4	.6	3.7	-.2	454

( ) – figures based on 25–49 unweighted cases

Republic of Macedonia

Multiple Indicator Cluster Survey

2011