A grayscale photograph of a group of people, including men, women, and children, all wearing face masks. They are standing in front of a building with a window. The image is semi-transparent, serving as a background for the text.

# THE HEALTH SITUATION OF ROMA COMMUNITIES

ANALYSIS OF THE DATA  
FROM THE UNDP/WORLD BANK/EC  
REGIONAL ROMA SURVEY

# **The health situation of Roma communities:** Analysis of the data from the UNDP/World Bank/EC Regional Roma Survey

Roma Inclusion Working Papers  
**UNDP Europe and the CIS,  
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Youth group in Ferizaj/Urosevac cleaning their neighborhood from the garbage

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# 1

## Introduction

Two parallel and complementary surveys were carried out in 2011 in an effort to map the current situation of Roma in the EU: One was focusing on social and economic development aspects and carried out by the UNDP and the World Bank (funded by the European Commission<sup>1</sup>, UNDP and the Nordic Trust Fund at the World Bank), and one focusing on the fulfillment of key fundamental rights carried out by the EU Agency for Fundamental Rights (FRA).

The UNDP/WB/EC survey was conducted in May-July 2011 on a random sample of Roma and non-Roma households living in areas with higher density (or concentration) of Roma populations in the EU Member States of Bulgaria, Czech Republic, Hungary, Romania, Slovakia, and the non-EU Member States of Albania, Bosnia and Herzegovina, Croatia, FYR of Macedonia, Montenegro, Republic of Moldova and Serbia. In each of the countries, approximately 750 Roma households and approximately 350 non-Roma households living in proximity were interviewed.

The FRA survey was conducted in May-July 2011 on a random sample of Roma and non-Roma households living in areas with concentrated Roma populations in the EU Member States of Bulgaria, Czech Republic, Hungary, Romania, Slovakia, France, Greece, Italy, Poland, Portugal and Spain. In most of the countries the FRA sample consists of 1,100 Roma households and approximately 500 non-Roma. In France, about 700 gens du voyage and 300 Roma Migrant households in the greater Paris area were surveyed. In Poland and Italy, the sample size was reduced to 600 and 700 Roma households respectively. In total 16,648 persons (11,140 Roma and 5,508 non-Roma persons) were interviewed.

The survey questionnaire was designed jointly by a team from UNDP, the World Bank and the FRA. Each survey used different questions and a core common component composed of key questions on education, employment, housing, health, free movement and migration issues, and discrimination experiences. The questions in the common core were identical.

<sup>1</sup> Directorate General for Regional and Urban Policy of the European Commission funded the survey in the EU Member States.

The UNDP/WB/EC survey was implemented by the IPSOS polling agency and the FRA survey through Gallup Europe. Both surveys applied the same sampling methodology in countries of overlap allowing for the development of a common dataset on core indicators and ensuring comparability and consistency of results.

This paper comprises the health analysis of the UNDP/World Bank/EC Regional Roma Survey 2011. Following the same pattern as the previous 2004 Regional Roma Survey conducted by UNDP, as an integrated household survey with separate components containing both household and individual modules, it outlined the profiles of all members of surveyed households, as well as issues that relate to the household in general.

## 1.1. Health system issues in the region

Although some of the countries covered by the survey are already members of the EU and others are not, all follow the Second Programme of Community Action in the Field of Health 2008-2013. This programme calls for special attention to Disability Adjusted Life Years (DALY) and Healthy Life Years (Official Journal of the EU, 2007).

In the last two decades, all countries have moved from the centrally-planned provision of health services (financed directly from the state budget and providing universal access to health care services for all citizens) to the insurance-based universal coverage system (known as the Bismarck or German Model of health services provision). In all countries, contributions are pooled by health insurance funds – the intermediaries between the health providers and the health services purchasers. In most countries, the system is based on one central health insurance fund with a decentralized local structure; in some countries (Czech Republic, Slovakia and Hungary), there are several health insurance companies. In the case of the post-transition countries, implementation of this model is however a mixture of the elements of both systems, as the health insurance contribution for certain groups of citizens is covered by the state. These groups usually include children and students, retired persons, the registered unemployed. There is no special treatment of the Roma in the health insurance systems, except in Serbia, where the Roma are exempted from insurance payments, with a special article in the Law on health insurance (Zakon o zdravstvenom osiguranju u Srbiji, Article 22/11).

The systems in all countries have certain imperfections, through which some individuals can fall out of the system. The dominating problem, however, is the financial insolvency of the health system in many of the countries. The general rule is that the higher level of incomes (and respectively, the base for health insurance contributions), the more resilient is the system. It also depends on other factors, like the way the contributions are split between employees and employers, and the incidence of the informal sector (which by the fact of its informality does not contribute).

**Table 1: Health insurance contributions by countries (% of the base)**

Country	By employer	By employee	Total
Slovakia	10	4	14
Czech Republic	9	4.5	13.5
Bulgaria	4.8	3.2	8
FYR Macedonia	0	7.8	7.8
Croatia	15	0	15
Romania	5.2	5.7	10.9
Hungary	2	6	8
Montenegro	3.8	8.5	12.3
Bosnia and Herzegovina Federation	4	12.5	16.5
Republika Srbska	0	12.5	12.5
Albania			
Moldova	3.5	3.5	7
Serbia	6.2	6.2	12.3

**Sources:**

Croatia: <http://www.kpmg.com/global/en/issuesandinsights/articlespublications/taxation-international-executives/croatia/pages/other-taxes-levies.aspx>;

Romania: <http://www.kpmg.com/global/en/issuesandinsights/articlespublications/taxation-international-executives/romania/pages/other-taxes-levies.aspx>;

Hungary: <http://www.kpmg.com/global/en/issuesandinsights/articlespublications/taxation-international-executives/hungary/pages/other-taxes-levies.aspx>;

Bosnia and Herzegovina: <http://www.kpmg.com/global/en/issuesandinsights/articlespublications/taxation-international-executives/bosnia-herzegovina/pages/other-taxes-levies.aspx>;

Serbia: <http://www.euraxess.rs/sitegenius/topic.php?id=285>

Rising operational costs of the health care system, at a higher pace than the contributions to the system, present another challenge for the financial stability of the health systems in the region. The contributions to the system usually follow the lower salary tiers, with both employees and employers trying to save on insurance costs. This widens the gap between health system liabilities and revenues, leading to long-term structural deficits. The structure of the health expenditures is another common problem that contributes to the health systems deficits. Those costs are overburdened by disproportionate share of inpatient care, at the expense of preventive care as well as outpatient and pre-hospital care. In all countries, the citizens bear some out-of-pocket expenditures for health services. (Figueras, et al, 2004, 2012; Waters, et al., 2006; Golinowska, et al., 2006; Салчев и Георгиева, 2008).

## 1.2. The Roma issues in the health system

There are number of studies addressing the higher health vulnerability of Roma, compared to the non-Roma in the CEE.<sup>2</sup> These studies are focused on the health status in particular countries, such as Bulgaria (OSI<sup>3</sup> - Bulgaria, 2007), Slovakia (Ginter, et al, 2001), Ireland (Doyle, et al, 2005), Hungary (Puporka, et al, 1999), or in several countries (UNDP, 2005; Masseria, et al, 2010). Other studies addressed particular health issues, like the higher mortality of the Roma in Serbia (Bogdanović, et al, 2007) or the health status of the Roma women in Bulgaria (Krumova and Ilieva, 2008).

There is general agreement (Doyle, 2004), among health and policy experts, that Roma suffer from poorer health than the general population. Various studies since the mid-1990s have been eliciting health indicators of a higher Roma vulnerability, including a higher rate of vitamin deficiencies, malnutrition, anaemia, dystrophy, and infectious diseases, than the majority population (Save the Children, 1998). Ginter, et al (2001) revealed that Roma mortality is three times higher than in the national average in Slovakia. Most frequently, the identified causality for the bad health status of the Roma, consists in the long-term bad economic situation, low educational level and incorrect lifestyle of the Roma minority. In 2004, UNAIDS announced that Eastern Europe and Central Asia regions were experiencing the fastest growing HIV epidemic in the world (Doyle, 2004). Subsequently the UNAIDS and the Global Fund programmes in many CEE countries, like in Bulgaria and Romania, define the Roma as a target population for its intervention activities (<http://portfolio.theglobalfund.orr>). Higher vulnerability of Roma is not typical for the CEE only. Marti Casals, et al (2011) refer to studies carried out in Barcelona, showing that the highest prevalence of HIV infection and TB was found among the Roma.

Interest in Roma health-targeted studies had increased after the first years of transition. On the one hand, this was due to various implications of the systemic changes on different groups. On the other hand, this was because of the rising Roma movement in Eastern Europe. The situation of Roma in all countries of the region deteriorated at the beginning of the 1990s (following the general decline in health and life expectancy during the first years of the transition). However, having stagnated throughout the 1990s, the health situation in the CEE has been improving – particularly compared to some CIS<sup>4</sup> countries. Not all citizens, even in economically successful countries, are benefiting to the same extent from the positive developments in the health care systems. The Roma are usually among those excluded from the benefits. Coverage and “disparities in equity of access” is an issue for the Roma and other ethnic minorities, particularly in South-Eastern Europe. (Figueras, McKee, Cain, Lessof, 2004).

2 CEE – Central and Eastern Europe

3 OSI – Open Society Institute

4 CIS – Commonwealth of Independent States

The health dimension of the Roma issue is gradually gaining weight, along with the traditional dimensions of Roma inclusion in the political debate – economic, educational and housing dimensions. During 2003, a number of international partners<sup>5</sup> proposed the Decade of Roma Inclusion (2005-2015). Health is one of the four priorities of the Roma Decade agenda. The Roma Decade has been endorsed by Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Hungary, FYR Macedonia, Montenegro, Romania, Serbia, Slovakia and Spain. All of these countries have significant Roma minorities, which have been in a rather disadvantaged situation – both economically and socially. Each of these countries has developed a national Roma Decade Action Plan that specifies the goals and indicators in the priority areas. A thirteenth country, Slovenia, has observer status (<http://www.romadecade.org>).

### 1.3. Setup of the study

The sampling universe under study consists of: (i) all the households in Roma settlements or areas of compact Roma population; (ii) non-Roma communities living in close proximity to Roma. The sampling universe for Roma sample is defined as “the households in Roma settlements or areas of compact Roma population, who identify themselves as Roma”. The sampling universe for the non-Roma sample is defined as the “households of non-Roma populations living in close proximity to Roma”.

The survey was carried out via face-to-face interviews at the respondent’s household, following a sampling methodology, where randomly selected households in areas of compact Roma population (above the national average density of Roma population), who implicitly identified themselves as Roma, were surveyed. In parallel a control sample of non-Roma communities, living in close proximity to these Roma, was surveyed. In defining the Roma sample, a combination of external and self-identification was used. In the analysis of the data, the term “non-Roma” relates, unless specified otherwise, primarily to the non-Roma sample of the survey, i.e. non-Roma living in the vicinity of the surveyed Roma. This sample is not representative of the general non-Roma population in a given country. The sample locations were selected from the lists of settlements, mostly from the national censuses, with average and above average shares of Roma. Although it is widely acknowledged that census data underestimate the absolute numbers of Roma, it can still be as-

5 The international partner organizations of the Roma Decade include the World Bank, the Open Society Foundations, the United Nations Development Program, the Council of Europe, Council of Europe Development Bank, the Contact Point for Roma and Sinti Issues of the Office for Democratic Institutions and Human Rights of the Organisation for Security and Co-operation in Europe, the European Roma Information Office, the European Roma and Traveller Forum, the European Roma Rights Centre, UN-HABITAT, UNHCR and the United Nations Children’s Fund (UNICEF). In 2011, the World Health Organization (WHO) also became a partner in the Roma Decade.

sumed that they adequately reflect the structure and territorial distribution of persons, who identify themselves as Roma. Table 2 summarizes the major stages and approaches of the sampling process (Ivanov et al, 2012).

**Table 2: Outline of the sampling methodology, UNDP/WB/EC Regional Roma Survey, 2011**

<b>Location</b>	Romania, Slovakia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Macedonia, Albania, Bulgaria, Czech Republic, Hungary, Republic of Moldova	
<b>Method of data collection</b>	Face-to-face interviews at the respondent's household	
	<b>Roma sample</b>	<b>Non-Roma sample</b>
<b>Sample universe</b>	The households in Roma settlements or areas of compact Roma population; representatives of Roma population who implicitly identify themselves as Roma	The households of non-Roma populations living in close proximity to Roma
<b>Sample frame</b>	List of settlements from Census with average and above share Roma updated with information from other relevant sources; no. of inhabitants in each settlement: general population and of Roma ethnicity	List of settlements from Census with average and above share of Roma updated with information from other relevant sources
<b>Type of sample</b>	Two/three stage random representative sample	Booster sample in area of close proximity to Roma: Two/three stage random sample
<b>1<sup>st</sup> stage: PSU</b>	Clusters within settlements inhabited by the Roma population (approx. size 30 households), selected by equal probability	Clusters in close proximity of settlements inhabited by the Roma population included in the Roma sample
<b>2<sup>nd</sup> stage: SSU</b>	Households chosen with equal probabilities, and selected by the method of random start and equal random walk	Households chosen with equal probabilities, and selected by the method of random start and equal random walk
<b>3<sup>rd</sup> stage: TSU</b>	(only for module C) Household member 16+, and selected by "first birthday" technique	(only for module C) Household member 16+, and selected by "first birthday" technique

	Roma sample	Non-Roma sample
<b>Stratification, purpose and method</b>	Strata: type of settlements and region	
	Purpose: Optimization of the sample plan, and reducing the sampling error Method: The strata are defined by criteria of optimal geographical and cultural uniformity	
<b>Sample size</b>	Approx. 750 Roma households per country	Approx. 350 non-Roma households per country
<b>Sampling error</b>	Margin error n=750 +/- 3.74%	n=350 +/- 5.49%

Source: Ivanov, A., Kling, J. & Kagin, J. (2012). Integrated household surveys among Roma populations: one possible approach to sampling used in the UNDP-World Bank-EC Regional Roma Survey 2011. Roma Inclusion Working Papers. Bratislava: United Nations Development Programme.

The structure of the paper aims at covering three main thematic areas that are normally covered in evaluation and analytical studies of public health: Health status; Access to health services; and Quality of health services. The latter is integrated in the *access* chapter, which is structured along the main concept ideas for health accessibility of Tanahashi (Tanahashi, 1978). The survey provides an opportunity for drawing a particular focus on maternity and child health – a sensitive Roma issue, which is analysed in a separate chapter.

Unless indicated otherwise, all health and value related questions, analysed in this paper, were administered to a respondent over 16 years of age, randomly selected in each household (using the “closest birthday” method). There are some general health questions, indicated in footnotes that were administered to the household head. The questions regarding child health were administered to the primary caretaker of the child. All questions, regarding the socio-economic and demographic profile of the respondents, were also administered to the household head, who reported about all household members.

The structure of the analyses is the following:

1. Comparing the Roma and the control sample (non-Roma living in their proximity) survey data, showing the health indicators that statistically differentiate the Roma and the respective non-Roma population
2. Comparing country data, eliciting the common issues and the country specific problems, including disparities between Roma and non-Roma by countries, calculated as percentage differences.
3. In depth statistical analyses on the determinants of the thematic issues, revealing the factors of health marginalization.

4. Progress since 2004, based on qualitative and where available data – quantitative comparisons.
5. Each chapter is comprised of *descriptive* sections, providing comparative analyses of the data and of *discussion* sections, bringing together the findings in an analytical review.

The UNDP/WB/EC Regional Roma Survey 2011 and the analyses provided in this paper, have a **number of limitations** that need to be taken into consideration:

1. All data and analyses are based on personal perceptions, knowledge, attitudes or values. The survey results cannot be compared with epidemiological data, national morbidity statistics or other medical data. This is particularly important for the interpretation of the subjective health status, which does not necessarily correspond to the medical health status of the population, as observed in the aforementioned statistics.
2. While the data are representative for the Roma population in the sampled countries, the data for the non-Roma population are only indicative – not representative for the non-Roma population in a given country.
3. The Roma/non-Roma comparisons inform about the differences between Roma and non-Roma, living in their close proximity, as defined above. Such an approach “controls” the territorial impacts on the Roma/non-Roma differences, but does NOT provide an opportunity for measuring the distances between the Roma and the non-Roma in general.
4. Similarly, the Roma data cannot be compared to the national averages, unless there are surveys, applying exactly the same methodology during the same period. Where data from other sources are available, there are provided references addressing similar research issues. However, measuring the direct distance with other survey data or national statistical data is generally avoided, as the data sets are collected in different time periods and through different methods, though the questions in some cases are identical.
5. Similarly some of the comparisons with the 2004 data were left out from the analyses, because of differences in questionnaire wordings.
6. The overall Roma/non-Roma all-country data are of only indicative representativeness for the Roma population in the region, as they are not proportional to the size of the national populations.
7. This analysis and the statistical processing is limited within the questionnaire content, administered in the survey, and respectively provided to the author.

The most frequent statistical analyses are based on Chi-square cross-tabulations, applied for evaluating cross-country and Roma/non-Roma differences. Due to the sample being very large, particularly when the calculation is carried out on the entire database, almost all estimations of correlations appear to be statistically significant. That is why a more rigid alpha is applied ( $p=0.01$ ) and additional calculations are carried out, applying robust measures for comparing independent samples, namely the

Mann-Whitney Test for non-parametric statistics, as practically all of the processed variables are of nominal or interval type. At the end of each section, the health determinants are discussed. For this purpose, a Probit regression analysis was carried out, to control the interaction among independent variables. The Probit regression was similarly selected for its applicability for processing non-parametric variables. The complete wording of the questionnaire items is provided in the footnotes.

The paper ends with a summary chapter and policy recommendations. It should be taken into account that the recommendations are based on the survey findings only, and do not encompass in-depth institutional or policy analyses.

# 2

## Health Status Perceptions<sup>6</sup>

This chapter looks at the health status, addressed in the survey through items related to reported diseases and subjective health indicators. Subjective status is studied through self-perceptions of the general health condition, self-reported chronic disorders, reported disabilities and addictions. Some of these indicators are normally referred to as “objective”, while the nature of the entire data is actually based on reported illnesses and perceptions. Therefore it is more relevant to consider the data as informing about the health *knowledge* or *awareness*, rather than about *the actual/objective* health status. Understandably, reported illnesses do not necessarily correspond to the medically diagnosed health status. This is particularly valid for populations in the lower education and health culture.

The first part of the chapter provides general data, Roma/non-Roma and cross-country comparisons on subjective health perceptions, while the second part is focused on the socio-economic and demographic determinants of the perceptions.

### 2.1. Subjective health data

#### General health perceptions

Perceptions on general health are addressed in the survey by two items – one on the general health-assessment,<sup>7</sup> and a second one - on the self-perception of restrictions in general mobility, due to a health problem.

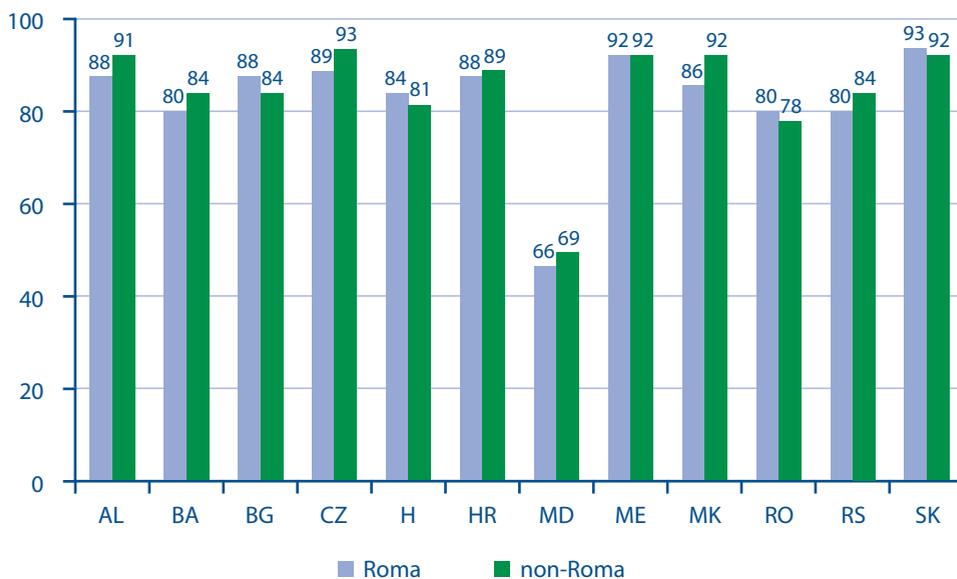
**The perception of the general health status of the Roma population is lower, compared to the neighbouring non-Roma, but with a small difference.** Altogether 16% of the Roma sample has a negative perception of the health status, compared to 14% of the non-Roma population. In general, 85% of the entire surveyed population (both Roma and non-Roma) are positive about their health status – an unexpectedly positive perception that will be later addressed with analyses in this paper.

6 All of the reported cross-tabulations are of statistical significance (Mann-Whitney  $p < 0.01$ ; Chi-square  $p < 0.01$ ) unless indicated otherwise.

7 How is his/her health in general? 1. Very bad; 2. Bad; 3. Fair; 4. Good; 5. Very good; 98. Refused; 99. Don't know; Administered to the household head, reporting for all household members

There are country specifics, showing more negative self-perceptions, given by the Roma population.

**Figure 1: Positive self-perceived health status (%)<sup>8</sup>**



Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: How is his/her health in general? (Positive responses)

Another indicator of the perceived health status is the reported *limited activities because of a health problem during the last 6 months*.<sup>9</sup> **In total, no significant differences between the Roma and the non-Roma exist according to the data – 82% of respondents, equally for the Roma and non-Roma, report “no limited activities”.** There are some statistically significant differences in the responses “strongly limited”, showing higher vulnerability of the Roma sample. However, the overall data verifies similar levels of **reported restricted activities due to health problems** for the Roma and their non-Roma neighbours.

Closer look at individual countries reveals some regional peculiarities. For example, the Roma living in the Western Balkans, and particularly in FYR Macedonia, Serbia

8 For visual clarity, the following abbreviations were used in the graphs: AL (Albania), BA (Bosnia and Herzegovina), BG (Bulgaria), H (Hungary), HR (Republic of Croatia), CZ (Czech Republic), MD (Moldova), ME (Montenegro), MK (FYR of Macedonia), RO (Romania), RS (Republic of Serbia), and SK (Slovakia). The abbreviations are following the country codes used by EUROSTAT, [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Glossary:Country\\_codes](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:Country_codes)

9 For the last 6 months, has [name] been limited in the daily activities that people usually perform, because of a health problem? 1. Yes, strongly limited; 2. Yes, limited; 3. Not limited; 98. Refused; 99. Don't know; Administered to the household head, reporting for all household members

and Bosnia and Herzegovina are more negative in their assessment, as compared to the perceptions of their non-Roma neighbours in these countries. Alternatively, the Roma, living in some New Member States like Hungary, Bulgaria, and Romania (excluding the Czech Republic) are closer in their perceptions to their non-Roma neighbours. The lower perception of the health status in Bulgaria and Hungary, at national level, is confirmed also by the EU-SILC data,<sup>10</sup> showing that these countries score among the lowest, when it comes to self-assessment of health status, after the Baltic countries (EU-SILC, 2010).

## Perceptions of chronic and specific disorders

The Regional Roma Survey data confirms that the perceived health status of **the Roma is not significantly lower, as compared to the control non-Roma sample**. On the contrary, the reported prevalence of chronic disorders<sup>11</sup> shows, in total, 17% of the Roma sample has such a disease or problem, while it is 18% for the non-Roma sample.

Expectedly, the reported *long-standing illnesses* increase with age, both among the Roma and the non-Roma sub-samples. It is important to note that the age factor is significant for both populations. However, the increase of reported health problems, among the Roma in older age groups, is much steeper, reaching 70% for those 65 years old, compared with 56% of the non-Roma. The reported *long-standing illnesses* are more frequent among female respondents for both samples.

The data on specific disorders<sup>12</sup> point out that hypertension (high blood pressure), and diseases of muscles and bones (rheumatism, arthritis) are the most common illnesses, reported both by the Roma sample (respectively 30%, 27%) and the non-Roma sample (35%, 33%). The differences, however, indicate that these two most common diseases are typical to a greater extent for the non-Roma population. Roma report to suffer more frequently from respiratory diseases such as asthma (9% for the Roma, compared to 5% of the non-Roma) and chronic bronchitis (12% for the Roma,

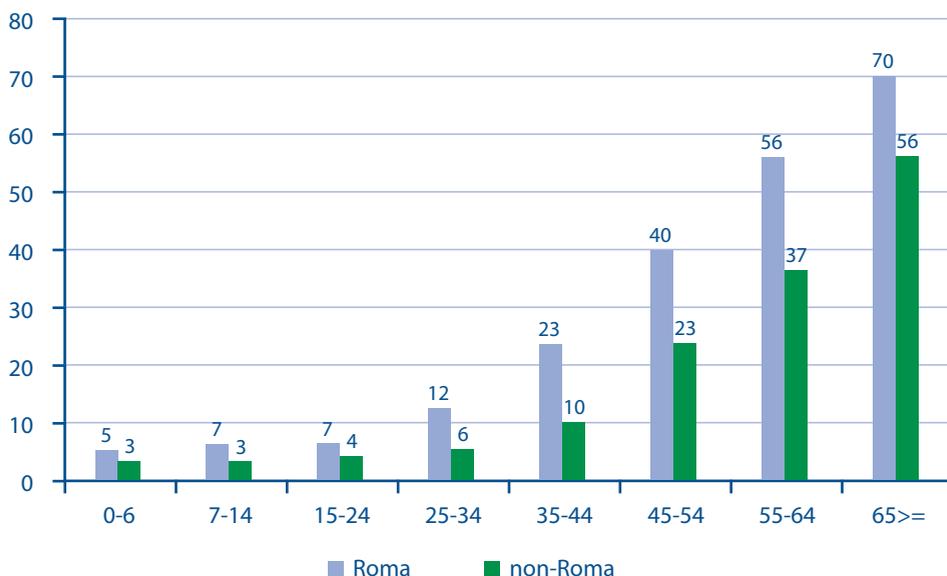
10 The European Statistics of Income and Living Condition (EU-SILC) survey contains a small module on health, including 3 questions on the general health status and 4 questions on unmet needs of health care. The latest available update is from 2010 and 2012, which does not enable direct data comparisons with this survey data, which is from 2011. The SILC data includes only 5 of the 9 surveyed countries, which does not allow cross-country comparisons. Look for SILC metadata details at [http://epp.eurostat.ec.europa.eu/cache/ITY\\_SDDS/EN/hlth\\_status\\_silc\\_esms.htm](http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/hlth_status_silc_esms.htm) and [http://epp.eurostat.ec.europa.eu/cache/ITY\\_SDDS/EN/hlth\\_status\\_silc\\_esms.htm](http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/hlth_status_silc_esms.htm)

11 Does she/he have any long-standing illness or health problem? 1. Yes; 2. No; 98. Refused; 99. Don't know; Administered to the household head, reporting for all household members

12 Do you have any of the following health problems? [INT] Read each health problem out loud. Multiple response: 1. Asthma; 2. Chronic bronchitis, chronic obstructive pulmonary disease (COPD), or emphysema; 3. Hypertension (high blood pressure); 4. Long-standing problems with your muscles, bones and joints (rheumatism, arthritis); 5. Chronic anxiety or depression; 6. Diabetes; Yes; No; Refused; Do not know

compared to 8% of the non-Roma). Chronic anxieties or depressions are also more regularly reported by the Roma (14%) than by the control non-Roma group (10%). Diabetes bears out an equal reported prevalence in both samples (8%).

**Figure 2: Long-standing illness by age (%)**



Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: Does she/he have any long-standing illness or health problem? (Positive responses)

Distribution of disparities between Roma and non-Roma samples by country, discloses asthma as particularly typical illness for the Roma in Montenegro and Hungary (7 percentage points difference), Serbia, Croatia and Albania (5 percentage points difference); bronchitis for the Roma in Croatia (10 percentage points difference) and Albania (6 percentage points difference); chronic anxiety is typical for the Roma in all countries, and particularly for Bosnia and Herzegovina, Hungary, FYR Macedonia and Croatia.

### Health status along specific medical services

The survey data provides an opportunity to look at the subjective health status, measured by the reported number of outpatient services, emergency services, and inpatient services. These issues are addressed by questions asking about the respective number of visits and overnight stays, carried out by particular household members.<sup>13</sup>

13 During the past 12 months, how many separate overnight stays did you have, to obtain inpatient health care at any health facility? [INT] Not the number of nights, but separate stays in hospital.

To control for the interaction of *access to health (insurance)* with *health status*, the data are calculated separately for the health-insured and not-insured respondents.

The analysis demonstrates **no statistically significant differences among Roma and their non-Roma neighbours**, both for the insured and non-insured persons, regarding outpatient visits. However, further analyses (Chapter 3 of this paper) show that the access, and particularly the insurance levels, of the Roma are much lower. On a country level, the data are quite diverse – in a number of countries, the frequency of outpatient visits is higher among the Roma than the non-Roma respondents – Albania, Montenegro, FYR Macedonia, Moldova, and Serbia. In most of the new EU member states, the tendency is just the opposite – Bulgaria, Slovakia, Czech Republic, Hungary, joined here by Croatia and Bosnia and Herzegovina, show outpatient visits higher among the non-Roma living in vicinity of the interviewed Roma.

**Figure 3: Share of adults (16+) with inpatient stays (%)**



Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: During the past 12 months, how many separate overnight stays did you have, to obtain inpatient health care at any health facility? (Recoded responses if ever attended inpatient services during the last 12 months)

**Unlike for the outpatient visits, differences between the Roma and the non-Roma are found when looking at inpatient stays.** On a regional level, the number of adults (16+) who have visited hospitals during the last 12 months (with and without insurance) **is higher among Roma** than among non-Roma – 17% versus 12% for the insured respondents, and respectively 14% versus 9% for the people without the health insurance. The most frequent inpatient stays by Roma are ob-

served in Romania (21%) and Bosnia and Herzegovina (20%), while the lowest number is found for Montenegro (11%), Slovakia (13%) and Hungary (13%).

The largest differences between Roma and their non-Roma neighbours are found in Bosnia and Herzegovina, Serbia and the Czech Republic. The lowest are observed for Hungary, where the number of non-Roma in hospitals is greater than the Roma.

Similarly to inpatient stays, statistically significant differences can be observed regarding emergency visits, both on regional and country levels. At the country level, the highest frequency of visits for the Roma is in Hungary and the Czech Republic, while the lowest is in Moldova. The disparity between Roma and non-Roma visits could be explained perhaps by the fact the Roma replace outpatient services with emergency visits, due to lack of insurance. The highest disparity between Roma and non-Roma in emergency visits is reported in Bulgaria (50% more Roma visits than non-Roma), followed by Hungary (44% more) and FYR Macedonia (44% more).

## Disabilities

The level of disabilities is measured through the activity status, described as “unable to work due to long-term illness/disability<sup>14</sup>”. Such an incapability to work is reported by 1.3% of the Roma sample and 0.96% of the non-Roma population. **Though small in values, the difference is statistically significant** ( $p < 0.01$ ).<sup>15</sup>

Unlike the previous indicators, the differences among countries along this indicator are smaller. **In 9 out of 12 countries, the Roma population has higher vulnerability.** There are particularly more Roma *unable to work due to disabilities* in the Czech Republic (77% more<sup>16</sup> than their non-Roma neighbours), Bulgaria (72%), FYR Macedonia (55%) and Serbia (53%). The countries of *reverse disparity* on this indicator are Bosnia and Herzegovina (-77%), Slovakia (-61%), and Albania (-25%). Unlike the previous indicators, the data here do not reveal a clear regional profile of differences.

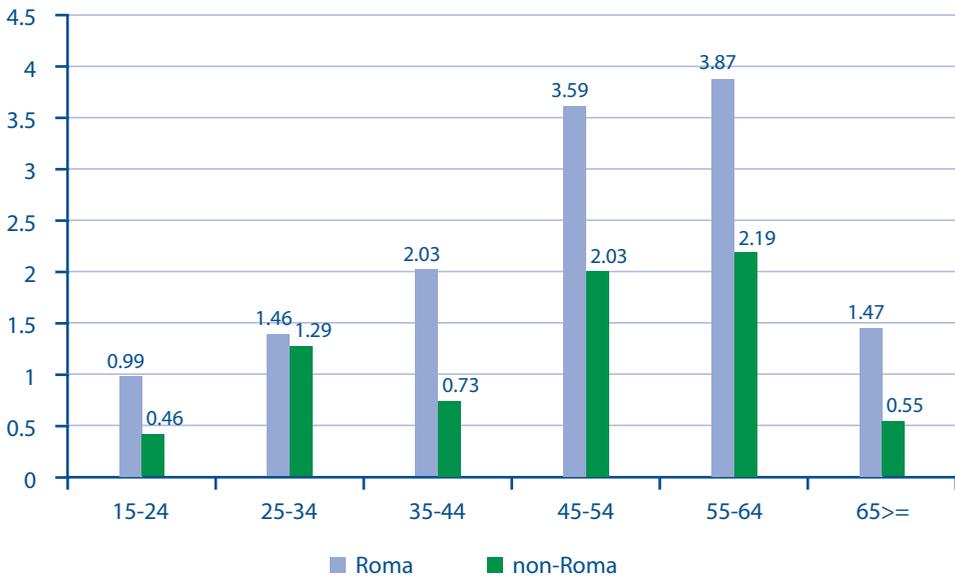
The increase of reported disabilities with age is valid for both Roma and non-Roma samples, with a similar dynamic (Figure 4).

Similarly, both the Roma and the non-Roma male samples report a higher number of labour disabilities, compared to the female samples (1.1% female compared to 1.4% male for both samples).

14 Reported by the household head for all household members

15 Applying both the Chi-Square and the Mann-Whitney statistics

16 The difference between Roma and non-Roma (*unable to work due to disability*), calculated as per cent of the Roma, shows the vulnerability levels along this indicator.

**Figure 4: Unable to work due to long-term illness/disability, by age (%)**

Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: Unable to work due to long-term illness (disability). By Age (Positive response)

## Addictions

**The total number of smokers<sup>17</sup> over 16 years of age<sup>18</sup> among the Roma (53%) is significantly higher, compared to the neighbouring non-Roma population (33%).<sup>19</sup>** The details show that the majority of the Roma are *daily smokers* (44%), while only 9% *smoke occasionally*. Just 11% of the Roma used to smoke in the past, and *have stopped now*, compared to 15% of the non-Roma sample; 52% of the interviewed non-Roma *never smoked*, compared to only 36% of the Roma.

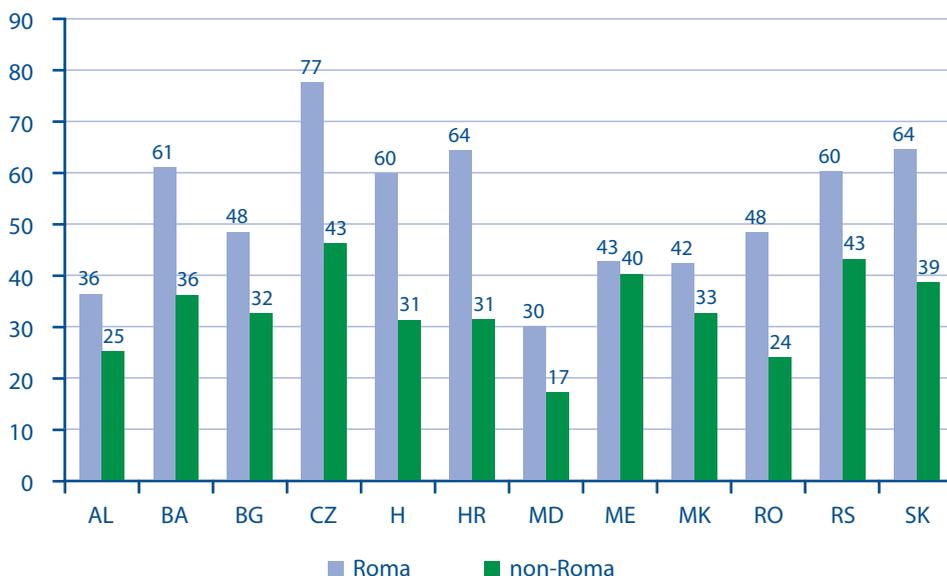
The highest number of smoking adult Roma (16+) in the region can be found in the Czech Republic (77%), Slovakia and Croatia (64%), followed by Bosnia and Herzegovina (61%), Hungary and Serbia (60%). The lowest prevalence of smokers among the Roma is in Albania (36%) and Moldova (30%), but also in member state countries like Bulgaria and Romania (48%).

The disparity measure, defined as a percentage difference between the smoking Roma and non-Roma, shows remarkable differences between the two samples.

17 With regard to smoking cigarettes, cigars, or a pipe, which of the following applies to you? [INT] SINGLE RESPONSE; 1. I currently smoke, daily; 2. I currently smoke, occasionally; 3. I used to smoke but have stopped; 4. I have never smoked; 98. Refused; 99. Don't know

18 Selected sub-sample

19 This disparity is statistically significant at very high levels (Chi Square and Mann-Whitney U  $p < 0.001$ )

**Figure 5: Share of adult (16+) smokers (%)**

Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: With regard to smoking cigarettes, cigars, or a pipe, which of the following applies to you? (Positive response)

The UNDP/WB EC Regional Roma Survey observed 52% more Roma smokers than of the non-Roma in Croatia, 51% more in Romania, and 49% more in Hungary. The European Health Interview Survey (EHIS<sup>20</sup> - 2012) reported the national averages of smokers in Slovakia at 19.2%, and in the Czech Republic at 24.9% – significantly lower than the rates observed in the Regional Roma Survey for Roma, but also for their non-Roma neighbours in these two countries.

The heaviest smokers, however, are in Montenegro and Bosnia and Herzegovina, where the Roma smoke on average 23 and 22 cigarettes per day respectively, compared to Bulgaria (12 cigarettes/day) and Romania (13 cigarettes/day).

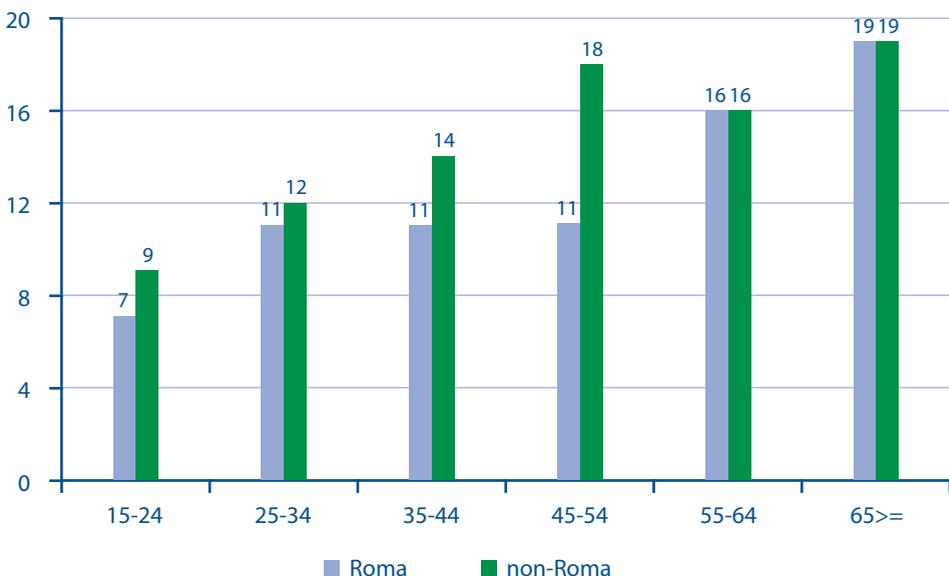
Some of these country differences can be explained by the income levels and the tax policies in individual countries. **The combination of comparatively low income levels and high (EU) taxation on tobacco, in countries like Bulgaria and Romania, puts these countries at the lower ranks on the smoking prevalence ladder, together with countries with lower household expenditures, such as Albania and Moldova.** The hypothesis that low incomes reduce smoking is veri-

20 The European Health Interview Survey (EHIS) aims at measuring, on a harmonised basis, life style (health determinants) and health care services use of EU citizens. The survey contains around 130 questions, split among the four modules covering the following topics, including smoking behaviour. More info on EHIS at [http://epp.eurostat.ec.europa.eu/cache/ITY\\_SDDS/EN/hlth\\_ehis\\_esms.htm](http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/hlth_ehis_esms.htm)

fied by a cross-tabulation, showing that only 38% of the Roma, living in households with expenditures at less than \$2.15 PPP per capita per day are smokers, compared with 58% of the Roma above this poverty line. Changing smoking habits, however, is a rigid process, stalled by national values and traditions. A study on the health status of Roma in Slovakia (Ginter, et al, 2001) confirms that “incorrect lifestyle” of the Roma minority is one of the main reasons for their higher mortality.

The socioeconomic and demographic determinants of health indicators are addressed in a separate section. It is still important to also point out here that the age dynamics among the Roma, compared to the non-Roma has higher influence on their health vulnerability. Figure 6 suggests the Roma, not only less frequently quit smoking, but also do it later than the non-Roma living in their proximity.

**Figure 6: Share of those who used to smoke, but have stopped (16+), by age (%)**



Source: UNDP/WB/EC Regional Roma Survey 2011

In terms of gender, the difference in number of smokers between the male and female Roma respondents is much smaller than between the non-Roma. Generally, men are heavier smokers for both samples, but the difference for Roma is smaller (23% more male than female smokers for the Roma, compared to 40% for the non-Roma sample).

Alcohol addiction is addressed in the survey through a question measuring the *frequency of drinking 5 or more alcoholic beverages per week*.<sup>21</sup> The data **do not reveal**

<sup>21</sup> How often in the past 12 months have you had 5 or more alcoholic beverages on one occasion?; 1. Several times a week; 2. Once a week; 3. Once a month; 4. Less than once a month; 5. Never; 98. Refused; 99. Don't know

**statistically significant differences between the Roma and the non-Roma samples**, analysed for the population over 16 years of age. The number of frequent drinkers is equal for both samples (3% *several times per week*), while the number of non-drinkers is also close – 65% for the Roma and 66% for the non-Roma. Looking at the country-by-country comparison, the heaviest Roma drinkers are in the Czech Republic, where 7% *have more than 5 drinks several times per week*, and only 26% *never drink such quantities*, followed by Slovakia (39% *never*).

The distribution by age shows small difference both inside and between the two samples. For both samples, however, there is a significant tendency of elevating the number of frequent drinkers with age, reaching 4% for the Roma and 3% for the non-Roma, in the age of over 65 years. Unlike the smoking pattern, the differences between men and women in drinking are similar for both Roma and non-Roma. For both populations, the number of frequently drinking men is 6 times bigger than for the women (6% compared to 1%).

## 2.2. Discussion on subjective health

The presented data on perceived health status revealed two main findings on the differences between the Roma and their non-Roma neighbours. In terms of **general perceptions** of health, small differences between the Roma and their non-Roma neighbours were observed, indicating even some reverse discrepancies for selected Balkan countries. However, **the more specific are the perceptions and health indicators**, the bigger becomes the difference between Roma and non-Roma, indicating a higher “real” Roma vulnerability. In particular:

1. There are substantial discrepancies between Roma and non-Roma living in their proximity, regarding disabilities, smoking patterns and in-patient visits – the indicators of acute forms of health deterioration. Smaller differences between the two samples were recorded in general health perceptions and out-patient visits. Out-patient visits are, however, normally carried out in earlier stages of the disease.
2. Discrepancies between reported longstanding illnesses by Roma and non-Roma become more visible with age.
3. Blood diseases, which normally require a medical check-up to be identified, are more typical for the non-Roma living in close proximity to the interviewed Roma, while respiratory infections (which can be more easily self-identified) are of higher prevalence among the Roma.

**All this suggests that the *real* health problems of Roma are only perceived once they reach acute forms, which are recognised as *disabilities, long-standing ill-***

**nesses at higher age or require in-patient visits. This finding suggests the perceived health status, in the case of Roma, is strongly linked to the access to health services and to the level of health competence and culture.** Previous research (Mihailov, et al, 2002) among similarly vulnerable groups (in rural areas) shows that the level of perceived health status actually worsens with the increase of access to health services. When illnesses get diagnosed, the population becomes aware of previous health problems and the reported prevalence sharply increases. This is particularly valid for blood diseases and other illnesses that cannot be identified intuitively without a medical check-up.

The “positive” self-perception of general health among the Roma is not a new finding. Several research projects have also encountered the positive self-perception on health by the Roma in the region. In Serbia, this phenomenon is regarded as “ill health” – described as a false self-reflection of the health status, based on lower access to health services, prejudices, low health awareness and others (Đurđica Zorić, 2006). Qualitative study of Manderbacka (1998) also examines the misinterpretation of this specific question (*Does she/he have any long-standing illness or health problem*) by the respondents. The study argues that only medically diagnosed chronic diseases are considered “long-standing illnesses”, while others are perceived as ‘normal’, i.e. consequences of ageing or the life situation, or too insignificant to be considered long-standing illnesses. Another explanation of the positive self-reflections among the Roma, stems out from the cultural negativism, rather typical for the ethnic majorities than the Roma population in some of the New Member States (Gallup Int., 2011; Golinowska, et al., 2006).

To conclude, self-reported health status can be misleading. Therefore greater efforts should be made for collecting solid and reliable medical information to allow for disaggregation by ethnic status.

### 2.3. Health status determinants

In the search for determinants of health status, selected factors were tested. These factors describe educational and income levels, along with some demographic variables and value statements. These factors were chosen based on the hypothesis that higher socialization, in terms of acquired social knowledge and skills, leads to a better perception of health. The calculations are carried out on two dependent variables,<sup>22</sup> describing the health status – Reported chronic disorders (*Does she/he have any long-standing illness or health problem?*) and assessment of general health (*How is his/her health in general?*). At the end of the section, a Probit regression analysis is presented to control the interaction among independent variables.

22 Both items administered to the household head

## Demography factors: Age, gender and marital status

As indicated earlier, age and gender normally correlate significantly with perceived health status. The indicator “reported chronic disease” significantly increases with age, and the prevalence of chronic diseases is higher among women. Both gender and age are statistically significant correlates of reported chronic disorders for both Roma and non-Roma samples.

The **age factor** proves to have a higher impact on the Roma sample for the middle age group, than for the younger and older age groups. For example, the prevalence of reported chronic disorders among the age group 35-44 years is 23% among the Roma, as compared to 10% in the non-Roma sample (i.e. the prevalence for non-Roma is only 45% of that for Roma in the same age group). Similarly, the prevalence of reported chronic disorders is 47% higher for the Roma, than for their non-Roma neighbours in the younger middle age group (25-34 years). The difference between Roma and non-Roma, calculated for the oldest age group (65 $\geq$ ) is smaller – only 21%. This could be possibly explained by the fact that chronic disorders normally increase in all ethnic groups with age, hence the differences between Roma and non-Roma, above a particular age, fade away.

The **gender factor** is also a significant determinant for the reported chronic disorders; women in the Roma sample showed a for women, although showing lower effect prevalence (18%) in the Roma sample than women in the non-Roma sample (18% prevalence for the Roma women, compared to 20% for the non-Roma women).

The **marital status** significantly correlates with reported health status (chronic disorders), leading to a higher vulnerability for the categories of widowed and divorced persons. To be *married* is found to decrease the number of reported diseases for both Roma and non-Roma samples. This is understandable, taking into account that a broken relationship causes psychological trauma and financial problems that consequently may deteriorate health. A number of research projects have shown a strong effect of divorce on general health. Morowitz concludes that “being divorced and a non-smoker is [only] slightly less dangerous than smoking a pack a day and staying married.” (Morowitz, 1975). Additional calculations proved the classical research (Jessie Shirley Bernard), suggesting that divorce brings in higher negative effects on subjective health for women, compared to men. According to the UNDP/WB/EC Regional Roma Survey data, the number of reported *long-standing illnesses* (total sample) among men increases from 24% for married men to 28% for divorced men, while for women this elevation is much stronger – from 24% to 31%.

## Education factors

Education factors are expected to have a strong impact on perceived health status. They also correlate with general health awareness, food culture and hygienic habits. Lastly, the education also influences health, through the generally better living environment and social status, related to higher education and other socio-economic factors. Social determinants of health, and particularly education, are endorsed among the key determinants for health identified also in the WHO Social Determinants of Health Framework (WHO, CSDH, 2008). A recent study also shows a statistically significant correlation between paternal education status and measles immunisation uptake (Rammohan, et al., 2012).

**The hypothesis on the impact of education is confirmed for both samples (selected for age groups above 14). A higher completed education significantly correlates to a better health status, measured as “reported prevalence of chronic disorders”.** Only 15% of the Roma post-secondary school graduates (aged above 14) reported to be suffering from any chronic disorders, as compared to 32% of the Roma without any formal education. Assumption that this correlation would be higher for the Roma group, however, is not confirmed, though the educational level of the Roma is lower. This may be due to the fact that the Roma sample (both in educational and health terms) is more homogeneous while the non-Roma sample is internally more diverse. Another explanation of the lower effect of education for the Roma is that the survey data are based on perceptions (not on medical data) and the level of the evaluated impacts very much depend on the *sensitiveness* of these perceptions in the different sub-samples.

Even so, the revealed correlations prove the hypothesis that inclusion, in terms of completed educational degrees, significantly improves the health status (measured as reported chronic disorders). This hypothesis is verified also by the impact of the indicator “attended pre-school education” on health self-perceptions for both samples. Likewise, there are significant impacts on health indicators by the reported literacy, showing that only 19% of the Roma that can read and write have a negative perception of their health status, compared to 37% of the Roma that are illiterate.

## Employment and poverty factors

Employment is another key social determinant that is expected to significantly influence the indicators of health status, via several lines. First, it provides health insurance, enabling a systematic access to health services. Second, employment usually ensures financial stability. And last, employment enables an inclusive environment and positive self-esteem, ensuring a psychological comfort for the individual. Workers, who perceive work insecurity, experience significant adverse effects on their physical and mental health (Ferrie, et al., WHO, CSDH, 2008). Similarly, Kessler finds

that unemployment leads to “elevations in depression, anxiety, somatisation and self-reported physical illness, caused by impacts of the financial strain and creating heightened vulnerability to other stressful life events” (Kessler, et al., 1984).

The impact of **employment status** is confirmed for both samples, resulting in a more positive self-assessment of the health status and lower level of reported illness (chronic disease). The number of reported diseases elevates from 15% in case of employed, to 17% in case of unemployed for the Roma sample, and respectively from 10% to 15% for the non-Roma sample. While it is statistically significant for both samples, this is again more articulated for the non-Roma sample.

The **income poverty factors** produce similar, though smaller effects, compared to employment. The impact on reported disease is analysed for 4 poverty indicators based on income and expenditures, respectively referring to national and \$2.15 PPP poverty lines. While all of them are found to have statistically significant differences (between poor and non-poor), the indicators based on \$2.15 PPP expenditures indicated higher effects on the health indicator among the Roma, as compared to other poverty indicators. The impact of the **living environment** on health status is measured by two independent variables, the existence of improved infrastructure in the neighbourhood and the indicator of ethnic segregation of the community (if the community is predominantly Roma).

The improvement of the living environment in terms of roads,<sup>23</sup> sewage and electricity and other system are not found to have a significant correlation with the indicator of “reported chronic disease” for both samples. There are only small indications of positive impacts. Significant impacts of the environment indicator on the self-assessment status are not found either. The improvements that have taken place in the studied communities are most likely to have a long-term prospective effect, which cannot be categorised by the respondents as making an immediate change for the health situation. No differences between the two samples could be expected, as the survey was administered in the neighbouring Roma and non-Roma communities.

The **housing conditions**, such as the accessibility to an inside bathroom or shower have a stronger impact on health perceptions. Statistically significant correlations of the perceived health status, with the internal house environment (existence of a shower or a bathroom inside) have been found. This impact is verified for both samples and both health indicators – the reported chronic disease and the self-assessed health status. For example, 35% of the Roma with *no bathroom or a shower inside the*

23 Which of the things have been improved through repair, maintenance or construction work in the last 5 years, or since you have been living in your neighbourhood? [INT] Do not read out loud. Code up to three; 1. Roads and pavements; 2. Public buildings; 3. Private or public housing; states/houses/apartments; 4. Sewage systems/drains; 5. Electricity/gas supplies; 6. Levels of pollution; 7. Public transport; 8. Drinking water system; 96. Nothing; 98. Refused; 99. Don't know

*dwelling* have a *negative self-assessment of their health*, compared to 25% of the Roma with these facilities inside the dwelling. Similar and even higher correlations are found for the non-Roma sample, verifying the hypothesis of the larger stratification in the non-Roma communities, as presented earlier.

## Values

Several values questions were tested for having statistically significant correlations with the health status indicators. This analysis stems from the hypothesis that values promoting more socialisation would lead to higher health awareness, and would thus correlate to a better health status (measured in the survey by reported chronic disorders and health self-assessment). For the Roma sample, this hypothesis was partially confirmed – particularly for **educational values**, and values related to **stronger relationships with the non-Roma communities**. The analysis also pointed out higher correlations with the *self-assessment* indicator, rather than with the *chronic disease* indicator.

Statistically significant correlations of reported chronic disorders with values, expressed by the following two preferences were identified: 1) *“allowing her (a daughter) to study even if she could start sexual life”* instead of *“marrying your daughter before she completes basic education”* and 2) *“live in better living conditions, but surrounded by majority population”* instead of *“live in a worse living conditions, but surrounded by your kind of people”*. The correlations on the first (liberal education value) show that 30% of the Roma, supporting the conservative value of *early marriage*, at the same time report a chronic disease, compared to 25% of the *liberal educational values*. The other correlation shows that the Roma, who would prefer to *live in a better environment among the majority population* report less frequently chronic disorders (26%), compared to those choosing to *stay inside the community even in a worse living conditions* (29%). Similar and even stronger correlations are found for the self-assessment indicator for health.

Besides the abovementioned values, the negative self-assessment of health also correlates with the acceptability of a person in primary school age to work instead of going to school. Positive correlation was observed also with the preference to *“live on social assistance with problems making both ends meet, versus “have higher standards of living but working hard to earn your money”*. People preferring the former report negative health self-assessment more often (27%) than those preferring the latter (25%).

No statistically significant correlations were found for the Roma sample between health self-assessment and values, related to security in employment (*having insecure/secure employment, but high/low wages*) and mixed marriage values (*marry someone from a different ethnicity*).

## Complex (Probit regression) analysis on determinants of reported chronic diseases

A Probit regression is carried out to control the single effects on reported illnesses, and to evaluate the complex interactions among determinants and country peculiarities. The regression model included all determinants discussed above, along with the availability of health insurance to test the hypothesis that access to services *increases* the probability of reporting illnesses.

**Table 3: Probit regression outputs on reported chronic illness**

	dy/dx	Std. Err.	Z	P >  z
Medical insurance	.0664453	.0293576	2.26	0.024
Above 44 years	.1801648	.0197407	9.13	0.000
Female	.0844012	.0204342	4.13	0.000
Widowed	-.0182195	.0310564	-0.59	0.557
Upper secondary education and above	-.043458	.0286556	-1.52	0.129
Employed	-.0700171	.0262156	-2.67	0.008
Non-labour incomes	.0388734	.0247936	1.57	0.117
Unemployed	.0380866	.0322841	1.18	0.238
Poor (\$2.15 PPP)	.0594894	.0449218	1.32	0.185
Perceived any improvement of infrastructure	-.0305991	.0287678	-1.06	0.287
Rural settlement	.0062258	.0105882	0.59	0.557
Muslim domination in place of living	.0392974	.0309836	1.27	0.205
Allowing a girl to study, even if she could start sexual life before marrying	-.0080584	.0263291	-0.31	0.760
Not acceptable for boy at primary school age to work instead of going to school	.0298934	.015461	1.93	0.053
Albania	-.3090487	.0362916	-8.52	0.000
Bosnia and Herzegovina	-.3136066	.0360988	-8.69	0.000
Bulgaria	-.3955096	.0231591	-17.08	0.000
Czech Republic	-.3717309	.0450592	-8.25	0.000

	dy/dx	Std. Err.	Z	P >  z
Slovakia	-.3633291	.0408905	-8.89	0.000
Montenegro	-.4373067	.0331776	-13.18	0.000
Croatia	-.3300706	.0241347	-13.68	0.000
Hungary	-.2991934	.0318652	-9.39	0.000
FYR Macedonia	-.4310272	.0332275	-12.97	0.000
Moldova	-.1920399	.0232801	-8.25	0.000
Romania	-.2783667	.0303775	-9.16	0.000
Serbia	-.2507831	.0278135	-9.02	0.000

The Probit analysis calculated for the Roma sample proved some of the factors elicited in the one-dimensional analyses presented above, and eliminated some of the single effects:

1. The strongest predictor of chronic illnesses among Roma is age (18% more likely if a person is above 44), followed by gender (8% more likely for female), and unemployment (5% more likely for unemployed).
2. The strongest factor for avoiding a reported chronic illness is employment (7% higher probability of not having a chronic disease).
3. The Probit analysis confirms the *revelation* effect of the access to medical services, showing that people holding insurance are 7% more likely to report a chronic illness.
4. The Probit analysis eliminates, or proves insignificant, the effects of secondary and higher education; non-labour incomes; poverty, measured by \$2.15 PPP expenditures; perceived infrastructural improvement or rural/urban areas; educational values.

## 2.4. Discussion on subjective health determinants

In general, the data confirm that demographic factors (age and gender) are the leading determinants of perceived health status (reported long-standing illnesses). If considered literally, these findings suggest a higher need for supporting elderly and female Roma. However, it should be taken into account that many health problems originate from a multiple set of health determinants, accumulated through the course of life. Therefore, greater efforts to reduce health inequalities during childhood, to avoid increased health costs in older age, are needed.

Among the socio-economic determinants, **employment has a major impact on reported illnesses**. Some educational (upper and secondary education) and income (\$2.15 PPP) factors proved to have single effects on perceived chronic illnesses, but they lose statistical significance when analysed together with all other determinants in a complex regression model (Probit). The latter finding means that employment status has a stronger differentiation power, and better differentiates the perceptions of illnesses, than education and income. In fact, it is natural for employment to “eliminate” these impacts, because being employed, and particularly in the official labour market, usually correlates with higher income and better educational status. This also explains why education and income do not appear as separately significant determinants in a regression model.

Technically, the weaker impacts of education and income in a regression model could be also explained with their lower variance inside the studied population groups. Both Roma and non-Roma were surveyed in similar neighbourhoods, with no great variance of income and education levels. Thus, the “discriminating” effect of these two variables is low, or at least lower than employment, which obviously better differentiates the two populations. Regarding the educational factor in particular, it should be mentioned again, that the data indicate “perceptions”. Lower education is normally expected to correlate with a weak awareness of chronic illnesses, and therefore may also conceal the *actual* impact of education on the health status.

The importance of employment is reconfirmed by the findings on insurance, which becomes available only within the formal employment. The analysis reconfirms previous research, including the study, within the Social Determinant Framework, elaborated by the World Health Organisation (WHO, CSDH, 2008). Employment benefits health status in a number of ways, including through social contact, improving lifestyle and satisfaction arising from involvement in a collective effort, while unemployment increases premature mortality (Doyle, et al, 2005).

## 2.5. Progress since 2004

### Progress in positive self-perceptions

There are no identical questions from the 2004 and 2011 data sets, regarding perceived health status, which would permit a reliable comparison. Yet, there is an indicator that allows for an indicative estimation of the progress in health status, regarding reported chronic disorders. The indicative comparisons reveal progress in the perceptions for both samples. In 8 out of 9 countries (with the exception of Croatia), there are registered increases in the number of Roma who do not report any chronic/long standing illness since 2004. These shifts are most probably rather based on a common improvement of the overall national health status, than resulting from a special intervention among the Roma, as the improvement is found in both samples in parallel.

# 3

## Access To Health<sup>24</sup>

This chapter addresses the access to health – to what extent the population can reach the health services. The available data on access to health is analysed along the four dimensions: 1) Enrolment in the insurance system (Coverage), 2) Financial access (Financial Affordability), 3) Physical access (Availability), 4) Quality of access, and some access issues by particular services. Similarly to the previous chapter, for each of these indicators, comparisons are made by Roma/non-Roma samples, and by countries. Determinants of the access to health, and its progress since 2004, where data are comparable, are analysed as well.

### 3.1. Access to health insurance

Enrolment in the health system is considered as a key, if not the most important factor, for an inclusive access to health services, and for the health status. It speaks about the share of population eligible to access the most frequently provided medical interventions.

The overall regional data prove a **very high disparity between Roma and their non-Roma neighbour samples** – 74% of the Roma in the region report having medical insurance (*...either in your own name or through another member of your household*),<sup>25</sup> compared to 90% of the non-Roma living in their proximity. All comparative data in the section is of very high significance (Chi-Square  $p < 0.001$ ).

The age and gender distribution of the Roma population shows that coverage by health insurance rises with age, while there are no significant differences by sex. 70% of Roma in the lowest age group (15-24) are covered with health insurance, while the coverage rate reaches 80% for the oldest working age group (55-64). The age differences are explained with the increased involvement of Roma in the labour market or/and with increased access to subsidized insurances at higher age, through pensions and unemployment schemes. This issue is later addressed in the section dealing with the determinants of access to health.

24 Unless specified otherwise, all of the quoted correlations are statistically significant at levels of  $p < 0.01$

25 The question is administered to the household head, reporting for all household members

**Figure 7: Insurance coverage of adults (16+) in %**

Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: Do you have medical insurance, either in your own name or through another member of your household? (Positive response)

The distribution by countries shows **two concentrations** of particularly high shortage of medical insurance among the interviewed Roma, which are in striking contrast to most of the other countries. One can be found in the south of the Western Balkans, comprising Albania (68%, “No”), Bosnia and Herzegovina (30%, “No”), and to a degree Croatia (17%, “No”) excluding Montenegro (11%, “No”). The second concentration is located in the eastern part of the region, comprising Moldova (60%, “No”), Romania (49%, “No”), and Bulgaria (43%, “No”). On the other side, there are countries, located in the central part of Eastern Europe reporting a generally good coverage of the Roma in the health insurance system. These are: Slovakia (3%, “No”), the Czech Republic (5%, “No”), Serbia (7%, “No”), and Hungary (9%, “No”), joined also by FYR Macedonia (8%, “No”).

Unlike other indicators the order of countries, where interviewed non-Roma are not covered by health insurance, is similar – in reverse order it is led by Albania (46%, “No”), followed by Moldova (25%, “No”), Romania (15%, “No”) and Bulgaria (10%, “No”).

To illustrate differences between the Roma and the non-Roma samples a *disparity measure is calculated*. It is based on the per cent by which the non-Roma are more insured than the Roma. The greatest discrepancies are observed in countries with the lowest insurance coverage rates, among both the non-Roma and the Roma – Moldova (coverage of interviewed non-Roma by health insurance is

47% higher than of Roma), Romania (41%), Bulgaria (35%), and Bosnia and Herzegovina (26%). The lowest disparity is observed in Slovakia (0% difference), Serbia (1% higher), the Czech Republic (5%) and FYR Macedonia (5%). In these countries, the coverage of the interviewed non-Roma is also very high. In Bulgaria and Romania, the insurance coverage rates among the non-Roma are low (though not the lowest amongst the covered countries) and the coverage of Roma is even lower. To illustrate the significance of the country models in simple percentage points, only 54% of the non-Roma in Albania and 75% of the non-Roma in Moldova are health insured compared to 95% of the Roma in the Czech Republic and 97% of the Roma in Slovakia.

## 3.2. Financial access (Affordability)

The financial access to health is addressed in the UNDP/WB/EC Regional Roma Survey questionnaire<sup>26</sup> through two instruments – financial affordability of medicines and actual expenditures on health. The survey questions do not take into account possible differences in the health systems, for example the scope of providing free medicines. They rather register the perceived output of such differences.

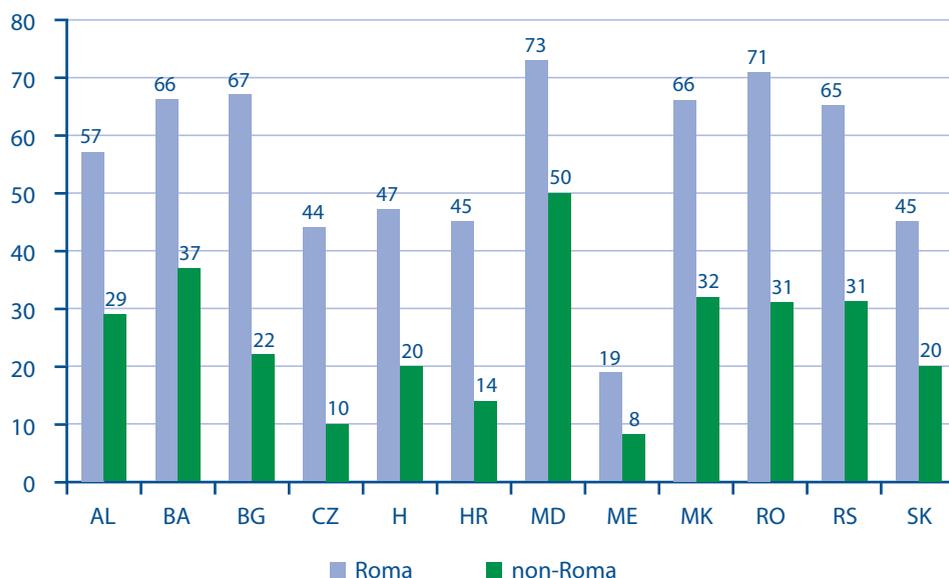
### 3.2.1. Financial affordability of medicines

On regional (total data) level the difference between the Roma and the non-Roma sample is very high. 55% of the Roma sample report *instances in the past 12 months when household members could not afford purchasing prescribed medicines*. Only 25% of the non-Roma sample report such instances. Reported financial access (of the household) decreases with the age of the household head and is lower for households with a female head.

The reported lack of access to medicines is very high, particularly in countries where the Roma are least covered by the health insurance system – Moldova, Romania, Bulgaria and Bosnia and Herzegovina. However, the disparity measure<sup>27</sup> of financial access to medicines by countries shows that the highest difference between Roma and their non-Roma neighbours is observed in countries with comparatively high coverage with health insurance – the Czech Republic (78% more cases of inaccessible medicines in the Roma sample), followed by Croatia (69%) and Bulgaria (67% more), while the lowest differences between the Roma and their non-Roma neighbours are in Moldova (31%) and Bosnia and Herzegovina (44%).

26 “Were there any instances in the past 12 months when your household could not afford purchasing medicines prescribed to, needed by, a member of your household?; “Yes/No”, and respectively “Approximately how much did your household spend last month on each of the following items... MEDICINES AND MEDICAL SERVICES”; Administered to the household head, reporting for all household members

27 Calculated as a percentage of the difference between Roma and non-Roma cases of no access

**Figure 8: Affordability of medicines (%)**

Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: Were there any instances in the past 12 months when your household **could not afford** purchasing medicines prescribed to, needed by, a member of your household? (Positive response)

## Expenditures on health

The expenditures on medicines illustrate the access to health. However, to avoid comparing expenditures for medicines incurred by ill and healthy people, the illness factor must be controlled for. Therefore, only cases with chronic disorders (reported long-standing illnesses) are used for calculation.

The overall regional data show much lower level of expenditures made by chronically ill Roma (66% made any expenditures on medicines), compared to 79% of the non-Roma samples. The comparisons by countries show that in Slovakia, FYR Macedonia and Bulgaria, as many as 80% of Roma households, with some member reporting chronic disorders, made some expenditures related to the health system in the past month. Similar level was reported also in Hungary (75%). The lowest share of Roma households with any health related expenditures are reported in Montenegro (33%) and Albania (58%). Ranking of countries for the non-Roma sample is similar – FYR Macedonia (97%), Bulgaria (93%), the Czech Republic (90%), and Hungary (86%), while the lowest frequencies are observed in Montenegro (49%) and Albania (67%).

The data on the disparity percentage<sup>28</sup> does not reveal any country profiles, in terms of sub-regions or income levels.

### 3.3. Perceptions of access (Accessibility)

This section addresses psychological accessibility or the perceptions of the available access to health services. Accessibility expresses not only mere financial or physical access to services. It covers also their quality. McKee (2004) argues that *modern* diseases require complex interventions and expertise, while the systems, introduced in CEE since 1990, go in the “opposite direction of isolated, homogeneous interventions... the [introduced] systems imply that health care involves only brief, clearly defined interactions between individual patients and providers” (McKee, 2004).

In the survey questionnaire, the issues of accessibility are addressed through the general perception of the access to health services, along with the perceived satisfaction and safety of provided services.<sup>29</sup>

#### General perception of access to health

The general perception of access to health services was addressed through the outpatient services. At the individual level asking, whether – “*During the past 12 months, was there any time when, in your opinion, you really needed to consult a doctor or medical specialist, but you did not?; “Yes/No”* At the household level, the survey asked “*Does your household have a doctor to approach when needed?; “Yes/No”*.”<sup>30</sup>

**When pooling data for all countries together, they suggest a significant disparity between the Roma and the non-Roma samples at the total regional level.** 42% of the Roma (16+) report they had a situation *during the last year when they did not have access to a doctor*, compared to only 26% of their non-Roma neighbours. Similarly, the perception of access at the household level reveals that 14% of the Roma households *did not get a doctor when needed*, compared to only 6% of non-Roma households. No significant age and gender differences for the Roma on these questionnaire items are observed.

At individual level, 66% of interviewed Roma (16+) were in situation of no access to a doctor when needed in **Moldova, 58% in Albania**, and 48% in Bulgaria. On the other end of the ranking, only 13% of interviewed Roma reported such a situation in Montenegro, 31% in Hungary, and 36% in Croatia and FYR Macedonia. At the

28 Calculated as a percentage difference between non-Roma and Roma

29 Unless provided otherwise, questions were administered to randomly selected person 16+ in each household

30 Administered to the household head, reporting for all household members

household level, 25% of the Roma households did not have access to a doctor when needed in the past 12 months in Moldova and Albania, and 27% in Bosnia and Herzegovina. Similarly to the individual level, the highest reported access to medical services was reported by Roma households in Hungary (4% had no access), FYR Macedonia (6%), Croatia (7%), Montenegro (9%) and Slovakia (9%).

The disparity measure, calculated as a percentage of the difference between the Roma and non-Roma perceptions, shows that the Roma perceive worse access in all countries. Particularly high disparity is observed in the Czech Republic (88% more cases of response “no doctor when needed” for Roma respondents), Bosnia and Herzegovina (78%), and Bulgaria (76%), while the lowest disparity values in access are found in Hungary (5% more), and partly in FYR Macedonia.

### Perceptions of quality of services

The quality of available access to health services is assessed through the satisfaction with a provided service, and through a more general perception about health safety.<sup>31</sup>

Both indicators (at the individual level as well as at the household level) prove a lower quality of accessed services among the Roma, compared with their non-Roma neighbours. At the individual level, 10% of the interviewed Roma report to be very dissatisfied with the services provided at their last visit, compared with 6% of the non-Roma respondents. The difference is even higher for the perception of health safety – 24% of the Roma households do not feel safe, compared to 12% of their non-Roma neighbours.

When looking at age and gender of respondents, the middle age (45-64 years) Roma respondents and Roma women are satisfied with health services at the highest rate. For example 17% of male Roma respondents are very satisfied with the *particular service provided*, as compared to 20% of Roma women.

At the country level, the highest dissatisfaction with provided services is reported by Roma in Moldova (44% of negative answers – *very dissatisfied and fairly dissatisfied*), followed by Romania (41) and Albania (38%). The most positive assessments of provided services are made by Roma in Montenegro (78% of positive answers), Croatia (78%, positive) and Serbia (77%, positive). The order of countries where Roma feel most safe regarding health is similar. The highest perception of health safety is observed again in Montenegro (90% of Roma households feel safe regarding health protection), Croatia (89%), Hungary (88%), and Serbia (86%). Otherwise,

31 “How satisfied or dissatisfied were you with the quality of service offered?,” administered at individual level (randomly selected person 16+ in each household) and respectively, “Do you feel safe in regards to health protection?,” administered to the household head

the lowest perception of health safety is found for the Roma in Albania (47%) and Bulgaria (59%).

**Figure 9: Dissatisfaction with health services (16+) in %**



Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: How satisfied or dissatisfied were you with the quality of service offered... [service provided at a particular visit by the respondent...]; (Negative response: Very dissatisfied and Fairly dissatisfied)

The disparity measure, calculated as a percentage of difference between perceptions of negative satisfaction of the Roma and the non-Roma discloses that in 9 out of 12 countries, the satisfaction with the services provided at a particular visit is less frequent among the Roma, compared to their non-Roma neighbours. Only in two countries, Serbia and Hungary, the dissatisfaction is higher among the non-Roma than among the Roma. The largest disparity between the Roma and the non-Roma perceptions is observed in Montenegro. There are no dissatisfied non-Roma respondents, as compared to 10% of dissatisfied Roma respondents. Large percentage discrepancies are found also for Croatia (69% higher dissatisfaction among the Roma), Bulgaria (57%) and Moldova (46%).

### 3.4. Physical access (Availability)

Questions on availability and proximity of medical institutions to the place of living account for availability or geographical accessibility of health services. Theoretically, there should be low differences between the Roma and their non-Roma

neighbours, since they live in close proximity to each other. If any differences they would be rather resulting from low awareness of health system and exclusion from the health insurance than from actual lack of *physical access*. Particular questions, used in the survey, look at *approximate distance of respective GP, medical centre (ambulant), policlinic, hospital and pharmacy from the house of the respondent*, measured in categories 1-3 km; 3-5 km, 5-10 km and over 10 km.

In general the data suggests that Roma respondents perceive all five aforementioned medical facilities to be located at more distant places, compared to the non-Roma respondents. Although statistically significant, the differences are not so high. Therefore they suggest rather low awareness of the health system. On average 37% of Roma respondents report availability of a GP. The percentage of respondents reporting GP availability increases with their education – 40% of Roma respondents with upper secondary education and 49% of Roma respondents with a university degree.

Access to primary medical care (GP and ambulant centres) was reported particularly remote. It is also important to mention that pharmacies are also more distanced from the place where the interviewed Roma live. This is understandable given a lower demand, resulting from a lower financial capacity in the Roma neighbourhoods.

### 3.5. Access to specialised medical services

When analysing the access to health, it is important to deal with the access to various service types and service levels including preventive practices and specialised medical treatment. These areas are addressed in the questionnaire by two main domains. A general one includes preventive testing, and a specific one is related to gynaecological testing. The general indicators comprise items like dental check-up, X-rays, heart disease check-ups; blood pressure, blood cholesterol, and blood sugar tests. The issue of maternity and child health is addressed in a separate chapter.

Similarly to physical access, the differences between Roma and their non-Roma neighbours need to be interpreted rather as indications of exclusion from the health system, resulting from a lack of insurance, lower financial access (as some of the specialised tests require payments) and low health awareness and culture.

When looking at the entire regional dataset as a whole, all *specialised* indicators suggest that **access to specialised services<sup>32</sup> is much less frequent among the Roma, as compared to their non-Roma neighbours**. The differences are particularly high for the medical check-ups, considered as “optional” (by the health in-

32 When was your \_\_\_ A dental check-up ; An x-ray, ultrasound or other scan ; Cholesterol test ; Heart check-up Blood pressure test; Blood cholesterol; Blood sugar \_\_\_ last measured by a health professional? (Recorded responses – “ever”)

insurance funds), such as the dental check-ups. As many as 44% of the non-Roma report they have had a dental check-up during the last 12 months, as compared to only 26% of the Roma. Large differences are also reported for heart check-ups (40% for the non-Roma versus 30% for the Roma), and the blood sugar tests (77% compared to 61% for the Roma). The smallest, yet statistically significant differences are reported for blood pressure test (89% of non-Roma *have had one done* against 79% of Roma). Fairly high prevalence and small difference between Roma and their non-Roma neighbours could be explained by the fact that this most “common” medical check-up could be performed by a non-professional as well. X-ray check-up is another check-up of comparatively smaller disparity between Roma and their non-Roma neighbours – this check-up is more frequently prescribed by medical specialists, rather than initiated by the patient (34% of non-Roma versus 28% of Roma).

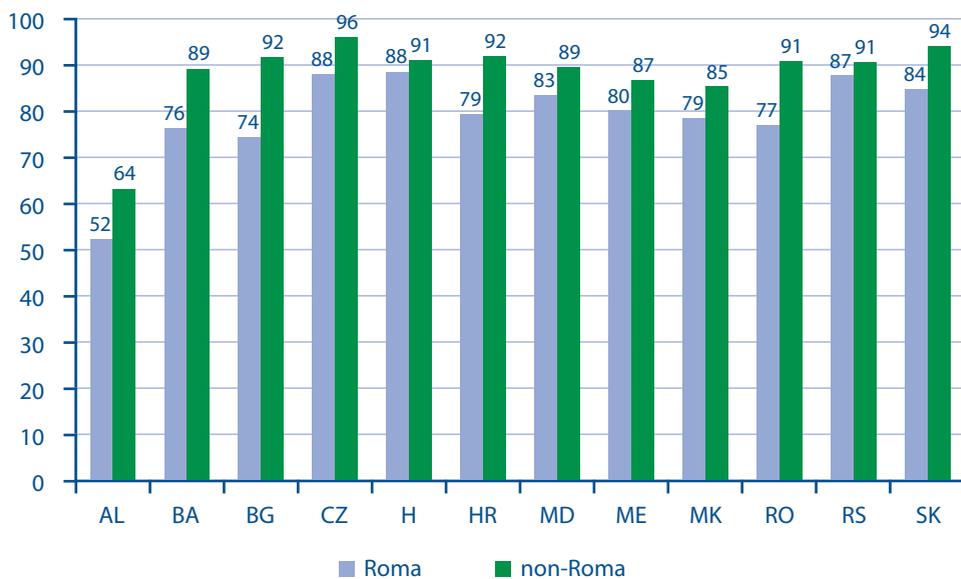
Analyses of the socio-economic determinants are carried out in a separate section. However, already in this place, the data confirm attending specialised medical tests depends rather on socio-economic factors, than on the physical access to the institutions providing these services. Thus, available “insurance” increases the frequency of carrying out heart tests from 21% (non-insured Roma) to 34% (insured Roma). Education is particularly influencing preventive and sophisticated medical check-ups, like X-ray and dental check-ups. For example only 17% of Roma having no formal education report undergoing dental check-up during the last 12 months, as compared to 38% of Roma with upper secondary education. Similarly only 24% of poor Roma (below \$2.15 PPP) report having had X-ray test as compared to 29% of the non-poor Roma.

The highest frequency of attending specialised check-ups among the Roma is reported in countries of comparatively higher personal satisfaction and higher access and higher governmental health expenditures (Box 1) - Slovakia, the Czech Republic, Hungary, FYR Macedonia, and Serbia. Thus, the highest frequencies of dental check-ups are reported by interviewed Roma in Slovakia (45%) and FYR Macedonia (37%); the Roma in Slovakia and Hungary are respectively first and second in X-ray check-ups; Slovakia (42%) and Serbia, respectively top the hierarchy in heart check-ups; the Roma in Hungary (92%) and the Czech Republic (88%) – in blood pressure tests; Montenegro (74%) and Slovakia (72%) – in blood cholesterol tests.

The lowest attendance of specialised tests is reported in countries with weaker insurance coverage and lower satisfaction with medical services – Albania, Romania, Bulgaria, and partly Bosnia and Herzegovina and Moldova. The smallest number of dental check-ups, among Roma for example is reported in Romania (12%), Montenegro (14%) and Bulgaria. The Roma in Bulgaria (12%) and Romania (13%) also report the lowest attendance in the X-ray check-ups, while the lowest frequencies of heart check-ups is reported by the Roma in Romania (25%) and Albania (27%). The Albanian and the Bulgarian Roma rank respectively last and before last in blood

pressure check-ups (52%, Albania; 74%, Bulgaria) and blood cholesterol tests (36%, Albania and 47%, Bulgaria) and blood sugar (34%, Albania; 50% Bulgaria).

**Figure 10: Frequency of blood pressure tests (16+) in %**



Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: When was your \_\_blood pressure test\_\_ last measured by a health professional? (Positive responses – “had”)

The comparisons between the Roma and the non-Roma samples prove that the non-Roma respondents attend specialised medical check-ups more frequently in all countries. The discrepancies (calculated as a percentage of difference) are particularly high for indicators of more sophisticated tests such as *blood sugar* (20% higher attendance for the entire non-Roma sample), but are also valid for the simplest preventive check-ups such as blood pressure (11% more for the non-Roma). Countries with the lowest Roma attendance in specialised check-ups, such as Albania, Romania and Bulgaria also report the highest discrepancies. For example in case of Bulgaria, 19% more non-Roma attended in the last 12 months the blood pressure test than Roma in this country. Other low-attendance countries present similar figures – Albania (18%) and Romania (16% more for the non-Roma).

Countries with good attendance of Roma report comparatively low disparity. Slovakia represents an exception to this rule, as found earlier for other indicators, proving the alternative model of *high coverage – high disparity*. This country reporting high coverage of Roma with blood pressure (84%) tests reaches also one of the highest disparities in this indicator (12% more for non-Roma, blood pressure). **The highest disparity, however, is found for countries experiencing lower attendance of specialised tests.**

### 3.6. Discussion on access to health indicators

**Reported coverage with the health insurance among Roma** is significantly lower than among their non-Roma neighbours. The data suggest an important hypothesis about the determinants of the access to health. First, the higher the involvement of ethnic majorities in the health insurance system, the higher is the insurance coverage rate among the Roma as well. Second, the disparity between Roma and non-Roma falls with the fall of the insurance rate among the non-Roma samples. If the insurance model in a country is inclusive for the majority, it is also inclusive for the Roma, and the discrepancies between the two samples are small. If the problem is just with the Roma sample, in all such countries the discrepancies between the Roma and the non-Roma would have been high or similar. Therefore, the high insurance rate of Roma is rather a function of the inclusiveness of the overall national health insurance model, including labour, educational and other social systems.

The data suggests **the significantly lower financial access of the Roma to health services, as compared to their non-Roma neighbours**. The gaps between Roma and non-Roma by countries are similar. This indicates a commonly lower financial access for Roma throughout the region.

The data on **perception of access** confirms the lower access among Roma, measured by the frequency of needed unattended service. In Moldova and Albania, the Roma respondents' perceptions of provided access are the lowest. These are the countries with the lowest governmental expenditures on health in the region (Box 1).

Taking into account the survey methodology (survey administered in neighbouring Roma and non-Roma communities), **the physical access and the access to specialised tests** could be interpreted as determinant of socio-economic factors, rather than of the physical access to the medical institutions per se. Lower education, lack of insurance and low incomes determine the high vulnerability of Roma. This is confirmed by lower frequency of all surveyed check-ups, lower attendance of specialised tests such as blood test for cholesterol and blood sugar, and finally by a high disparity with the non-Roma. The disparity is particularly high in countries with lower governmental expenditures and lower insurance coverage. The findings describe a disparity model according to which differences between Roma and their non-Roma neighbours get smaller for wealthier countries, while the vulnerabilities of the Roma and the discrepancies with the non-Roma are exacerbated in low income countries.

### 3.7. Health access determinants

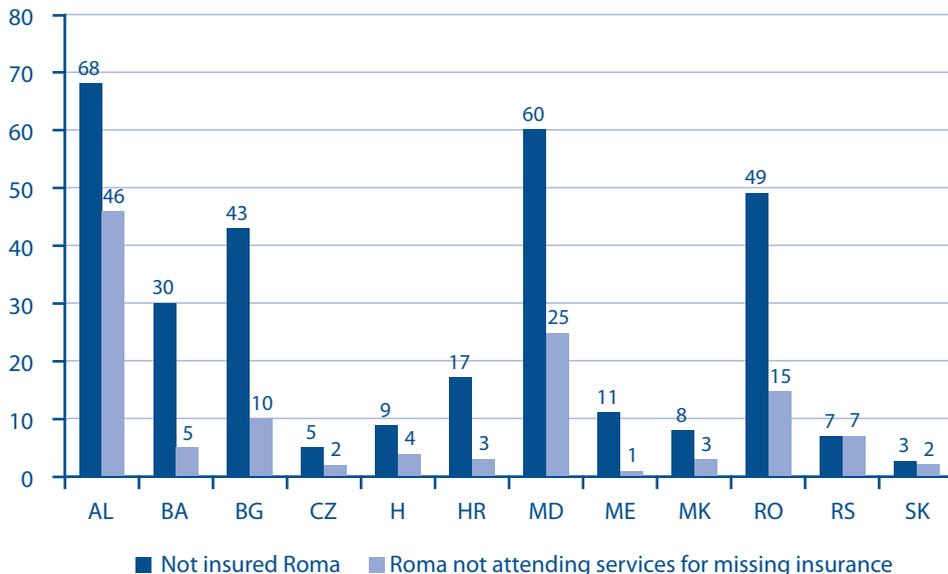
This section analyses the social determinants of *access to health services*. Two basic items presented in the previous sections, which coherently discriminate country data are selected as *dependent variables*: 1) health insurance (coverage) and blood

pressure check-ups (attendance). While insurance coverage is more informative about the institutional *supply* of health services, the *blood pressure test* informs more about the individual awareness and *demand* for health services. A Probit regression analysis is used in the end of this section to control the interaction among independent variables.

## Awareness of health access determinants

Before calculating correlations with social determinants, selected questionnaire items addressing directly the interpretation or justification for lacking access to health (... , *what was the main reason for not consulting a doctor*)<sup>33</sup> are analysed. The data discloses identical hierarchies of answers for both non-Roma and Roma samples. The main reported reason for not consulting a doctor is the financial factor – *could not afford (too expensive)* – gathering 50% of the non-Roma respondents' and much more (67%) of the Roma respondents' answers. The second most frequently stated reason is related to the health awareness or the health culture of the population – *wanted to wait and see if the problem got better on its own*. This appears more often for the non-Roma (10% for the Roma and 17% for the non-Roma).

**Figure 11: Uninsured access (%)**



Source: UNDP/WB/EC Regional Roma Survey 2011

Note: Percentage of Roma not attending a medical doctor due to missing insurance and percentage of not insured Roma

33 If yes [not consulting a doctor or medical specialist when needed], what was the main reason for not consulting a doctor? Response: I do not have health insurance

The countries reporting highest financial obstacles in access to health services are among the ones with lowest insurance coverage. This confirms the importance of health insurance coverage for the overall affordability of health services. Being non-insured, naturally incurs higher overall costs for accessing health services. In addition, the uninsured people often comprise the groups of poor and unemployed people. Albania, Moldova, Romania, and Bulgaria score low both on health insurance coverage and on financial access. Alternatively, countries with high insurance coverage score lower on the financial justification as a reason for not attending a doctor.

Interestingly, the reported number of unattended medical services, because of an uninsured status, among the Roma (5%) is much lower than the actual number of uninsured Roma, reported in the previous section (26%). Thus, there are at least 20% of the Roma for whom the lack of insurance is not a reason for not attending health services, and therefore **may access the system without health insurance**. The reason for that could be that there is a roundabout access to the service (such as emergency health system in some countries), or simply missing insurance is not perceived as an impediment for access to health, because of the very low health awareness. This disparity is particularly high in Albania, Moldova, Romania, Bulgaria, and Bosnia and Herzegovina. These are actually the countries (almost in the exact order) scoring the lowest in most of the indicators on access to health (Figure 11). This disparity is however also valid for the non-Roma in countries like Albania (45% difference) and Moldova (23% difference), but at a much lower rate.

## Demographic determinants

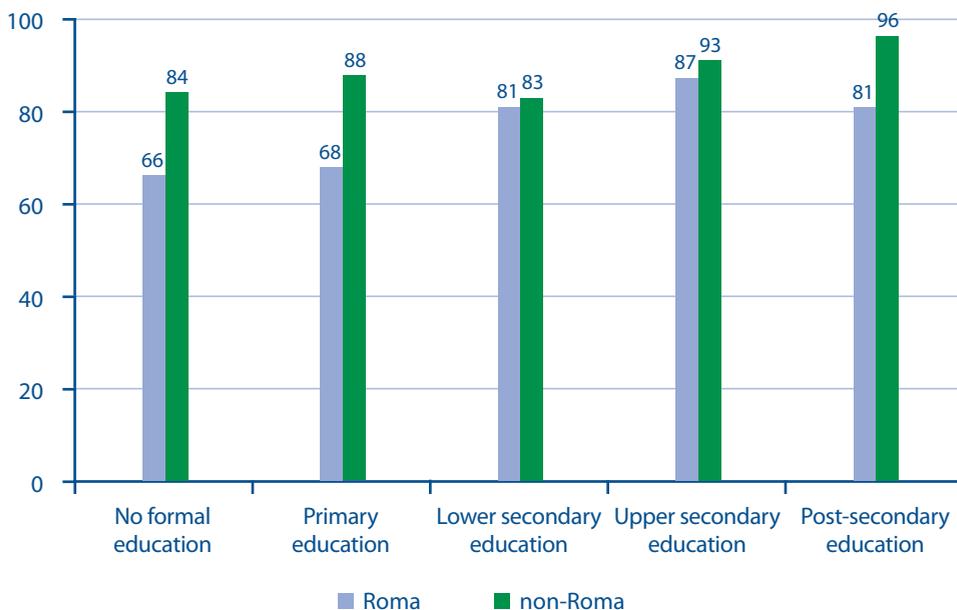
**Both indicators selected for analyses (blood pressure check-up attendance rate and insurance coverage rate) increase with the age of the respondent.** The correlation is statistically significant both for Roma and their non-Roma neighbours, at high levels ( $p < 0.001$ ). Similarly to insurance coverage, the blood pressure test attendance increases from 65% of the youngest age group to 91% of the oldest group. This data could be explained by the increased importance of health as a person ages, but also with the stronger involvement of the population in the labour and social systems, with the advance of age.

**Gender factor correlates significantly with blood pressure test attendance (74% male; 83% female), while gender is irrelevant for insurance coverage (not a statistically significant correlation).** Though statistically significant, marital status does not disclose meaningful correlations, besides the fact that the widowed and separated respondents tend to be more probable to attend blood pressure tests. This is probably a covariance of the age factor.

## Education determinants

Education is expected to have a very strong impact on *access indicators*, particularly when access is associated with the personal initiative and health awareness. Both access indicators significantly improve with an increase of attained education. **Education of respondents has particularly strong impact on the insurance coverage rate, most likely because it is connected with access to employment. Only 66% of Roma in the region, without formal education, are covered with health insurance. The coverage increases to 87% for the Roma who finished upper-secondary education.**<sup>34</sup> Similarly, 76% of Roma without formal education have taken some blood-pressure tests during the last 12 months, as compared with 86% of the Roma with upper secondary education. Expectedly, the education effect is valid also for the non-Roma living in close proximity to interviewed Roma.

**Figure 12: Educational determinants of health insurance coverage (%)**



Source: UNDP/WB/EC Regional Roma Survey 2011

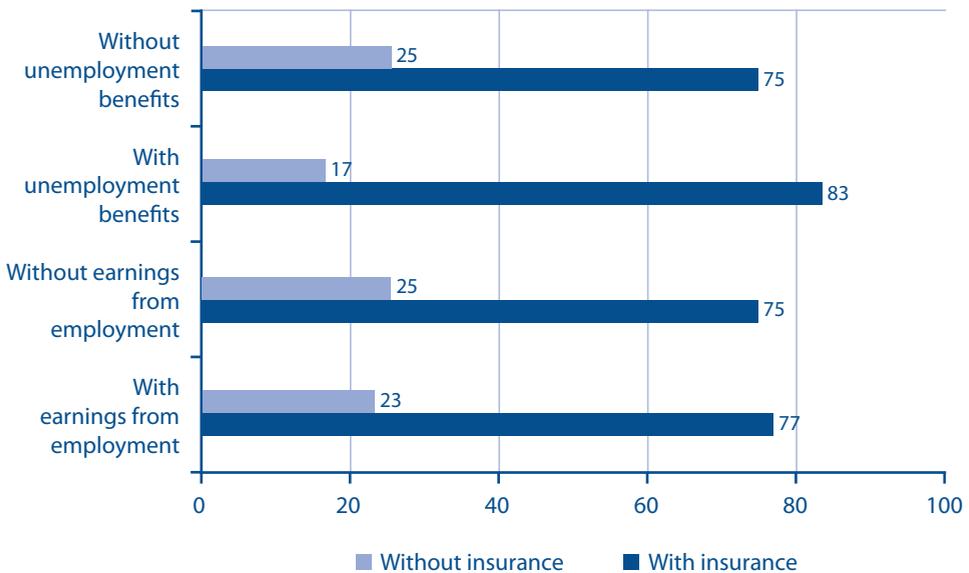
Based on the question: Do you have medical insurance either in your own name or through another member of your household? By Education (Positive response)

34 There is a decrease in the insurance-education tabulation for the highest (post-secondary) educational group, which is considered an artefact, due to the small number of cases (Roma with higher education)

## Employment determinants

It is expected that employment would have a highly positive impact on access to health indicators. Employment usually prompts involvement in the social system, and thus induces higher access to health. Unexpectedly, the relationship is **found to be of insignificant strength. This points to a reverse correlation – 72% of the employed Roma are insured, compared to 77% of the unemployed Roma**, and 74% of the Roma out of the labour force age.

**Figure 13: Employment impact on health insurance, Roma (%)**



Source: UNDP/WB/EC Regional Roma Survey 2011

This amends the aforementioned hypothesis. **Registered unemployment actually leads to a higher health insurance effect than accessible employment. This is logical and understandable, taking into account that often the Roma are employed in the shadow economy, and the available employment there does not incur insurance. Alternatively, the state covers the health insurance for the registered unemployed.** The latter hypothesis was verified by another question on employment, showing that 83% of the unemployed Roma are health insured, compared to 75% of the Roma that report to be employed. The survey further suggests **that just 40% of the employed Roma pay both, social and health insurance** (plus another 2% paying only health insurance). Those who are health insured by their employer naturally have a higher access to medical services. 85% of the employed people who pay both social and health insurance have undergone a blood pressure test during the last 12 months, as compared to 68% of those without any

health insurance. On the other hand, involvement in the unofficial market does not provide insurance – 22% of the working Roma that categorise their labour as “*different from employment*” are not insured, compared to 18% that do not report such a labour source.

## Poverty determinants

Official data, presented in box 1 below indicate that countries with higher governmental expenditures on health (according to 2005 data) show better access figures in the survey. The dependency of access due to poverty is confirmed across all single calculations.<sup>35</sup> The differences between insurance rates among people reporting incomes below (45%) and above (68%) \$2.15 PPP per day are particularly drastic. Though statistically significant, the differences on the blood pressure indicator are lower – 74%, compared to 80% of the Roma. The expenditure poverty line of \$2.15 PPP deliver even more vivid results – 39% of poor insured Roma below that line compared to 67% of non-poor insured Roma above it. As was revealed in the previous chapter, poverty measured on the basis of national poverty lines submits less explicable results.

### Box 1: Governmental and private expenditures on health by countries (Official data)

Official data<sup>36</sup> indicates that countries with higher governmental expenditures on health (according to 2005 data) show better access data in the survey.

Particularly informative about this is the relative share of the Governmental expenditures on health in the total health expenditures. Countries showing higher levels of such expenditures for 2005 prove to have better access indicators in the survey – the Czech Republic (88.6%), Croatia (81.3%), Montenegro (75.5%), Slovakia (74.4%).

Alternatively, countries with lower governmental expenditures in 2005 score poor access results in the current survey – Albania (40.3%), Moldova (55.5%), Bosnia and Herzegovina (58.7%), Bulgaria (60.6%). An exception to the rule is Romania, which proves low access data in survey, and has a comparatively high Governmental input in the general expenditures on health for 2005 (70.3%). Similarly, though less obvious connections, are observed with the overall Governmental expenditures, calculated as a percentage of the Budget. This “Budget” indicator is valid for the Western Balkan countries showing comparatively good access to health in the survey, such as Montenegro (20.3% of the Budget), FYR Macedonia (15.8%) and Serbia (15.1%) and alternatively low access countries such as Albania (8.6%) and Moldova (11.3%).

35 Proving very high level of confidence

36 2005 is the closest year for which all countries have provided data

There are no such linkages with private expenditures. In poor access country like Albania (59.7%) and Moldova (44.5%), there are high shares of private expenditures in the overall health expenditures, compared to 11% in the Czech Republic and 25.6% in Slovakia, which are countries, demonstrating good access data in the survey.

The survey data also prove similar correlations of good/poor access with the absolute value of expenditures in \$PPP. In a high access country like the Czech Republic, the average overall expenditures on health per capita for 2005 are \$1447 PPP compared to \$170 PPP in Moldova and \$353 PPP in Albania.

This data verifies survey findings that access depends on the overall national living standards, including on the Governmental input into the health expenditures.

*Source: OECD Health Data, WHO, 2005 (Update October 2007)*

The findings are similar when applying a non-fiscal poverty indicator – the average number of square meters of living area per person. There are 64.1% of insured Roma respondents living on up to 10 sq. m. of area as compared to 76% of insured Roma living on over 20 sq. m. per person.

It is critical that the access indicators for the non-Roma population also depend on poverty levels, and the differences are not less severe. The 2.15 PPP expenditure indicators for example (which is one of the most informative), yields similar statistically significant differences for the poor and non-poor non-Roma respondents regarding health insurance – 51% of poor non-Roma personally insured compared to 82% of non-poor.

### **Complex (Probit regression) analysis on determinants of health insurance availability**

A regression analysis, carried out on a study based on large female sample from South Africa (Josef M Kirigia, et al, 2005), proves significant covariates for holding health insurance for the area of residence, income, education, environment rating, age, smoking and marital status. Women of higher education, higher incomes and women, living in affluent provinces and permanent accommodations, prove a higher likelihood of being insured.

A Probit regression (Table 4) is carried out on the UNDP/WB/EC Regional Roma Survey data, to control the single effects on holding health insurance. The regression model included all indicators for which single correlations were previously calculated, plus also some other indicators. This analysis was performed on the Roma sample only.

**Table 4: Probit analyses on holding insurance (Roma sample)**

	dy/dx	Std. Err.	Z	P >  z
Above 44 years	.0398417	0.019877	2.00	0.045
Female	.0423299	.0237182	1.78	0.074
Widowed	-.0898068	.049954	-1.80	0.072
Upper secondary education and above	.1245823	.039702	3.14	0.002
Employed	.0438902	.0220605	1.99	0.047
Non-labour incomes	-.103101	.0165477	-6.23	0.000
Unemployed	.1322782	.044141	3.00	0.003
Poor (\$2.15 PPP)	-.1501586	.0237356	-6.33	0.000
Perceived any improvement of infrastructure	.031924	.0236544	1.35	0.177
Rural settlement	-.0302469	.0249273	-1.21	0.225
Muslim domination	.046082	.0382703	1.20	0.229
Allowing a girl to study, even if she could start sexual life before marrying	.0321263	.0221015	1.45	0.146
Not acceptable for boy at primary school age to work instead of going to school	.033938	.0139178	2.44	0.015
Albania	-.233764	.0353647	-6.61	0.000
Bosnia and Herzegovina	.745198	.0468684	1.59	0.112
Bulgaria	-.0351677	.0240826	-1.46	0.144
Czech Republic	.2500567	.0384687	6.50	0.000
Slovakia	.3998479	.0365365	10.94	0.000
Montenegro	.1969654	.0450848	4.37	0.000
Croatia	.0719301	.0287378	2.50	0.012
Hungary	.3053281	.0297291	10.27	0.000
FYR Macedonia	.1685491	.0452151	3.73	0.000
Moldova	-.231989	.0224036	-10.35	0.000
Romania	-.065008	.025867	-2.51	0.012
Serbia	.254147	.025176	10.09	0.000

Unlike the previous Probit analysis on perceived health status, the regression analysis on insurance confirmed almost all single correlations, adding valuable details on the strength of impact that various independent variables exert on possessing health insurance:

1. The Probit analysis confirmed the *positive* impact of **unemployment** status on holding health insurance. The data show that *unemployment* status increases the probability of holding health insurance with 13.2%. This suggests that unemployment is often the only way for the Roma to get access to the health system. Very often the Roma are employed in the shadow economy or are involved in non-labour activities. Due to the state covering insurance for the **registered unemployment**, this turns out as an important channel for accessing the social systems, including public health services. That is why unemployment appears in the Probit as the strongest predictor of possessing health insurance among the Roma, along with the educational level.
2. Official employment has a lower contribution to insurance ownership than unemployment, though the effect is statistically significant (4.4% more likely). This is understandable again taking into account that official employment is scarce among the Roma. If available, the employment is often in the shadow economy – just 40% of the employed Roma interviewed in the survey pay both social and health insurance from their employment. The Probit analysis confirms that a person, having incomes from *non-labour* activities, is 10.3% less likely to have health insurance.
3. Educational factor is another strong predictor of being insured, proving that a Roma person, holding secondary or higher education, is 12.5% more likely to hold health insurance, compared to the baseline.
4. Poverty is significant predictor of *not-holding* health insurance, proving that a Roma living with income below \$2.15 PPP per day is 15% less likely to have health insurance.
5. Unlike the calculations on chronic illnesses, the Probit on insurance outlined well interpretable clusters of countries, confirming the higher vulnerability of Roma in Albania (-23%), Moldova (-23%), Romania (-7%) and Bulgaria (-4%), compared to Slovakia (+40%), the Czech Republic (+26%) and Hungary (+31%). Therefore a Roma, living for example in Albania, is 23% less likely to have health insurance compared to a Roma, living in Slovakia, for whom the probability of having health insurance is 40% higher than the baseline. All other countries prove a positive probability for holding medical insurance. The Probit calculations eliminated Bosnia and Herzegovina from the group of countries predicting negative probability of holding medical insurance.

### 3.8. Discussion on access to health determinants

**Education and formal** unemployment are leading determinants to holding health insurance. The importance of official employment comes from different data in the Regional Roma Survey, including the finding on unemployment. Unemployment stands as an alternative to formal employment, providing a roundabout access to medical insurance, covered entirely by the state. This observation emphasizes the extreme detachment of the Roma from the official labour force, and the large costs that society pays for that, in terms of providing free insurance for the unemployed. Education is also a leading factor, enabling the inclusion of an individual in the social system, starting with early childhood and developing pro-social knowledge, values and skills. Poverty is another factor influencing possession of health insurance. It comes with a lower significance, probably because of its natural interactions with education and employment.

The data indicates that in some *low access* countries (at the same time countries with lower governmental health expenditures), the respondents have access to health system through other channels than the health insurance system. The Regional Roma Survey does not provide in-depth information about what exactly this *roundabout* really is, but it could be through private payments, the emergency system or through subsidised specific service programmes. This indirect access, however, obviously does not improve health status, as these countries score the lowest by almost all health indicators covered by the Regional Roma Survey.

### 3.9. Progress since 2004

This section tackles the data shifts in access to health, as observed in the 2004 and the 2011 data. The data does not provide an opportunity to evaluate the progress since 2004 in insurance coverage, since the items administered in the two survey rounds are not identical, though similar. The item "*Were there any instances in the past 12 months when your household could not afford medicines*", referring to *financial access* is administered in both survey rounds in identical format. This allows a quantitative estimation of the shifts in nine comparable data sets.

In general, the financial affordability, measured by this indicator has increased in the region – in 7 out of 9 countries, the number of households that report not being able to afford medicines has significantly decreased. The most positive shifts for the Roma respondents are observed in Montenegro, where cases of unaffordable medicines decreased from 66% in 2004, to only 19% in 2011. This is a change of more than 240%. A lower, though still positive, reductions are found for Hungary (reduction of 62%), FYR Macedonia (19% reduction) and Romania and Bulgaria – a reduction by 8% from 73% in 2004, down to 67% in 2011. The only negative change in

affordability of medicines is reported in Albania (increase of 27% from 42% in 2004 to 57% in 2011) and in the Czech Republic (29% increase).

**Figure 14: No access to medicines – 2004 and 2011, Roma (%)**



Source: UNDP Regional Roma Survey 2004 and UNDP/WB/EC Regional Roma Survey 2011

Based on the question: Were there any instances in the past 12 months when your household could not afford medicines (Roma sample; Positive response)

Comparison with the non-Roma samples proves similar improvements of their financial access to health. This **means that the improved access is resulting from overall country progress, rather than from special interventions in the Roma community**. There are, however, some national peculiarities. The financial access to health services for the non-Roma respondents in Albania has decreased even more severely than for the Roma – an increase of cases of not-afforded medicines by over 140% from 12% in 2004 to 29% in 2011. In the other country with negative progress, the Czech Republic, the access among the non-Roma has improved – cases of not-afforded medicines have elevated from 34% in 2004 to 37% in 2011, which is a 9% decrease of financial affordability.

The data sets from 2004 and 2011 allow comparisons on the questions “*what is the approximate distance of ... from the house where you live, to ... (listed medical facilities)*”. The physical access of the Roma, measured as proximity to a GP, as a basic primary service provider, has in general declined in the region. It has improved only in 4 out of 8 countries such as Montenegro, Albania, Croatia and Romania. The change in Montenegro is again of a very high value, surging from 34% of the households located within 3 km distance from a GP, up to 76% in 2011. Albania, which typically

scores low in the 2011 survey, in this case improves from 82% (located up to 3 km to a GP) in 2004 to 92% in 2011. The physical access of Roma households to a GP has decreased most distinctively in Bulgaria (Roma located up to 3 km to a GP – from 95% to 88%) and Bosnia and Herzegovina (from 76 to 71%).

In general, the financial affordability (of medicines) rose in the region during the studied period, both for the Roma and their non-Roma neighbours. This is rather based on an overall positive shift in financial access. The physical access, measured as proximity to GPs, has improved and declined in parallel both for the Roma and the non-Roma, which is expected to reflect that the survey is administered in neighbouring communities.

# 4

## Maternity and Child Health<sup>37</sup>

The issues of maternity, reproductive and child health are addressed in a separate chapter, as they are considered to be some of the most critical health issues for Roma vulnerability. Reproductive health issues are taken up in the UNDP/WB/EC Regional Roma Survey by two series of questions, dealing with gynaecological checks, while child health items focus on vaccinations. Just like in the previous two chapters, this chapter analyses the difference between Roma and non-Roma samples, as well as country specific data. This chapter also investigates the determinants of Roma health vulnerability.

### 4.1. Maternity health

A study on participation of women in cervical screening in India (Bhagwan Nene, et al, 2007), indicates that higher education, younger age and marital status (married) account for the major determinants of access to cervical testing. Research carried out in Nigeria similarly identifies age, marital status and level of education as being the determinants of awareness of cervical cancer and Pap smear (Olusola A Ayinde, et al, 2005). A study in Bulgaria suggests that some of the leading factors for abandoning children in institutions are related to problems with the health of the mother or the child (Mihailov, et al, UNICEF, 2011).

Before dealing with gynaecological check-ups, the Regional Roma Survey provides information about the rate of unattended births. This comes through a question, asking whether a household member has been *born outside or inside a hospital*, respectively *assisted or not assisted by professional staff*.<sup>38</sup> In order to obtain a picture of the unattended births during recent years, a sub-sample of the household members below 6 years of age is selected for analysis.

37 All cross tabulations are of statistical significance at levels  $p < 0.001$ , unless specified otherwise.

38 How was she/he born? [INT] Single code; 1. in the hospital; 2. outside of hospital, but assisted by professional nurse; 3. outside of hospital, not assisted by professional (at home); 95. Other; 98 Refused; 99. Don't know; Administered to the household head

## Unattended births

The survey shows 3% of Roma births were given outside hospitals, but still attended by professionals and 2% were given outside of hospitals but not attended by professionals. These rates reach 2% and 1% for the non-Roma living in close proximity to interviewed Roma, respectively.

The interviewed Roma in Slovakia report particularly low numbers of unattended births (3%). On the other side, the rate of unattended births outside of hospitals is very high in FYR Macedonia (23%), Bosnia and Herzegovina (18%), Serbia (16%) and Montenegro (16%). This is somewhat unexpected as the latter countries score positively on most of the survey health indicators. The rest of the countries reach the rate of unattended births at around 10%.

The distribution of unattended births among the non-Roma provides similar results, verifying a *country* model of differences. The non-Roma report the highest frequency of unattended births outside of hospitals again in Serbia (22%) FYR Macedonia (20%), Bosnia and Herzegovina (19%), joined here by Croatia (15%).

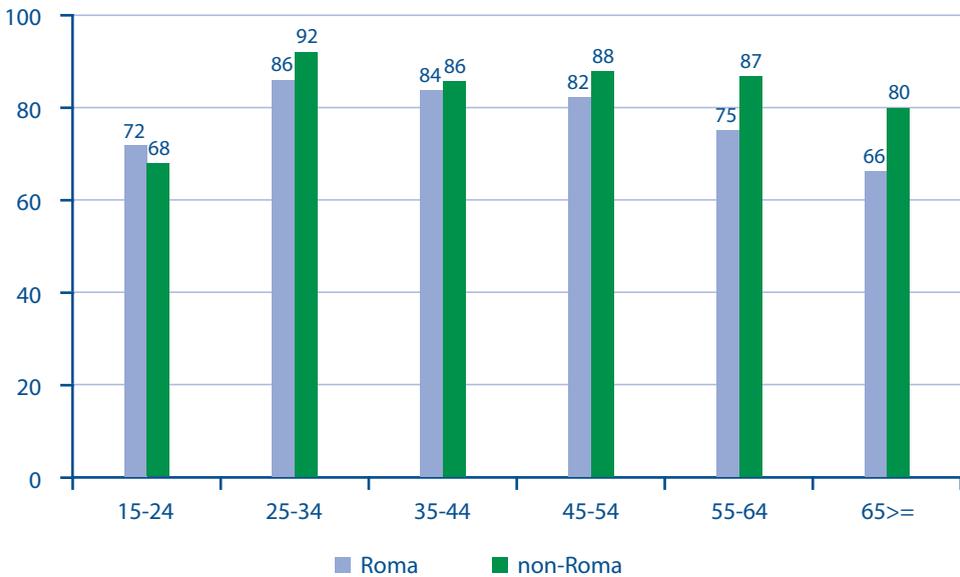
To illustrate importance of the country models, only 78% of the non-Roma in FYR Macedonia and 79% of the non-Roma in Bosnia and Herzegovina gave attended births in hospitals compared to 97% of the Roma in Slovakia and 91% of the Roma in Hungary.

## General access to gynaecological testing

The issue of gynaecological tests is addressed in the survey through the question *"Have you ever visited a gynaecologist: "Yes/No"*. This question is administered only if a randomly selected person (16+) in a given household is a female.

As many as 80% of the female Roma report they *have* visited a gynaecologist as compared to 84% among the non-Roma female respondents. However, when selecting the fertility age group (15-44) the differences fall to statistically insignificant levels. While checking the differences at various age groups (Figure 15), the **lower access of Roma (compared to non-Roma), regarding gynaecological testing, is actually reported only for the high age groups**. Data also present a reverse discrepancy for the most fertile age group of 15–24 years, showing 72% of Roma females ever visited gynaecologist, compared to 68% for the non-Roma females living in the proximity to Roma.

This observation is understandable, taking into account that the birth-giving age of Roma females is lower. They also more frequently visiting gynaecologists at a younger age, which "hides" their actually lower frequency of visits in the observed age groups.

**Figure 15: Attendance of adult women to gynaecologist by age (%)**

Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: Have you ever visited a gynaecologist? (Positive response)

The Roma females report higher access to gynaecological testing in **the Czech Republic (96%) and also in Moldova (89%) and Slovakia (88%)**. Alternatively, the distribution is bottomed by an extremely low value of attendance for the Roma in **Albania (48%), followed by Bulgaria (72%), Romania (75%), and Bosnia and Herzegovina (76%)**.

The country specifics in some cases suggest a hypothesis about a possible influence of the *Muslim versus Christian* religion, and a culture that aggravates the otherwise comparatively low access to health services of Roma in Albania, Bulgaria, Romania and Bosnia and Herzegovina. In total, a difference of more than 10 percentage points, distinguishing Muslim from non-Muslim attendance of gynaecological testing, is observed. This could be interpreted that the Muslim religion sets higher cultural stigma on gynaecological testing, as compared with the Christian cultural norms. Additionally, no significant differences between the Muslim Roma and Muslim non-Roma (Ch square  $p > 0.05$ ) and some weak statistical differences between non-Muslim Roma and non-Muslim non-Roma (Ch square  $p = 0.05$ ) are found. These observations raise the hypothesis that the country data, distinguishing low gynaecological attendance in Albania, Bulgaria, and Bosnia and Herzegovina, is due to some degree to religious factors, as much of the Roma population living in these countries is of the Muslim religion.

**However, a Probit regression analysis did not prove the hypothesis of religious identification being a dominating determinant of gynaecological attendance,** though the Muslim identification retained its impact at an insignificant level ( $P=0.79$ ; 1% higher probability).

## Cervical screening

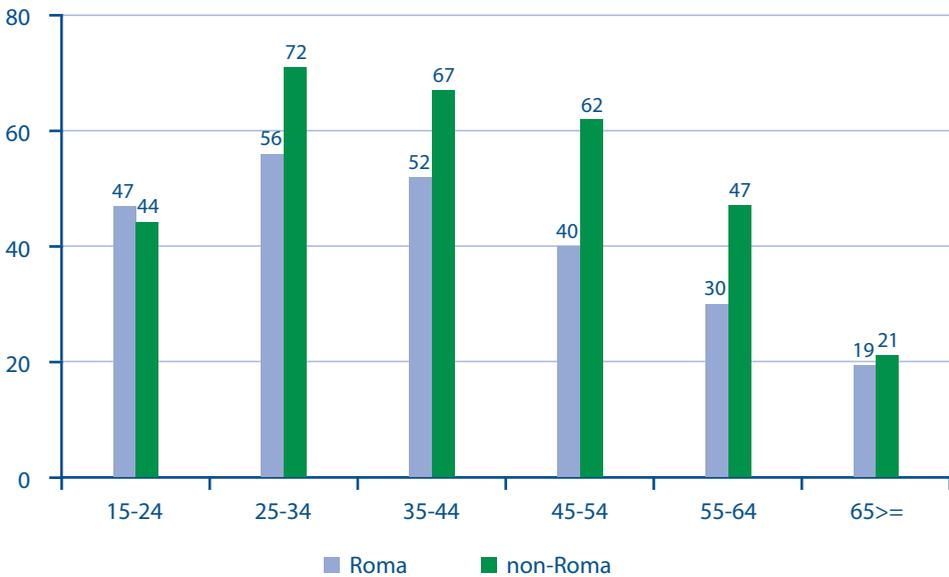
Cervical screening is a key method for early detection of cervical cancer, which “continues to represent one of the greatest burdens of ill-health within the European Union”. Cervical screening is studied through a question<sup>39</sup> addressing the frequencies of the carried out Pap tests. If selecting only the fertility age group of 15-44 years, the comparison of Roma versus non-Roma women shows a significantly lower attendance of the Roma women. The data shows that 39% of the Roma women, in their fertility age (15-44), never attended a Pap test, compared to significantly lower rate of 31% for the non-Roma women.

The lowest attendance of Pap tests for the Roma women of fertility age<sup>40</sup> is reported in Albania (17%), Romania (22%), Bulgaria (42%), FYR Macedonia (42%), and Bosnia and Herzegovina (45%). The lower levels of Pap tests for Romania and Bulgaria is confirmed also by the EU-SILC data showing that these two countries are at the bottom of the ranking of 18 studied European countries together with Turkey (EU-SILC survey, 2008). The higher vulnerability of women in South-East Europe, and particularly in Romania, is recognized also in the studies of the International Agency for Research on Cancer (IARC). IARC report from the European Commission presents Romania observing the highest mortality rate, due to cervical cancer, among all 27 EU member states – reaching 17%. The lowest incidence rate is 4.9% for Finland, and at the same time Finland enjoys the lowest mortality rate of 1.6%. In general, the proportion of cancer cases and deaths attributed to this cancer is markedly elevated in all but one of the Member States which acceded to the EU in 2004 and 2007 (European Commission, 2008).

The highest frequency of attending the Pap test among the Roma is reported again in the Czech Republic (75%), followed by Hungary and Croatia (74%). These countries score similar results also for the non-Roma samples. The non-Roma in the Czech Republic stand out with 92% attendance, followed by Croatia (86%), while the non-Roma in Albania are at the bottom with 19%, followed by Romania (36%).

39 When was the last time you had a cervical smear (or pap smear) test, that is, test for early diagnostic of cervical cancer? 1. Within the past 12 months; 2. 1-5 years ago; 3. Not within the past 5 years; 4. Never; 98. Refused; 99. Don't know;

40 Calculated for the answers “Yes, within the past 12 months” and “Yes, 1-5 years ago” and selected for the population of women 15 – 44 years old

**Figure 16: Attendance of cervical cancer testing by women by age (%)**

Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: Have you ever attended cervical testing during the last 5 years? 15-44 year old women

The distribution<sup>41</sup> by age for the Roma sample verifies previous observations suggesting higher Roma vulnerability in maternal health for the **older** age groups. As illustrated in Figure 16, the gap between Roma females and their non-Roma neighbours in cervical testing widens for the older age groups, while there is even a reverse vulnerability for the youngest age group (15-24 years), where the cervical attendance rate among Roma is higher. The latter is understandable, taking into account other research showing that the Roma start sexual life at a younger age, compared to the national majorities. The Roma in Bulgaria, for example, start sexual life on average at the age of 15.9 years compared with 17.7 years for the Bulgarian majority and 18.2 years for the Turkish minority (Mihailov, et al., UNFPA 2007).

## 4.2. Child health

The health vulnerability of the Roma children in South-East Europe was addressed by a number of studies. A UNICEF report from Serbia shows that there are six times as many underweight Roma children, compared to the national average for the country. Similarly in FYR Macedonia the share of the underweight Roma children in the total number of Roma children is three times the national average (UNICEF-Serbia, 2007).

41 Calculated for the answers "Yes, within the past 12 months" and "Yes, 1-5 years ago"

In the UNDP/WB/EC Regional Roma Survey questionnaire, child health is addressed primarily through access to child vaccination. There are a couple of general questions on child vaccination coverage, and a list of items tackling coverage with particular infant vaccinations. All vaccination questions were administered to the primary care taker of a child, and regard only children up to 6 years of age.

## General vaccination coverage

**Looking at the survey dataset as a whole, the vaccination rate of the Roma children is among the most sensitive for Roma vulnerability of all health indicators covered in the regional survey. It is more than three times lower than the vaccination rate for the non-Roma children living in close proximity.** Regarding a vaccination card,<sup>42</sup> only 17% of the Roma explicitly respond that they do not have it, but still more than 4% of the non-Roma. Primary care takers were able to show a vaccination card during the interview for 28% of Roma children. 55% of Roma children do have the card, but their primary care takers were not able to show it during the interview. In contrast, primary care takers were able to display it to the interviewer for 42% of the non-Roma children, and they could not do so for 53% of the non-Roma children. Yet, when asked if *the child had ever been vaccinated*,<sup>43</sup> the primary care takers reported that 92% of the Roma children have been vaccinated as compared to 97% of the non-Roma children. **This comparatively high percentage and the smaller difference with the non-Roma (though statistically significant) indicate that the vaccination among the Roma children is available, but it is sporadic and not systematized and accordingly registered through registration cards.**

The distribution of the data by country confirms the higher access of Roma in other health services, revealed in the previous analyses – FYR Macedonia (a vaccination card could be shown for 42% of Roma children), Montenegro (40%), Hungary (37%), the Czech Republic (33%). Availability of vaccination cards is lowest in Moldova (12%), Bosnia and Herzegovina (16%), and Romania (18%). The difference with other health indicators is the **unexpectedly low level of vaccination for the Roma children in Slovakia (19%) and comparatively high vaccination rate in Albania.** When it comes to reported vaccination rate, the lowest levels are reported for Roma children in Bosnia and Herzegovina (18% never vaccinated<sup>43</sup>) and Romania (10% never vaccinated), while the highest levels are reported in Hungary (99% vaccinated), and also again showing a good score for Albania (89%).

The vaccination rates among the non-Roma children living in close proximity to Roma prove a similar hierarchy as for the Roma sample. Montenegro (55%), the

42 Does [name] have a vaccination card?; [INT] Ask to see vaccination card as a proof; 1. Yes, shown; 2. Yes, not shown; 3. No, do not have

43 Did [name] ever receive any vaccinations to prevent him/her from getting diseases? Yes; No

Czech Republic (53%), and Albania (51%) report similarly high levels, while the lowest rates on availability of vaccination card are found again for Moldova (10%) and Bosnia and Herzegovina (26%). In Slovakia and Romania, there are very big differences between the data provided by the Roma and their non-Roma neighbours (about 50% more frequent vaccination cards in the non-Roma samples).

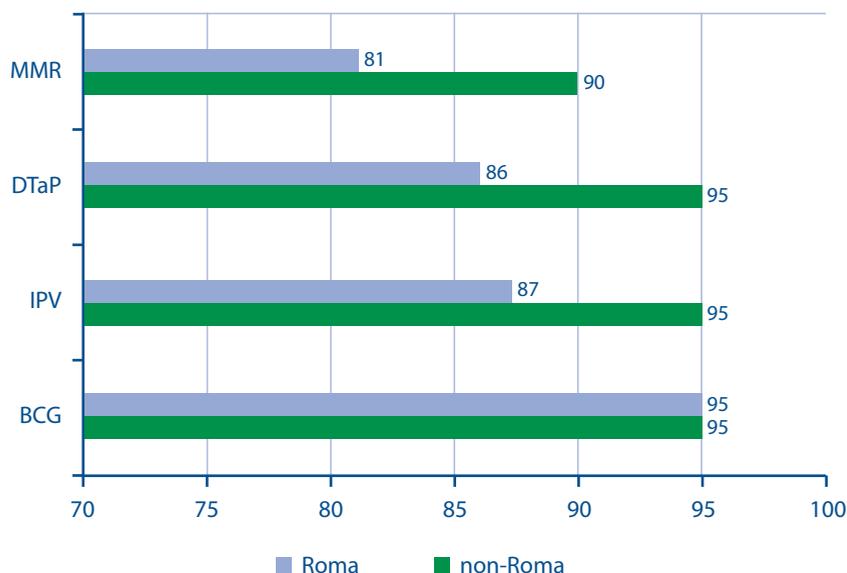
### Specific vaccination rates

The Regional Roma Survey deals with four different vaccinations for children less than 6 years of age – the BCG vaccine against tuberculosis, the IPV (poliovirus vaccine) against polio, the DTaP vaccine against diphtheria, tetanus and pertussis and the MMR vaccine against measles, mumps and rubella. All vaccinations are expressed in a “functional” way,<sup>44</sup> so that the respondents can recognise them without the name.

BCG vaccine is the most frequent vaccination both among the Roma and their non-Roma neighbours. The frequency of BCG vaccination does not differ significantly for the Roma and for the non-Roma (95% in both samples). This could be a result of the recent **worldwide campaign against tuberculosis**. BCG only recently has been introduced as a routine vaccine, while in the past it had been given at birth only to babies, who are more likely to come into contact with tuberculosis than the general population. The IPV vaccination with 87% coverage of Roma children, and the DTaP vaccination with 86% follow. The MMR vaccination is the least frequent vaccination, but still reaching 81% of Roma children in the interviewed Roma households.

The latter three *routine* vaccinations are significantly less frequently administered among the Roma children, as compared to their non-Roma neighbours. The disparity on the MMR vaccination is particularly high. The Roma children (81%) are under-vaccinated by 10%, compared to the non-Roma children (90%). Similarly high divergences are observed for the DTaP vaccine (86% against 95% – a 9% disparity) and the IPV vaccine (an 8% difference – 87% versus 95%).

44 BCG vaccine against tuberculosis, that is, an injection in the left arm or shoulder that usually causes a scar?; Polio vaccine, that is, “drop in mouth”, which is given for child paralysis? Yes; No; If yes, how many times; DPT (DiTePer) vaccination, that is, an injection in the thigh or buttocks to prevent tetanus, whooping cough, or diphtheria? Yes; No; If yes, how many times? MMR injection to prevent measles – that is, a shot in the arm at the age of 9 months or older? Yes; No; If yes, how many times?

**Figure 17: Child (0-6) vaccination rates (%)**

Source: UNDP/WB/EC Regional Roma Survey 2011

Based on the question: Ever received [ ] vaccination] against [ , that is, ] (Positive response); 0-6 year old

The distribution of the BCG vaccination rate among countries is more coherent, compared to other indicators. This verifies the assumption that tuberculosis has been recently addressed systematically in many countries. However, there are some countries, where the Roma are still under-vaccinated, such as Albania (89%), Romania (91%), and unexpectedly the Roma in the Czech Republic (93%). The vaccination rates for the remaining three types of vaccination vary quite significantly among the countries. The Roma children in Slovakia are scoring among the highest vaccination rates for all three vaccines, along with FYR Macedonia – two countries of normally positive health data in this survey. It is interesting that, unlike other indicators, the Roma children in **Bulgaria** are scoring very high in vaccinations – 95% IPV, 93% DTaP and 89% MMR. Similarly high vaccination **rates are reported for Roma children in Albania**. Unlike the Roma children in Bulgaria and Albania, the Roma children in **Bosnia and Herzegovina and Romania** are under-vaccinated, confirming their lagging behind, compared to other countries – Bosnia and Herzegovina (56% MMR, 61% DTaP, 71% IPV) and Romania (63%, MMR; 72%, DTaP).

The comparison among the non-Roma children living close to Roma by countries are less distinctive, showing no differences on the BCG, the IPV and the MMR vaccines. The only significant differences between countries for the non-Roma samples are observed for the IPV vaccine. However, most of the countries score similarly high results, above 94%, excluding Romania (87%).

### 4.3. Discussion on maternity and child health indicators

In general, the data reveals a comparatively positive rate of in-hospital attended births; only 2% of the Roma report to be born at home without professional support. This is however higher than among their non-Roma neighbours. The unattended births outside the hospitals are particularly higher in some former Yugoslavian countries such as Serbia, FYR Macedonia and Bosnia and Herzegovina, reaching 23% for FYR Macedonia.

The analysis proved that gynaecological testing is based on country-specific differences related to access to services rather than on demographic or cultural differences. The only demographic factor, which proved to have a significant impact, turns out to be “living with a partner” (including officially married, traditionally married and informal cohabitation). Otherwise, the country specifics are the leading determinant, verifying the extremely low level of access in Albania and extremely high level in the Czech Republic. Being a Roma woman in Albania predicts a 14% lower rate of attending gynaecological testing, while a Roma living in the Czech Republic is 34% more likely to attend such tests. On the whole, the data confirm previous observations – that access is in general defined by the country profile, depending on its socio-economic development and government expenditures on health. However, there are cases where the distance between the Roma and their non-Roma neighbours is too big and cannot be explained with the national environment and country specifics.

Single tabulations suggest a hypothesis that the prevailing Muslim identity is a dominating factor of the low gynaecological attendance in Albania. However, the regression analysis proved it wrong – the national specifics of the accessibility of the health system in Albania being the leading factor instead.

Vaccination is one of the most typical indicators of the Roma health vulnerability. First, the straight difference between Roma and non-Roma vaccination rates is highly significant. Secondly, unlike other indicators, the internal differences for the non-Roma sample by countries are less evident. Therefore, vaccination rates, particularly those of IPV, MMR and DTaP, are less susceptible to the national **peculiarities and clearly turn up as a Roma specific factor**. Regarding particular countries, Albania and Bulgaria, unlike in other indicators, perform comparatively well, while Bosnia and Herzegovina and Romania confirm their high vulnerability, exposed in other health indicators.

### 4.4. Maternity and child health determinants

Like the previous two chapters, this section looks for socio-economic factors influencing the health indicators. The correlations are calculated for the indicator of *general attendance of gynaecological check-ups*. At the end of the section, a Probit regression analysis is carried out to control the interaction among independent variables.

## Marital status determinants

Marital status appears as a positive correlate of gynaecological attendance, showing that *living in cohabitation (without marriage)* elevates the attendance of gynaecological check-ups. This link can be due to various factors, including higher *feeling of insecurity* in the couple, higher health awareness, or lower stigmatisation in the perception of gynaecological tests among people living in cohabitation. Other survey data (Mihailov, et al, UNFPA 2007) show that factual cohabitation has substantially increased in Bulgaria during the last decade. This cohabitation is typical for the highest and the lowest social strata, as compared to the middle class. The increase in cohabitation, among the Roma in particular, is probably due to cultural factors, including the pattern of not registering couples as civic marriages. The cohabitation practices among the poor social strata in general, including the Roma, could be also encouraged by the social benefits supporting *registered* single mothers/parents. Alternatively, cohabitation among the educated and career oriented young people is determined by the pressure in professional development, and the overall values of avoiding uncertainly.

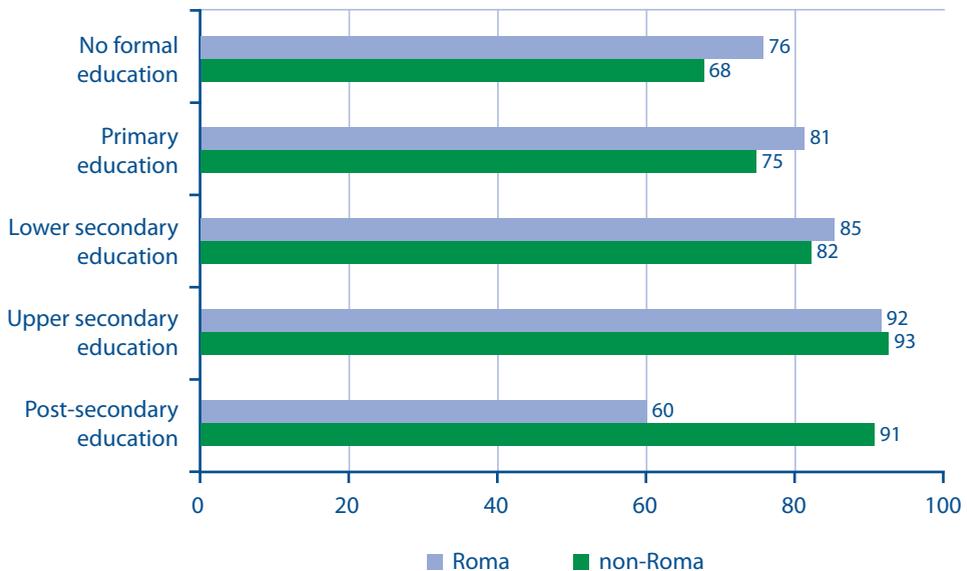
As the Regional Roma Survey informs, the lowest frequency of gynaecological check-ups is among the unmarried for both Roma and their non-Roma neighbours. Previous research (Bhagwan Nene, et al, 2007; Olusola A Ayinde, et al, 2005) confirms that the general category of “living with a partner” (both married and in cohabitation) correlates with the higher gynaecological attendance.

## Educational determinants

It is commonly accepted (Bhagwan Nene, et al, 2007; Olusola A Ayinde, et al, 2005) that higher **education level has a strong impact on gynaecological awareness, as it socialises the personality, improves the health knowledge and awareness, while reducing dependency on religious prejudices.**

The data from the UNDP/WB/EC Regional Roma Survey confirm the expected educational impacts - 76% of Roma women without formal education attended gynaecological check-ups, while the rate rises to 78% for the Roma women with primary education and reaches 87% for the Roma women with upper secondary education.

The distribution for the non-Roma samples showed similar results, suggesting that education elevates access to health regardless of ethnicity. The disparity percentage calculated as a difference between Roma and non-Roma educational groups, shows that the missing gynaecological attendance among the non-Roma groups with *no education* and *very low education* is even more severe. Nevertheless, it is important to remind that, in general, the non-Roma (86% attendance of gynaecological tests) are less vulnerable than the Roma (82%), and therefore the net impact for the community is stronger.

**Figure 18: Attendance of women (>24) to a gynaecologist, by education (%)**

Source: UNDP/WB/EC Regional Roma Survey 2011

### Employment determinants

Employment (as such, including informal) **does not correlate significantly** to a higher or lower frequency of gynaecological testing. For example, a similar percentage of women with earnings from employment (80%), without earnings (81%) or unemployed women (81%) attend gynaecologists.

As was found in the previous chapter, access to health is **rather dependent on the actually paid social and medical insurance. Insurance, based on official employment is what, not just financially, but also normatively includes Roma in the health system and channels their socialisation.** 84% of the interviewed Roma women for whom both health and social insurance are paid by their employer, *have visited a gynaecologist at least once*, compared to significantly lower 73% of those that are not “insured” by their employers. These observations are even stronger for the non-Roma living in vicinity to the interviewed Roma – 93% insured, compared to 76% not insured. The stronger impact of insurance on non-Roma confirms the previous assumption about the larger social contrasts among the non-Roma population living in close proximity to Roma.

## Poverty determinants

The hypothesis that poverty reduces access to health is confirmed, though at less significant level than expected - 76% of poor Roma women (\$2.15 PPP *expenditure* poverty line) *have* visited a gynaecologist, as compared to 80% of the non-poor Roma women. This correlation is on the edge of statistical significance at 0.05, according to both Chi-square and Mann-Whitney tests. The \$2.15 PPP *income* poverty line produces a bit stronger significance, unfolding similar shares of 76% for poor Roma and 80% for non-poor Roma women that have visited a gynaecologist.

Applying the same \$2.15 PPP poverty line on the non-Roma reveals higher contrasts – 67% of poor non-Roma women living close to interviewed Roma *have visiting a gynaecologist, as opposed to 84% of non-poor non-Roma.*

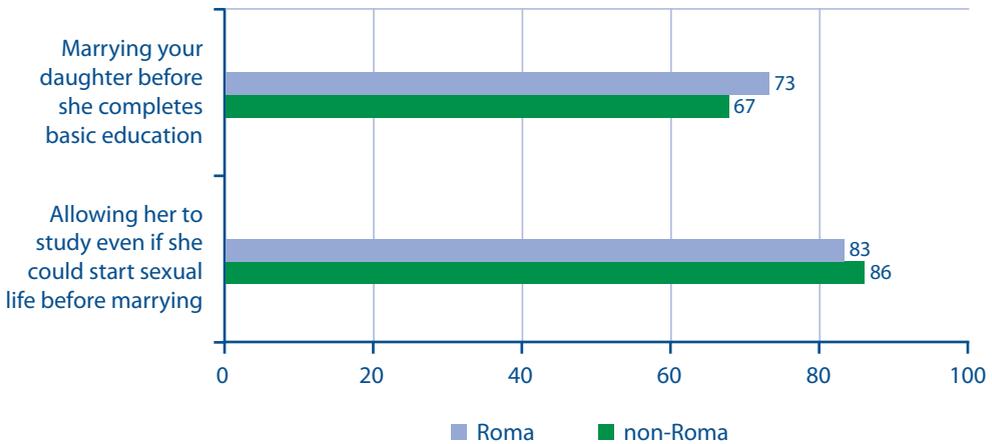
## Value determinants

It was previously discussed that gynaecological attendance, and in general, practices that are associated with sexuality, are very likely to depend on cultural, including religious values and norms.

The analyses suggest that ***masculine marital values, low educational values, and values for evading interethnic interactions***, are associated with lower access to reproductive health, and gynaecological attendance in particular. There are, for example, only 17% of the Roma women, who have *never visited a gynaecologist* and at the same time *find it acceptable to marry someone from another ethnic community*, compared to 23% of those *who do not find it acceptable at all*. Similarly, the educational value of preferring *a girl at primary school age to work, instead of going to school*, is more typical for women that have never gone to a gynaecologist (21%), compared to those for whom that statement is not acceptable (18%). Likewise, and yet more informative, is the masculine preference for a *daughter to marry before completing education* (27% of women never visited a gynaecologist), opposed to those preferring the statement for a daughter *allowing her to study even if she could start sexual life before marriage* (17% of those who never visited a gynaecologist).

These impacts are not less influential for the non-Roma sample. On the contrary, the non-Roma women, sharing these values are equally showing lower attendance at gynaecological tests than their Roma neighbours. For example, 33% of the non-Roma women prefer *marriage before education*, combined with responding *never visiting a gynaecologist* as compared to 14% of those preferring education before marriage.

**Figure 19: Attendance of women (16+) to a gynaecologist, by cultural values (%)**



Source: UNDP/WB/EC Regional Roma Survey 2011

### Probit analysis of maternal health determinants

The complex (Probit regression) analysis, carried out on the Roma sub-sample confirmed only some of the single effects revealed above. *Availability of medical insurance, rural/urban location, living with a partner*, and the specifics in some countries are the covariates, having statistically significant effects on the incidence of attending cervical testing. Regarding the broader indicator of “attending gynaecological check-ups”, only marital status confirms a significant effect, besides the country specifics.

The **marital status** factor (living with a partner) dominates the impact effects on both indicators, increasing the likelihood of attending *cervical testing* by 12%, and the attendance of *gynaecological check-ups* by 13%. This is understandable, taking into account that Pap tests are not recommended to women without sexual relationships. On the other hand, this confirms previous research findings from studies in developing countries (Bhagwan Nene, et al, 2007; Olusola A Ayinde, et al, 2005) and correlates to the findings of this study, interpreting marriage as a value factor, decreasing anxiety in sexually burdened medical tests.

Availability of **medical insurance** is the leading socio-economic factor of cervical testing, significantly increasing the probability of attending a Pap test (by 11%) and the probability of attending gynaecological tests (by 4%). Living in a rural area is another significant factor decreasing the probability of cervical testing by 7%.

Educational and religious factors account for some effects on cervical testing, but these are actually eliminated by the country specific effect. For example, being a Muslim decreases the probability of attending a Pap test by 5%, while holding higher (secondary and upper) education increases the likelihood by 6%. These impacts are relevant and were articulated in the single correlations as well. However, when analysed together with the country differences, and the insurance impacts, they lose statistical significance ( $P > 0.05$ ). Similarly, the age factor is of close to significant level, proving higher vulnerability for the older women ( $P = 0.06$ ).

**Country specifics**, however, emerged as the strongest factor showing the very low access to maternity health services in Albania, and the high level of access in Croatia. Living in Albania decreases the probability of a Roma woman attending cervical testing by 39% (than the base), and reduces the likelihood of attending a gynaecologist by 14%. Probit analysis further shows decreasing probabilities of cervical testing if living in Romania (-31%) and Bulgaria (-15%), while increasing the probability of such practices if living in Croatia (+15%) and Moldova (+8%). Similarly, the probability of attending a gynaecological test is significantly higher in the Czech Republic (+33%), Slovakia (+13%) and Croatia (+19%).

**Table 5: Probit analyses on cervical testing and gynaecological attendance (Roma sample)**

	dy/dx cervical testing	P >  z  cervical testing	dy/dx gyna- ecological attendance	P >  z  gyna- ecological attendance
Muslim domination	-.0532559	0.253	-.0095242	0.794
Age (years)	-.0168188	0.062	.0125275	0.123
Insurance	.1102922	0.002	.0392285	0.139
Upper secondary education and above	.0645437	0.231	.0309773	0.450
Employed	.0288489	0.414	.0076746	0.789
Poor (\$2.15 PPP)	-.0160963	0.789	.0208508	0.753
Rural settlement	-.066683	0.051	-.0196903	0.476
Allowing a girl to study, even if she could start sexual life before marrying	-.0393938	0.231	-.0378935	0.160
Married	.1171978	0.000	.1291519	0.000
Albania	-.390847	0.000	-.1377618	0.053
Bosnia and Herzegovina	-.0227787	0.758	.0733049	0.286

	dy/dx cervical testing	P >  z  cervical testing	dy/dx gyna- ecological attendance	P >  z  gyna- ecological attendance
Bulgaria	-.153928	0.003	.0094589	0.879
Czech Republic	.0268672	0.550	.3364558	0.000
Slovakia	-.0672196	0.127	.1325313	0.028
Montenegro	.0467058	0.480	.0769411	0.275
Croatia	.1522191	0.004	.1947628	0.003
Hungary	.0765008	0.092	.0942121	0.118
FYR Macedonia	-.065517	0.351	.0525404	0.489
Moldova	.089042	0.033	.2997792	0.000
Romania	-.314024	0.000	.0003595	0.995
Serbia	-.0079684	0.859	.1497873	0.017

## Discussion on maternal health determinants

In general, availability of medical insurance is the leading socio-economic factor in cervical testing. Together with other country specifics, it determines the accessibility of the studied indicators. The analyses confirm previous observations regarding the inclusiveness of the national systems, as being a stronger factor for access to health, when compared to the individual socio-economic, religious and even educational profile of the respondents.

The indicator “Cervical testing”, compared with “Gynaecological attendance”, proves as a more sensitive indicator of the cross-country differences, and enables better interpretation of the socio-economic and demographic effects, eliciting higher variances. This may be considered in selecting indicators of maternal health for future research.

## 4.5. Progress since 2004

The data set from 2004 does not provide any opportunities for direct comparisons on child and maternity health between the two survey rounds. There is only one questionnaire item of similar content, but it is administered in a different format, and regards child vaccination altogether, moreover with a different list of vaccinations.

# 5

## Conclusions and Recommendations

This paper comprises the summary of the *health analysis*, based on the UNDP/EB/EC Regional Roma Survey 2011. The survey was carried out in 12 countries (Romania, Slovakia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, FYR Macedonia, Albania, Bulgaria, Czech Republic, Hungary, and Republic of Moldova) using a sample methodology, comparing Roma communities with control samples of non-Roma living in close proximity.

**All data and analyses are based on personal perceptions, and cannot be therefore directly compared with epidemiological or other medical data.** While the analysed data are representative for the Roma population living in higher than national density in the sampled countries, the data for the non-Roma population are only indicative and are not to be mistaken with national averages, unless other surveys are carried out in the in the same period, applying identical methodology.

### 5.1. Conclusions

#### 5.1.1. Perceptions of the health status

While the Roma have generally positive perceptions of their health status, they report higher number of inpatient and emergency visits, and higher prevalence of disabilities and addictions. These two, seemingly contradictory, findings are justified with the low access to health services among the Roma, aggravated by weak health awareness. The more specific are the perceptions and indicators of health, the bigger becomes the difference between Roma and their non-Roma neighbours, indicating a higher “real” Roma health vulnerability. Health problems are only perceived by the Roma once they reach acute forms that are recognised as disabilities, long-standing illnesses at higher age, or require in-patient visits to the hospitals. Thus, the number of inpatient stays in the hospitals and the level of disabilities actually indicate a higher *objective* vulnerability of the Roma. Taking the overall sample, the number of Roma covered with health insurance, who visited hospitals during the last 12 months, reaches 17%, as compared to 12% reported by the non-Roma living nearby.

Once the access to services becomes available and diagnosing of illnesses begins, then the reported health status is expected to drastically decrease. This *revelation effect* is confirmed also by the regional survey data. Probit analysis shows that the probability of a Roma to report a chronic disease increases by 7% if they hold medical insurance. Thus, the lack of access keeps the vulnerable health status of the Roma population hidden. Illnesses *appear* only when the disease reaches the phase requiring an emergency or in-patient visit to the hospital.

Besides the inclusiveness of the health system, higher age and gender (female) are the leading factors of reported illnesses. Employment has a major impact on reported illnesses, from among the socio-economic determinants integrating the impacts of education and poverty.

There are indications of a general improvement of the perceived health status in the region since 2004. However, these shifts are most probably based on a common improvement of the overall socio-economic environment in most of the surveyed countries.

### 5.1.2. Access to health

All studied indicators of access to health services show lower levels for Roma than for their non-Roma neighbours. Geographically, two corners on the periphery of the surveyed region with particularly distinctive shortage of medical insurance and other access indicators both for Roma and non-Roma can be identified. One corner is represented by Albania, and the other one in the eastern part of the region by Moldova, Romania, and Bulgaria. For a Roma, living in Albania it is 23% less likely than the baseline to have health insurance, as compared to a Roma, living in Slovakia, for whom the probability of having health insurance is 40% higher than the baseline. Official data, (from 2005), shows that the health vulnerable countries have comparatively lower general and, particularly Governmental, expenditures on health.

The financial access to health for Roma is also significantly lower than for their non-Roma neighbours. The data on specialised services suggests a much higher Roma vulnerability. First, this is outlined by the lower frequency of check-ups in general. Second, Roma report much lower attendance of specialised tests, such as blood test for cholesterol and blood sugar. Third, higher Roma vulnerability is described by a high disparity with their non-Roma neighbours, particularly in countries with lower governmental expenditures and lower health insurance coverage. The data on perceived access show that 42% of Roma *had a situation during the last month when they did not have an access to a doctor*, compared to only 26% of their non-Roma neighbours.

The analyses verify the hypothesis on the leading impact of social determinants on access to health, and particularly the factors like official employment and attained edu-

cation level. These two social determinants do not just provide opportunities for higher incomes; official employment and education integrate the Roma in a sustainable institutional environment, ensuring regular access and building higher health awareness and values. Health insurance based on **official employment** is a key channel for the *effective* and *normative* inclusion of Roma in the health system. For the time being, ironically, unemployment turns out as a more *inclusive* instrument *than* employment. This is because the Roma are currently most often employed unofficially, without paying the health insurance, whereas the insurance for registered unemployed is covered by the state. Given that official employment is currently rare, unemployment actually *replaces* official employment as an entry point to the health systems. According to the Probit analysis, the *registered unemployment* status increases (compared with the baseline) the probability for a Roma to have health insurance by 13.2%, while *employment* (including unofficial) increases this probability only by 4.4%. The educational factor is similarly strong, proving that a Roma with secondary or higher education is 12.5% more likely to have medical insurance, than the baseline. On the contrary, poverty is the strongest predictor of not having medical insurance.

The survey data also indicates that during the last 7 years, reported financial access to health services has increased in most of the countries, both for Roma and their non-Roma neighbours. However this increase is rather due to the overall improvement of the socio-economic environment in those countries.

### 5.1.3. Maternity and child health

Only 2% of interviewed Roma in the region were born at home without professional support, which is still a higher rate than for the non-Roma living in close proximity. The unattended births outside hospitals are particularly more present in some former Yugoslavian countries such as Serbia, FYR Macedonia and Bosnia and Herzegovina. Gynaecological testing and Pap test attendance rates are significantly lower among Roma than among their non-Roma neighbours, with a less distinctive difference for the younger age groups.

The complex Probit analysis confirms that the gynaecological and cervical attendance is rather determined by the accessibility of the national peculiarities, and particularly by the inclusiveness of the health insurance systems. Availability of medical insurance increases the probability of Roma women attending the Pap test by 11%, compared to the baseline. For a Roma living in Albania, probability of attending a cervical test is 39% lower than the baseline.

Besides the inclusiveness of the health system, the marital status factor (of living with a partner) appears with the most distinctive impact increasing the likelihood of attending cervical testing by 12%. This is understandable, taking into account that Pap tests are not recommended to women without sexual relationships.

Vaccination rate among the Roma children is the most vulnerable of all health indicators in the survey. Compared to non-Roma children it is more than three times lower, if looking at the entire regional sample. The distribution of reported vaccinations by countries displays a hierarchy bottomed by Bosnia and Herzegovina and Romania, and topped by Hungary. The most frequent type of vaccination, both among Roma and non-Roma children, is the BCG vaccine, while the MMR vaccination reaches the lowest frequency among both groups. The IPV, MMR and DTaP vaccinations are less susceptible to the national peculiarities and clearly turn up as Roma specific health vulnerability indicators. The Roma demonstrate much lower awareness of the need and the effectiveness of child vaccinations, which is most often related to lower knowledge about the vaccination schedules.

## 5.2. Recommendations

### 5.2.1. Inclusive support based on sustainable institutional environment

For many of the studied indicators the differences between countries are larger than the differences between Roma and non-Roma. The most common determinants of the Roma health vulnerability are related to national rather than to Roma specifics. Such common factors originate mainly from the national access to insurance, employment and education. The comparisons (where available) with the 2004 survey data also indicate the shifts are common both for the Roma and the non-Roma samples. This suggests the interventions for the Roma inclusion in the health system need to be refocused on inclusiveness of the national systems.

To address Roma health vulnerability, channelling public administration support towards inclusion of Roma within the **regular** social systems is recommended. The efforts need to be concentrated on involving Roma in the official healthcare, educational and employment systems, rather than supporting creation of specific and parallel instruments and structures for Roma. The priority addressee of the Roma health system inclusion support, therefore, would be not exclusively the Roma and the health related NGOs. Educational, employment and health policies and institutions that will ensure a sustainable and inclusive social environment for the integration of Roma should be the main aim of the public administration efforts. Channelling Roma employment to the official labour market is particularly important, since it provides access to health and social insurance and enables the overall inclusion of the worker in the regular social systems. If this does not happen, the access to health insurance will continue to be covered by the state, mainly through “registered unemployment”, as was illustrated by the Regional Roma Survey data.

Specific instruments for approaching the Roma are needed, in order to reach this objective. For example, the programme of health mediators and other community based instruments could be such instruments. However, they stand often isolated

from other parts of the health care system (OSI Roma Health Project, 2011). The specific Roma instruments need to build on the work of a sustainable health system, and on the public providers of medical services. This approach is different from creating parallel health care structures and services, or from supporting new health service providers external to the national health systems. However, anchoring support in the existing public institutions requires a robust control mechanism, taking into account the deficits of good governance in the region.

### 5.2.2. Early child education

Integrating Roma community in the social systems, mainly in the regular educational and employment environment, should be a long-term horizontal task.

The Regional Roma Survey unambiguously verifies education as a strong *socialising* factor for elevating access to health services. Education is providing employment opportunities, incurring subsequently regular health insurance. Education builds up health awareness and a modern value system; it feeds preventive health attitudes and breaks the ties with the religious and cultural prejudices. It is expected that educational interventions, during early childhood, are particularly relevant, as they promise wider and long-term impacts on the development of personality and on their value system. Additionally, early childhood interventions are expected to evade later health problems, which would become visible later in the course of life and which would require heavier and more expensive treatments.

### 5.2.3. Particular health system priorities - health insurance, primary health services, maternity and child health

Involving Roma in the health insurance system is the key factor influencing access to health services. Apart from providing educational and employment support, the insurance systems need to be internally improved, so that they become more inclusive and sustainable, as adopted by the Tallinn Charter of 2008 (WHO, 2008). The existing data confirms that healthcare systems with high governmental expenditures are more inclusive both for Roma and their non-Roma neighbours.

The UNDP/WB/EC Regional Roma Survey 2011 does not cover the whole variety of health services, and therefore cannot deliver an exhaustive list of particular priorities for supporting the health systems. However, regarding particular healthcare services, the survey deals with child vaccination, specialised test services, reproductive health and the primary access to GPs as key priorities. Practical implementation of the principle of *universal access to reproductive health and child health*, as included in the Millennium Development Goals framework should be considered.

#### 5.2.4. Sub-regional differences and needs

Geographically, the overall data depicts two corners on the periphery of the region that are of comparatively higher Roma health vulnerability – Albania and the eastern part of the region, covering Moldova, Romania, and Bulgaria. These countries need particular support in dealing with the access to health in general, and not just for the Roma. However, even in these countries, namely Albania, Moldova and Bulgaria, some islands of positive results for the health indicators can be found – they report comparatively positive data on child vaccination.

The Regional Roma Survey data shows that discrepancies between Roma and their non-Roma neighbours need to be addressed both in countries with lower and higher access to health services. The analyses identify a *sinking* model in poor countries like Moldova and a *gaping* model in richer countries like the Czech Republic, Slovakia, and Croatia.

#### 5.2.5. Indicators

The perceived health status can be a misleading indicator. The Regional Roma Survey data suggests that survey information can be reliable for the general performance of the health systems, and for some acute forms of health deterioration, such as disabilities, addictions and inpatient attendance. However, **perceived health status cannot be regarded the same way as specialised medical or epidemiological data**. This suggests higher efforts should be made to collect solid and reliable medical information, allowing the disaggregation by ethnic status.

When measuring Roma vulnerability in terms of affordability of services, lower income indicators, such as the \$2.15 PPP poverty line, or accordingly adjusted national poverty lines, need to be applied. These indicators appear to be a sensitive predictor of Roma access to health services.

The survey underscores the need of utilising both maternal and paternal education and respectively official employment as screening variables to identify women and children at risk. Otherwise, child vaccination, except the BCG, appears as the most distinctive health indicator of Roma vulnerability.

In general, the interventions need to be refocused. The Roma vulnerability needs to be addressed through the inclusiveness of sustainable health, educational and employment systems. However, there are some particular Roma issues like educational needs, child vaccinations, and reproductive health that need to be addressed separately.

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