

Roma and health: the social determinants of health: lessons from the case of Roma in Hungary

Abstract

Roma are, all over the world, a particularly segregated and unhealthy minority group. The causes of poor health among Roma people will be analysed to find out if such causes are ethnically-related or, rather, socially-determined. A comparison between Roma health status and the health condition of the general population will point to the main differences, showing to what extent Roma suffer from health inequalities. The study will provide evidence and reliable information on the most important social determinants responsible for the health status of the Roma community in Hungary, such as poverty; low education; employment; discrimination; segregation; poor and unhealthy housing; relationships between health care providers and Roma patients; the unequal distribution of power, money and resources; and the burdens in accessing health care services. The relation between health condition and socio-economic status will be analysed to understand whether social determinants of health are sufficient fully to explain the poorer health status of Roma in Hungary.

Keywords: Roma, health care, socio-economic status, inequalities, poverty, discrimination

Problem statement

To be Roma, or ‘gypsy’, is to be a member of an ethnic minority that is difficult to define in any definite, factual terms. According to the European Commission, Roma represent the largest ethnic minority group in the European Union, with a population of 10-12 million in the 27 member nations and those that are potential candidates to join.¹ All over the world, Gypsies are not a healthy group and are often involved in cases of discrimination and segregation. Researchers have documented in detail the poor conditions in which Roma people live, the discrimination they face and the problems they confront when trying to access services.² Numerous studies have shown that Roma people have high levels of many diseases,³ but remarkably

- 1 European Commission official website: http://ec.europa.eu/justice/discrimination/roma/index_en.htm.
- 2 Zoon, I (2001) *On the Margins: Roma and Public Services in Romania, Bulgaria and Macedonia* New York, NY: Open Society Institute.
- 3 Kósa, K, B. Lénárt and R. Ádány (2002) ‘Health status of the Roma population in Hungary’ *Orv Hetil.*

little systematic research has been done on how the health of this population compares with the majority populations in the countries in which they live.⁴

At the same time, when talking about the health status of ethnic minorities, the concept of 'ethnicity' related to health can be ambiguous and often misinterpreted. The concept of ethnicity is, in fact, more of a social than a biological construct in which education, income, occupation and other dimensions of socio-economic status are the most active determinants of health. The social focus represents, therefore, a fundamental perspective through which it is possible to look at health disparities among social minorities. At the same time, it also represents a precondition for the implementation of effective and comprehensive integration policies.

Introduction⁵

The health status of Roma will, firstly, be compared with the health of the general Hungarian population to find out potential inequalities between the two target groups. The major characteristics of socio-economic status – such as education, employment, housing, income and perceived financial status – are compared for people living in Roma settlements and the general population according to age and gender. The comparison goes deeply into the health issues which confront the prevalence of functional limitation in men and women in Roma settlements and in the general population: the use of health services in the previous twelve months (use of any service; contact with family; consultation with specialist; take-up of dental services; etc.); and the prevalence of the determinants of health (cigarette smoking, alcohol consumption, body mass index and diet) among persons living in Roma settlements and the general population.

The issue of Roma access to health care will be investigated, focusing in particular on the material/logistical accessibility by Roma to health care facilities as well as the relationship between those medical services which are actually available and the potential health demand in regions of the country where the number of Roma settlements is more relevant. The concept of environmental justice is introduced and recognised as a strong health determinant among Roma communities in Hungary.

The relationship between health care providers and Roma patients will be investigated through the lens of health care providers' attitude towards Roma, in order to find out if, and to what extent, such attitudes affect the quality of health care provided to Roma patients. The level of care is investigated according to parameters such as: the frequency of follow-ups for Roma patients; the institutional level of care; the cost of the procedures received by the patient; the prescription of expensive medicines; etc.

The study proceeds by investigating whether the effect of Roma ethnicity on health is fully mediated by socio-economic status and whether the Roma ethnicity

4 Hajioff, S and M. McKee (2000) 'The health of the Roma people: a review of the published literature' *J Epidemiol Community Health* 54: 864-869.

5 This article is based on the findings of my research thesis prepared for the Erasmus Mundus Master: (REGHEALTH), European Master in Sustainable Regional Health Systems, years 2010/2012.

modifies the strength of the association between socio-economic status and health. The same data is used to verify the health status differences between Roma and the non-Roma general population and to adjust these for socio-economic factors in order to verify the extent to which the health of the Roma population is determined by socio-economic status.

Who are the Roma?

To be Roma, or ‘gypsy’,⁶ is to be a member of an ethnic minority that is difficult to define in any definite, factual terms. The term ‘Roma’ is a collective name derived from the Romani language. It is best understood as a politically-driven replacement for the generic term ‘gypsy’ and does not necessarily reflect the preferred identity of individuals and communities themselves.⁷ The term ‘Roma’ actually encapsulates a broad diversity of groups, with distinct languages, traditions, histories and socio-economic status, living throughout the continents.

According to estimates, there are more than 12 million Roma people living around the world.⁸ The European Gypsy population, thought to amount to at least eight million people, includes communities of various sizes in almost every state in Europe. Around 70 per cent of the European Gypsy population lives in central and eastern Europe and, in some countries in the region, their share of the overall population exceeds five per cent. More than five million Roma inhabitants now live in countries of the former eastern bloc and they create one of the most important minorities especially in Slovakia, Romania, Bulgaria and Hungary.

According to the Hungarian Ministry of Foreign Affairs, the Gypsy population forms the largest ethnic minority in Hungary, with authoritative estimates putting their number at between 400 000 and 600 000.⁹ Even if most of the studies related to Gypsies (especially those focused on health issues) refer to them, to simplify, as a homogenous entity (Roma, Gypsies, Romani, etc.) other studies (especially historical, sociological, ethnographic, linguistic, etc.) recognise different ethnic and/or socio-economic sub-groups. In Hungary, most of the studies recognise three main sub-groups: Romungro; Olah; and Beás, living mostly in northern Hungary.¹⁰

Researchers also have considerable difficulty in defining the Roma population. It is characterised by great diversity in language and dialect, culture, religion and social class. The cultural inaccessibility of the Roma population poses difficulties not only in research into their health but also, more deeply speaking, in the understanding of the ‘Roma phenomena’ in all its complexity.

- 6 Both terms will be used in this study. The custom in Hungary is for members of this ethnic minority to define themselves as Roma or Gypsy.
- 7 Kovats, M (2004) ‘Roma health: problems and perception’ in J. Healy and M. McKee *Accessing Health Care. Responding to Diversity* Oxford University Press.
- 8 Hancock, I (2002) *We are the Romani People* Hertford: University of Hertfordshire Press.
- 9 Ministry of Foreign Affairs Budapest Fact sheets on Hungary, 2004.
- 10 Katalin, Forray R. and Beck Zoltán (Eds.) (2008) *Society and Lifestyles – Hungarian Roma and Gypsy Communities* University of Pécs: Pécs.

Geographical distribution of Roma in Hungary

Roma live all over the country in an uneven distribution. Today, some 20% of Gypsies live in the southern Transdanubian (Dél-Dunántúl) counties (Zala, Somogy, Baranya and, less typically, Tolna); 51% belong to the north-eastern part of the country (Nógrád, Heves, Borsod-Abaúj-Zemplén, Szabolcs-Szatmár-Bereg and Hajdú-Bihar counties); with nearly ten per cent concentrated in the capital.

Most Roma are settled in the most deprived parts of the country. According to a survey into disadvantaged settlements, 759 colonies were identified where at least 75% of the inhabitants were Roma.¹¹ It is apparent, at the same time, that they are hardly represented in the more prosperous regions, such as the counties in Hungary's north-western territories.

The majority still lives in villages (60 per cent) and, within this category, in the most disadvantaged small rural settlements,¹² mostly in segregated residential zones, in rather poor housing conditions. According to research, there are approximately one hundred localities in Hungary which have definitively turned into poor Roma ghettos while, in another two hundred localities, this situation will emerge in the near future as a result of seemingly irreversible processes. Most of the 'ghettoised' localities and those on their way to being 'ghettoised' are situated in the country's economically depressed north-eastern and south-western regions; both are typically characterised by a structure of small localities.¹³

Life expectancy, socio-economic and health status: comparing Roma and the general population

Researchers have documented in detail the poor conditions in which Roma people live, the discrimination they face and the problems that they confront when trying to access services. Numerous studies have shown that Roma people have high levels of many diseases; even so, remarkably little systematic research has been done on how the health of this population compares with the majority populations in the countries in which they live.

In addition, Roma life expectancy significantly lags behind the wider Hungarian population as a result of the much poorer health conditions.¹⁴ In comparing the life expectancy pyramids for both Roma and the total Hungarian population, for men and for women, it is very clear that the life expectancy of Roma is shorter by about ten years, with very few people reaching relatively old age. The pyramids show a very 'young' population, with most of the population in a range of between 1 and 45 years. In contrast, the total Hungarian population pyramid shows a consistent level of

11 Solymosy, J. B. (2012) *Health Component of the National Roma Integration Strategy* National Institute for Health Development.

12 Cserti, Csapó T (2006) 'Szociológiai, szociális tényezők a cigány népesség vizsgálatában' in Forray R. Katalin (Ed.) *Ismeretek a romológia alapképzési szakhoz* HEFOP 3.3.1-P.-2004-09-0134/1.0 Budapest: Bölcsész Konzorcium, PTE, pp. 161-187.

13 Havas, Gábor and János Zolnay (2010) *Effect study regarding integration-centred education policy. Research report* European Comparative Minority Research Foundation, p. 4.

14 Solymosy, *op. cit.*

population until the age of 75/80 years. The trend for 2021 shows that an increasing portion of Roma will reach the age of 45/50 years, but this trend will not be sufficient to increase the age of the population; in fact, the length of life will be almost the same as in 2001.

In 2004, a study was developed with the aim of explicitly comparing the health of people living in Roma settlements with that of the general population in Hungary.¹⁵ The data used in the study were obtained from two surveys which were designed to be comparable. The first survey – The National Health Interview Survey – focused on the general Hungarian adult population; and the second was a specific survey of the adult population living in Roma settlements in three counties in north-eastern Hungary which, as we have already seen, is the part of the country with the lowest socio-economic status and the highest concentration of Roma population.¹⁶

Collectively, approximately 62 000 people lived in Roma settlements in these counties (out of a total population of these counties of 1 877 243). The survey sought to capture representative data on 1 000 people living in these settlements who were 18 years of age or older. The analysis used data on general self-reported health status, including functionality and self-perceived health; use of health care services; health behaviours (beliefs, perceptions, habits, actions, and so on which are related to health); and socio-economic status.

From the Table, it is very clear that the participants in the Roma survey have lower levels of education: in the 45-64 age group, almost 90 per cent claim to have only primary education, compared to 29 per cent of the general population. Things do not seem to improve much with the younger generations (aged 18-29), with 73 per cent of Roma concluding only the eight years of primary education against just 16 per cent of the general population. Roma are also less likely to be employed (only 22 per cent of Roma aged 30-44 claim to be actively employed compared to 79 per cent of their peers in the general population); and they have much lower levels of income, poorer living conditions, and weaker social support compared with the general population.

Additionally, the self-reported health status of people living in Roma settlements is much poorer than the self-reported health status of the general population. Of those living in Roma settlements, substantially fewer people reported their health as good or very good; while many more reported their health as bad or very bad: in the latter case, 18% in the 30-44 age group and, in the 45-64 years, 50%; compared to 8% and 25% respectively in the general population. In the 45 to 64 age group, the self-reported health status of Roma is even poorer than in the lowest income quartile of the general population.

Similarly, according to the same study, at age 30 years and over, the prevalence of functional limitation is higher among women living in Roma settlements than in

- 15 Kósa, Z *et al.* (2007) 'A Comparative Health Survey of the Inhabitants of Roma Settlements in Hungary' *American Journal of Public Health* 97(5), May.
- 16 National Health Interview Survey 2003 *Hungary – Executive Update* Johan Béla National Centre for Epidemiology, Budapest, Hungary. Available at: <http://www.oek.hu/oekfile.pl?fid=533>.

the general population because of the very high frequency of severe functional limitation. Among men, practically no difference between Roma and the general population can be seen in the prevalence of any limitation; however, the prevalence of severe functional limitation in men aged 30 years or older was highest among the Roma people and among those in the general population with the lowest income.

Roma people are also less likely to use health services than the general population.

Table 1 – Major characteristics of socio-economic status among persons living in Roma settlements and in the general population in Hungary (source: National Health Interview Survey, 2003; and Roma Health Survey, 2004¹⁷)

Characteristics	People living in Roma settlements			People in lowest income quartile			General population		
	18-29	30-44	45-65	18-29	30-44	45-65	18-29	30-44	45-65
Primary education only (8 years) (%)	73 (68,77)	80 (75, 84)	87 (82, 91)	43 (36, 50)	44 (38, 50)	50 (45, 56)	16 (14, 19)	17 (15, 20)	29 (26, 32)
Actively employed, (%)	17 (14, 21)	22 (18, 27)	11 (7, 16)	18 (12, 27)	40 (32, 49)	24 (19, 30)	62 (59, 65)	79 (76, 81)	53 (51, 56)
Mean household equivalent income per month (€)	170 (160, 180)	161 (153, 169)	159 (150, 168)	143 (138, 148)	146 (142, 151)	150 (146, 154)	332 (316, 348)	307 (293, 321)	300 (290, 309)
Perceived financial status:									
■ Very bad (%)	20 (16, 24)	18 (14, 23)	26 (20, 32)	9 (5, 14)	14 (10, 18)	16 (13, 20)	2 (1.5, 3)	4 (3, 5)	5 (4, 7)
■ Bad (%)	40 (35, 45)	43 (38, 49)	39 (33, 46)	31 (25, 38)	34 (29, 40)	36 (31, 40)	13 (11, 16)	16 (14, 18)	20 (18, 22)
■ Living in 1-room apartment (%)	11 (8, 14)	12 (9, 16)	15 (10, 20)	17 (13, 23)	15 (11, 21)	15 (12, 19)	9 (7, 11)	8 (6, 10)	6 (5, 8)
■ Lack of social support (%)	24 (20, 28)	27 (22, 32)	24 (19, 30)	16 (11, 22)	20 (15, 25)	23 (19, 28)	11 (9, 13)	15 (13, 18)	14 (12, 15)

Note: numbers are estimated proportions (%) or means in the populations (95% confidence interval).

The difference is especially marked in the proportion of people who consulted a specialist and in the proportion of those who had used the dental service in the previous twelve months. A quite alarming figure is that only 25% of Roma women aged between 45 and 64 years had undergone mammography within the previous two years.

The use of health services by the Roma population being similar to that in the lowest income quartile of the general population leads us to believe that the issue is more related to socio-economic factors than ethnic ones. On top of the specific burdens that poverty and the lack of education can bring in terms of the lack of use of health services, these same factors seem to act also on the system of health beliefs and, additionally, influence the likelihood with which people decide to refer themselves to health services. In this regard, the study registers a large difference between the Roma population and the general population in terms of the proportion of subjects who thought that they could do much, or very much, to promote their own health. In the general population, the proportions were 88%, 80% and 66% in the age groups 18-29, 30-44 and 45-64 years, respectively; whereas the corresponding figures were 68%, 53% and 39% in the Roma population and 73%, 66% and 53% in the lowest income quartile of the general population.

Concerning health behaviours, such as cigarette smoking, alcohol consumption and eating habits, as well as the body mass index of the target populations, the study shows how the prevalence of smoking more than twenty cigarettes per day is two to five times higher among the Roma population than in the general population. The prevalence of smoking is considerably higher among Roma people older than 30 than it is in the lowest income quartile of the general population. Roma people were younger than the general population when they started smoking, with a mean age at initiation of 16.1 years whereas the corresponding figure is 18.3 years for the general population. In contrast, no significant difference is detected in the overall prevalence of moderate and heavy drinking between Roma people and the general population. The distribution of body weight is broadly similar in the two populations, except in that obesity tends to be slightly less frequent in Roma women in all age groups.

The researchers point out that a stark contrast was noted between the Roma population and the general population in terms of diet. The proportion of people who generally used vegetable oil to cook with, and who ate fresh fruits and vegetables daily, was much lower than in the general population, even compared with those in the lowest income quartile. Such lifestyles are evidently also less conducive to future health; this can, at least partially, explain why the life expectancy of Roma is not expected to improve significantly in the next ten years.

Roma access to health care in Hungary

To what extent are Roma disadvantaged in terms of health and access to health care?

Certainly, some of the health inequalities experienced by Roma are likely to be caused in part by their relatively poor access to health care services caused, in turn,

17 Kósa, Z. et al. *op. cit.* p. 855.

by poverty, lack of documentation, geographical distance from health providers and discrimination on the part of health workers.

In Hungary, a lack of health insurance coverage does not appear to be a problem for the predominant part of the Roma population,¹⁸ this means that the reasons for the actually poor access to health services must be found within the concrete burdens (not directly related to exclusionist health care policies) that lead to Roma failing to enjoy equal access to health care.

One study commissioned by the Hungarian government found that, excluding Budapest, 18.6% of the country's total Roma population lives in a settlement without a local GP.¹⁹ The 'UNDP Vulnerable Groups Dataset', conducted in ten countries,²⁰ reveals that fewer Roma than majority households have a family doctor (52 per cent versus 63 per cent).

In terms of the distribution of health care facilities and the number of health care staff, among the material problems are, in general: the greater distance from health providers, incurring increased physical effort and transport costs; and poor road conditions which obstruct the access of emergency vehicles. This is likely to be particularly problematic in countries where Roma settlements are highly ghettoised and in rural areas, such as Hungary.

The survey conducted in 2003 by the Hungarian consulting firm Delphoi Consulting revealed inequalities in access to health care affecting smaller settlements.²¹ These settlements have no basic institutions and non-Romani inhabitants have moved out while poorer Roma have moved in. Structural inequalities between the Hungarian counties have a disproportionate impact on Roma because the most economically depressed areas tend also to be populated by compact Romani communities.²² In Baranya and Somogy counties, nearly 40% of Roma live in villages without a local GP; in Borsod and Heves, this ratio is 20%; in Nógrád, the ratio is 26.4%; and in Zala it is 33.1%. In contrast, in Bács Kiskun county, for example, only 1.6% of Roma live under such conditions.

The deprivation that Roma experience as a result of their geographic location, in terms of participation in direct local primary health care services, is a serious issue, irrespective of the kind of services they receive when they finally do get to see a doc-

- 18 European Roma Rights Centre (2006) *Ambulance not on the way: The Disgrace of Health Care for Roma in Europe* European Roma Rights Centre: Budapest.
- 19 Delphoi Consulting (2004) *Differences in Access to Primary Healthcare – Structures, Equal Opportunity and Prejudice. The Results of an Empirical Study*. This was a survey conducted in September-October 2003 and commissioned by the Hungarian Ministry of Health, Social and Family Affairs. Following a protest against the findings of the survey by the professional association of medical practitioners, the results were not officially published by the Ministry.
- 20 UNDP (2005) *Faces of poverty, faces of hope. Vulnerability profiles of Roma population for Decade of Roma Inclusion* countries, Bratislava.
- 21 *op. cit.*
- 22 For example, according to the 2001 Hungarian national census, around one-third of the Romani population lives in Borsod-Abaj-Zemplén county, which is among the poorest areas in Hungary. See Népszámlálás, 2001; Központi statisztikai hivatal, 2002, pp. 26-28.

tor. Furthermore, the social and material conditions of Roma living in settlements where there is no local GP are significantly worse than average. The social disadvantages thus compound the problems arising from a lack of direct access to a local GP. People in these settlements suffer simultaneously from poverty, a high incidence of health problems and a lack of direct and immediate access to the services of a local GP.

If it seems to be true that Roma enjoy, in principle, the same rights to health care access as non-Roma, there are many factors which prevent actual usage by Roma of the Hungarian health care system. These include poverty and the environmental injustice that brings Roma to live in the most disadvantaged and unhealthy parts of the country, which are poorly serviced and barely reachable by even the most basic health care services (for example the absence of even a single GP for several Roma settlements).

This disproportionate access to health care access by Roma cannot be explained only by these factors without taking into consideration the health beliefs of Roma. These can significantly affect the extent to which Hungarian gypsies themselves look for health care services whenever in need.

There are reasons to believe that, in some way, poor health and initial, slight symptoms of sickness are more tolerated and accepted among Roma communities than in non-Roma, as if poor health was, in a certain way, considered an unavoidable condition brought on by a deprived lifestyle. Of course this can also be true for all deprived segments of society and those low in social status, regardless of ethnicity.

According to the findings of a UK research study:²³

The experience of poor health and daily encounters of ill-health among extended family members are normalised and accepted. Four major themes emerged relating to health beliefs and the effect of lifestyle on health for these respondents: the travelling way; low expectations of health; self-reliance and staying in control; fatalism and fear of death. [...] Among Gypsies and Travellers, coherent cultural beliefs and attitudes underpin health-related behaviour, and health experiences must be understood in this context. In this group, ill-health is seen as normal, an inevitable consequence of adverse social experiences, and is stoically and fatalistically accepted.

At the same time, it sounds reasonable to believe that the poor relationship between Roma and health care is socially-determined. Consequently, improving their general social condition and level of social integration, while facilitating access to health care, might lead them to change their attitude and health-related behaviours, and they would, as a result, start to benefit in greater measure from medical care.

Environmental injustice and health consequences

It has been pointed out that the issue of unequal access among Hungarian Roma to health care is often related to the disadvantaged geographical areas in which most

- 23 van Cleemput, P *et al.* (2007) 'Health-related beliefs and experiences of Gypsies and Travellers: a Qualitative Study' *J Epidemiology Community Health* 61: 205. Available online via BMJ Journals: <http://jech.bmj.com/content/61/3/205.full.pdf+html>.

Roma settlements are located. However, if we could consider the bad impact on health caused by the unfavourable position of Roma settlements as just a collateral effect – a logistical problem – we soon realise that the logistic positioning of Roma settlements also has more direct and adverse effects on the health of the inhabitants of those disadvantaged areas. The way in which the population occupies the territory seems, in fact, not to be casual. Economic interests are a very powerful driving force behind decision-making, but ethnic discrimination also plays an important role.

All over Europe, Roma settlements are frequently located next to landfill sites or on contaminated land and are often exposed to floods. Water pipelines end on the edges of their settlements, so that people have to walk long distances every day to collect potable water for cooking and drinking. Roma neighbourhoods are most likely to be located in areas, or dump sites, where there are numerous issues with harmful substances, such as lead. Roma frequently suffer evictions and many observers have noted a trend to remove Roma from town centres and relocate them in inferior ghettoised housing on the periphery.²⁴

The main factors influencing the spatial distribution of settlements, and the reason why poor people or those who are discriminated against, such as gypsies, find themselves in environmentally-problematic places (thus becoming vulnerable to environmental conditions) are related to economic interests (the price of land/real estate value and commercial potential); ethnic discrimination and spatial distance (proximity to the main village and racial prejudice associated with the effort to push them – as unwanted – out of the main settlement); and competition over resources (entitlements, management of resources and access to employment).²⁵

According to Bullard:²⁶

An environmental injustice exists when members of disadvantaged, ethnic, minority or other groups suffer disproportionately at the local, regional (sub-national), or national levels from environmental risks or hazards; and/or suffer disproportionately from violations of fundamental human rights as a result of environmental factors; and/or are denied access to environmental investments, benefits and/or natural resources; and/or are denied access to information, and/or participation in decision making, and/or access to justice in environment-related matters.

The Roma population reveals, in fact, some of the most blatant cases of environmental injustice in Europe.

Many Roma communities are located in polluted areas, causing ‘serious and irremediable effects on their immune system’ and high rates of infection and risk of dis-

- 24 Steger, T and R. Filcak (2008) *Articulating the Basis for Promoting Environmental Justice in Central and Eastern Europe* May.
- 25 Filcak, R (2007) *On the Distribution of the Environmental Benefits and Adverse Impacts*.
- 26 Bullard, R (2005) *The Quest for Environmental Justice: Human Rights and the Politics of Pollution* San Francisco: Sierra Club Books, p. 2.

ease.²⁷ In Hungary, for example, Roma predominantly inhabit the eastern and north-eastern part of the country where the socialist industrial legacy is most prominent.²⁸

Many diseases are directly correlated with environmental racism. Gypsy nomad camps, for example, show a proliferation of skin diseases due to the lack of housing standards, including scabies, pediculosis, pyodermitis, mycosis and ascariasis. There is also a recognition of the existence of respiratory health problems. Other serious diseases that are rampant in majority gypsy populations are hepatitis and tuberculosis.

In 2004, a team of researchers from the Debrecen University School of Public Health and the Gypsy Leaders' Professional Association published a survey²⁹ of housing and environmental conditions in 557 predominantly Romani settlements, tracking the following ten indicators:

1. the majority of houses are lacking foundations and cellars
2. the presence of waste dumps
3. the presence of a slaughterhouse
4. settlements built on soggy soil or a floodplain
5. lack of gas mains
6. lack of water mains
7. lack of sewerage systems
8. lack of electricity
9. a population above fifty people
10. a walking distance of thirty or more minutes from a paved road.

Approximately one-quarter of the settlements surveyed had four or more of these indicators, with ten settlements scoring between six and eight. In Borsod county's ninety Roma settlements, the most common indicators were the lack of sewerage systems and gas mains, and the presence of waste dumps. The research team prepared maps of the survey data, showing a large number of cases where sewerage and gas mains existed in the town but not in the Roma settlement. The National Public Health and Medical Officers' Service reported that, of the 767 Romany colonies identified in Hungary, 15% are within 1 000 metres of illegal waste deposits and 11% are within 1 000 metres of animal carcass disposal sites.³⁰

We can conclude that race, poverty and social class play significant roles in access struggles as well as in residential segregation and marginalisation, with the most disadvantaged people most likely to bear the brunt of environmental inequalities. Environmental racism is directly translated into a loss of health quality for Hungarian Roma who are settled in the *cigányisor* of the country ('Gypsy Row'). Even if we accept that evaluating the actual and precise impact of environmental racism in terms

27 Agency for Community Development (2006) *Roma Access to Social Services: 2005 Facts and Trends*. See also Hajiöff and McKee (2000) *op. cit.*

28 Puporka, L and Z. Zsolt (1999) *The Health Status of Roma in Hungary* World Bank Regional Office, Hungary, NGO Studies No. 2 (Roma Press Centre).

29 Kósa, K *et al.* (2004) *Survey of Settlements and Settlement-type Residences* Debrecen, Hungary: Debrecen University School of Public Health.

30 György, U *et al.* (2005) 'Roma Colonies in Hungary – Medical Care of Children and Hygienic Conditions' *Orv Hetil* 146(15): 691-699.

of physical and mental harm is rather complicated, if not impossible, it is clear that environmental health issues contribute significantly to health disparities in Hungary, where Roma have a lower life expectancy than non-Roma by around ten years.

Health care providers' attitude towards Roma in Hungary, the GP-patient relationship and the impact on quality of health care

We have explored already that the most important drivers of inequality for access to health care by Roma are 'structural factors': Roma settlements are often situated in unfavourable geographical locations; Roma live in large numbers primarily in settlements than can be kilometres from the closest medical centre or hospital, and where the coverage by GPs and health visitors is low (i.e. where one GP or one health visitor has to deal with several settlements).

Beside these structural factors, the attitude of health care workers towards Roma can also most certainly affect health care access and the quality of medical treatment. Before facing the issue, it is necessary to say that a huge literature exists which report the abuses suffered by Roma from health care providers; at the same time, it needs to be pointed out that the establishment of the characteristics and the extent of anti-Roma feelings should in no way be permitted to lead to the stigmatisation of health care workers. Prejudice in general, and antipathy to Roma people, is obviously not confined to certain professions but is evident in society as a whole and has causes that are deeply embedded in the fabric of our society. The measuring of anti-Roma attitudes is important mainly to clarify whether or not the existence of such attitudes has an impact on professional practice.

However, in which manner can such an abstract concept as 'anti-Roma attitude' be quantified, and in which way would it then be possible actually to quantify its impact on the specific practices of health care providers? In this regard, we can refer to the very interesting study conducted by Delphoi Consulting and commissioned by the Hungarian Ministry of Health, Social and Family Affairs.³¹ This survey examined anti-Roma attitudes among a sample of 1 800 people belonging to three groups: general practitioners; health visitors; and medical students in Hungarian medical schools. Anti-Roma attitudes were considered as a complex system of attitudes consisting of three basic issues: negative stereotyping about Roma; attitudes to discrimination against Roma; and emotional distance from Roma people. This concept of measuring anti-Roma sentiment is based on national and international tests that have examined prejudiced attitudes against minorities by the majority population.

The survey identified five markedly different groups: not anti-Romani; prone to anti-Romani sentiment; strongly anti-Romani; non-discriminatory; and rejects anti-Romani sentiment.

According to the study, 6.3% of those studied strongly rejected all types of anti-Roma attitudes; 21% did not have anti-Roma attitudes; and 28.3% had no propensity towards accepting discrimination. Consequently, 55.6% cannot be characterised by any form of anti-Roma attitude; but, on the other hand, nearly one-half of those studied (44.4%) do have some form of anti-Roma attitude: 14.1% of people in the study

31 Delphoi Consulting *op. cit.*

can be characterised as having strongly negative attitudes towards Roma, which means that they engage in negative stereotyping, approve of discrimination and have a marked emotional distance. The other thirty percent have a propensity towards holding anti-Roma attitudes, which means that they can be characterised by all three components of anti-Roma attitudes but to a lesser degree than those who have strong anti-Roma feelings.

According to the study, Roma bias does have a negative impact on the doctor-Roma patient relationship, because some physicians who have a negative bias towards Roma offer less in terms of care to their Roma patients than they do to non-Roma ones. Certain GPs offer less expensive medical services to poor, unemployed Roma, or other socially-marginalised patients, than to others; their communication with these patients is below average; and conflicts occur with greater frequency than average. Social deprivation among these patients is a causal factor because, among other things, doctors believe that these patients' potential to reduce health risks is low.

In addition, GPs determine the level of institutional care on the basis of patients' social and socio-psychological status and, therefore, the level of institutional care is determined by status and not by selected protocol. A certain number of GPs provide therapy at a lower institutional level to patients that are socially marginalised. Consequently, the social deprivation of patients is a contributing factor. The low assessment of patients' potential to reduce risk to their own health is also an important factor in this regard.

GPs' compassion, or lack thereof, in terms of their taking into consideration the cost of medicine affects the possibility that socially-disadvantaged patients will follow the prescribed treatment.

Another problem is that a significant number of GPs are not at all, or are not sufficiently, familiar with the considerably higher incidence of disease among Roma and the risks associated with this. Therefore, they do not regard the Roma community as having a higher eligibility for increased screening and preventive or intervention treatment, which might reduce the incidence of disease among them. Anti-Roma sentiment, or the lack of this, is a measurable factor that has an impact on the perception of Roma and the level of services provided to them. The causal impact of rejecting anti-Roma sentiment is significant and explains whether a GP has a more or less clear picture of the level of health problems among the Roma community.

Additionally, the primary cause of the lack of information about the higher incidence of disease among Roma is not extreme anti-Roma feelings but, quite simply, common and average prejudice. On the other hand, a rejection of anti-Roma feelings is an easily discernible factor behind a clear understanding among doctors of the incidence of health problems within the Roma community.

Some of the inequalities experienced by Roma are not directly related to ethnicity but are, rather, socially and socio-psychologically status-related. For example, the process of decision-making in which general practitioners recommend a therapy; the level of communication between doctor and patient; the belief of a doctor in actually reducing risk behaviour in the patient; and a patient's supposed compliance – all these affect a doctor's behaviour towards the selection of an appropriate therapy. All

this results in the marginalisation of poor, disadvantaged segments regardless of their ethnicity. At the same time, it is still the case that Roma represent exactly these such segments of society.

Roma ethnicity, socio-economic status and health

We have seen that Roma everywhere, and including in Hungary, suffer from a poorer health status compared with the majority populations in the countries in which they live. Hence, the clue would be to understand if, and to which extent, ethnicity can be itself an independent variable, a discriminant condition that is capable, alone, of leading to a poorer health status. In fact we have widely seen how most Roma in Hungary also consist of the most disadvantaged segments of society in terms of education and employment; in one word, from the socio-economic point of view.

However, what if we would be able to ‘equalise’ the socio-economic status of Roma living in Hungary to the rest of the population; i.e. if Roma had the same level of education and economic status, would they still be less healthy? In other words: does socio-economic status fully mediate the effect of ethnicity on the health of Roma people in Hungary? Unfortunately, things are not as easy as this, and it is generally accepted that interpreting ethnicity as an independent determinant of health is a simplification that does not take into consideration that health status is the resulting outcome from a complex causal network of ethnicity, socio-economic status, health behaviour and the environment.

It remains the case that the influence of Roma ethnicity (intended as simply ethnic belonging) on health and health behaviours remains unknown:

Studies that inadequately account for socioeconomic circumstances when examining ethnic-group differences in health can reify ethnicity (and its supposed correlates); however, the reductionist attribution of all ethnic differences in health to socioeconomic factors is untenable. The only productive way forward is through studies that recognize the contingency of the relations between socioeconomic position, ethnicity, and particular health outcomes.³²

Using data from the National Health Interview Survey 2003 and the Roma Health Survey, an experimental Hungarian study³³ investigated whether the effect of Roma ethnicity on health is fully mediated by socio-economic status and whether Roma ethnicity modifies the strength of the association between socio-economic status and health.³⁴

- 32 Smith, G. D (2000) ‘Learning to live with complexity: ethnicity, socio-economic position and health in Britain and the United States’ *Am J Public Health* 90: 1694-1698.
- 33 Vokó, Z *et al.* (2009) ‘Does socioeconomic status fully mediate the effect of ethnicity on the health of Roma people in Hungary?’ *J Epidemiol Community Health* 63: 455-460.
- 34 Note: The two surveys – *The Hungarian National Health Survey 2003* and *The Roma Health Survey* – are the same as those used by the study ‘A Comparative Health Survey of the Inhabitants of Roma Settlements in Hungary’ to compare the health of Roma with the health of the general population. The data of the two surveys may be analysed with the different aim to of finding out whether the effect of Roma ethnicity on health is fully mediated by socio-economic status.

Figure 1 – The theoretical model investigated in the study

Source: Z. Vokó et al. (2009), at p. 456.

Here, the solid arrows represent the simplest pathway: socio-economic status fully mediates the association between Roma ethnicity and health (the full mediation model). The dashed arrows add another layer of complexity: socio-economic status partially mediates the association between Roma ethnicity and health (the partial mediation model). The dotted arrows reflect the hypothesis that Roma ethnicity is not only a determinant of health but also modifies the association between socio-economic status and health (the effect modification model).³⁵

Table 2 shows that both self-reported health and functional limitation are strongly related to socio-economic factors:

35 Baron R. M and D. A. Kenny (1986) 'The moderator-mediator variable distinction in social psychological research: conceptual, strategic and statistical considerations' *J Pers. Soc. Psychol.* 51: 1173-82.

Table 2 – Association between socio-economic status, Roma ethnicity and health status

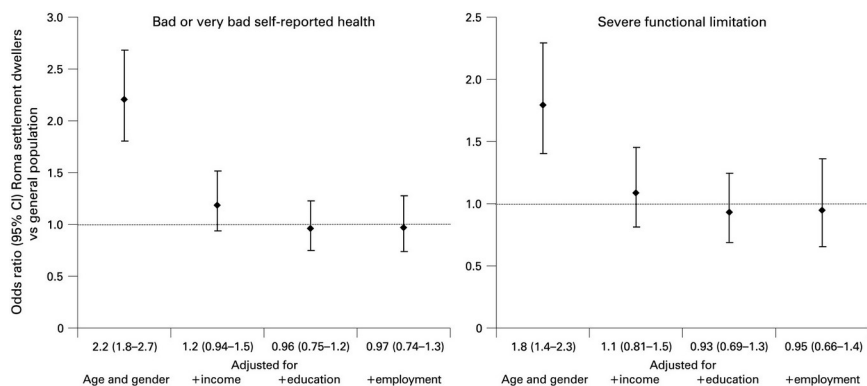
	Odds ratio* (95% CI)	
	Bad or very bad self-reported health	Severe functional limitation
Equivalent monthly income [†]	0.9 (0.85, 0.94)	0.92 (0.87, 0.98)
Education		
■ Primary only	1.0 (reference)	1.0 (reference)
■ Secondary without leaving certificate	0.91 (0.69, 1.2)	0.83 (0.59, 1.2)
■ At least secondary education with leaving certificate	0.49 (0.37, 0.64)	0.74 (0.53, 1.0)
Employment		
■ Active worker	1.0 (reference)	1.0 (reference)
■ Unemployed	1.6 (0.99, 2.7)	1.3 (0.66, 2.7)
■ Pensioner	6.5 (4.8, 8.9)	12.7 (8.8, 18.20)
■ Pensioner with disability	1.5 (1.1, 2.1)	2.1 (1.4, 3.1)
■ Other inactive	1.5 (1.0, 2.2)	1.8 (1.1, 2.9)
Living in Roma settlements	0.97 (0.74, 1.3)	0.95 (0.66, 1.4)

CI: Confidence Interval

* Estimates from a logistic regression model containing all factors and adjusted for age and gender

[†] Per €40

The odds of reporting bad, or very bad, health is 2.2 times higher (95% confidence interval (CI): 1.8 to 2.7 times higher) among people who live in Roma settlements than in the general population after adjusting for age and gender:



CI: Confidence Interval. Self-reported health was dichotomised as bad, or very bad; satisfactory; and good, or very good; functional limitation as severe functional limitation; modest; or no limitation. The dotted line represents an odds ratio of 1, which corresponds to a lack of association.

Source: Z. Vokó et al. (2009), at p. 457.

The figure above shows that this association gradually disappears after adjusting for income and education. The relationship between Roma ethnicity and functional limitation is similar; the effect disappears after adjusting for income.

Table 3 shows that, just like health status, health behaviour is also strongly related to socio-economic factors:

Table 3 – Association between socio-economic status, Roma ethnicity and health behaviour

	Odds ratio* (95% CI)		
	Daily smoking	Consumption of fresh fruit less than weekly	Using only lard as cooking fat
Equivalent monthly income†	0.94 (0.92, 0.97)	0.95 (0.87, 1.0)	0.96 (0.87, 1.1)
Education			
■ Primary only	1.0 (reference)	1.0 (reference)	1.0 (reference)
■ Secondary without leaving certificate	0.77 (0.63, 0.95)	0.55 (0.38, 0.79)	0.48 (0.35, 0.65)
■ At least secondary education with leaving certificate	0.48 (0.39, 0.59)	0.33 (0.21, 0.51)	0.25 (0.16, 0.37)
Employment			
■ Active worker	1.0 (reference)	1.0 (reference)	1.0 (reference)
■ Unemployed	1.4 (0.96, 1.9)	1.3 (0.73, 2.5)	2.1 (1.2, 3.7)
■ Pensioner	0.7 (0.54, 0.92)	1.9 (1.2, 3.0)	1.6 (1.0, 2.4)
■ Pensioner with disability	0.52 (0.38, 0.7)	1.4 (0.81, 2.5)	1.3 (0.84, 2.1)
■ Other inactive	0.8 (0.63, 1.0)	1.3 (0.8, 2.0)	1.7 (1.1, 2.5)
Living in Roma settlements	1.6 (1.3, 2.0)	2.1 (1.5, 2.9)	1.5 (1.1, 2.0)

CI: Confidence Interval

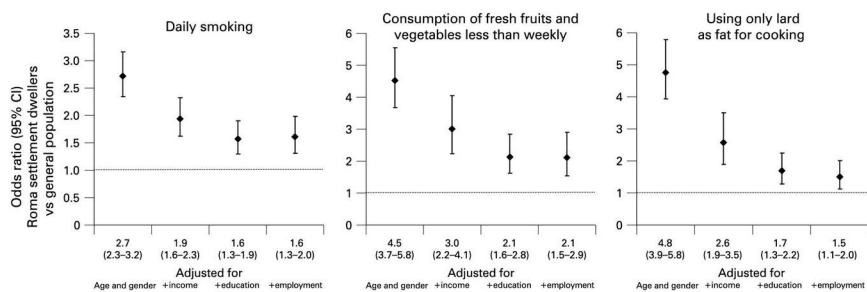
* Estimates from a logistic regression model containing all factors and adjusted for age and gender

† Per €40

Source: Z. Vokó et al. (2009), at p. 458.

The odds of a daily smoking habit, consuming fresh fruits less frequently than weekly and using only lard as fat for cooking are much higher among those who live in Roma settlements. Even when the odds ratios are reduced, they remain statistically significant after adjusting for income, education and employment. (Several studies have pointed out that Roma are very heavy smokers: a WHO study of Roma teenagers in Hungary, for example, found that 69% of women and 71% of men were smokers; while 71% of all the young people surveyed said they smoked daily.³⁶)

36 WHO Regional Office for Europe project (1999) ‘Training for gypsy peer educators’ Summary of Final Report prepared by Tibor Szilagyí, Rapanuli, Ltd, p. 7.



CI: Confidence Interval. Smoking was dichotomised as a daily smoker, and other; consumption of fresh fruits and vegetables as less frequently than weekly, and other; and types of fat used for cooking as only lard; and other. The dotted line represents an odds ratio of 1, which corresponds to a lack of association.

Source: Z. Vokó et al. (2009), p. 458.

We could assume, in line with the psycho-social model, that the extraordinarily high rate of smoking among Roma settlement dwellers, even after adjusting for socio-economic status, and the high prevalence of smoking among pregnant Roma women registered by the researchers, might, in part, be attributed to psycho-social factors such as stress due to discrimination and social exclusion resulting from holding a low socio-economic position.³⁷ The cause might also be related to some of the beliefs shared within the Roma community which leads to such a high consumption of tobacco. All of these are valid hypotheses, but we do not know the actual reason. What we do know, basing our conclusions on the study, is that the cause is not related to socio-economic status.

Similarly, the increased odds of the use only of lard for cooking, as well as the low consumption of fresh fruits and vegetables in Roma communities, are not fully explained by socio-economic status. However, in this case, psycho-social health determinants seem unlikely to account for these increased odds; therefore, other determinants – including rurality, traditions and beliefs – should be considered as additional contributing factors.³⁸

Results and considerations

In the light of the findings of this study, it is possible to state that socio-economic status is strongly related to the health status and health behaviour of people living in Roma settlements. The results show that differences in health status between the general population and those who live in Roma settlements are fully explained by differences in income, education and employment.

- 37 Marmot, M and R. G. Wilkinson (1999) *Social determinants of health* Oxford: Oxford University Press.
- 38 Probst, J. C et al. (2004) 'Person and place: the compounding effects of race/ethnicity and rurality on health' *Am. J Public Health* 94: 1695-703.

At the same time, socio-economic status only partially determines their less healthy behaviours: the differences in health behaviour could not actually be accounted for by socio-economic factors alone, leaving room for ethnicity as an explanatory variable. It has to be noted that only income, education and employment were used as socio-economic factors in this analysis. In fact, it is reasonable to think that the huge impact of social exclusion and discrimination on the health status of Roma people – from poor access to health care services to the segregation of Roma settlements, passing through the biased and negative attitudes of health care providers towards Roma patients – would certainly help to fill the gap between health status and health-related behaviours between Roma and non-Roma, even under equivalent socio-economic conditions. The problem, however, comes from the difficulty of calculating, in a definite factual term, all the possible repercussions of social exclusion which clearly affect not only socio-economic status but which also deeply influence all aspects of individual personality. Retracing the path that leads from social segregation and discrimination to health status is rather problematic.

The interpretation of ethnicity as a health determinant has long been debated in the scientific literature, with several models put forward to explain the relationship between ethnicity and health.³⁹ However, even recognising the influence of genetic factors in explaining the differences in health between different populations, explanations which attribute health disparities to genetic differences between various minority and majority groups have been increasingly challenged due to a recognition that ethnicity is more of a social than a biological construct in which education, income, occupation and other dimensions of socio-economic status are the most active determinants of health.⁴⁰

The socio-economic model holds that ethnic health disparities are confounded with disparities in socio-economic status; therefore, all ethnic health variations must be adjusted for the widest possible range of socio-economic factors. If the significant ethnic differences in health behaviour are not explicable by socio-economic status, as in the studied case, then the partial mediation model holds and additional factors related to ethnicity can be hypothesised as determinants of health.

One additional factor useful in understanding ethnic differences in health behaviour could be represented, for example, by the beliefs which are shared within an ethnic group and which may influence their health-related behaviours regardless of socio-economic status. This was the case in an intervention study in a Slovenian Roma population; this revealed that smoking is a strong part of the cultural, ethnic and individual identity of Roma, to the extent that even children smoke. The study found that Roma hold a tenacious belief that the harmful effects of smoking are in the hands of destiny and they do not associate their smoking-related illnesses with the habit.⁴¹

- 39 Dressler, W. W, Ks. Oths and C. C. Gravlee (2005) 'Race and ethnicity in public health research: models to explain health disparities' *Annu Rev Anthropol* 34: 231-52.
- 40 Cooper, R and R. David (1986) 'The biological concept of race and its application to public health and epidemiology' *J Health Polit. Policy Law* 11: 97-116.
- 41 Petek, D *et al.* (2006) 'Attitudes of Roma toward smoking: qualitative study in Slovenia' *Croat Med J* 47: 344-7.

The findings of this study show us that there is no unique model able to explain all the different aspects in the complex relationship between Roma ethnicity and health. Hence, all the possible different perspectives and models are useful to find some clues towards a better understanding of this complex phenomenon. For example, the material interpretation of health inequalities assigns a considerable part of ethnic health variations to differential access to material conditions such as food, shelter, access to services, etc.⁴² We have seen that the study analysed here actually supports this model in the sense that income is strongly related to health.

In concluding, the findings of the study tell us that socio-economic status is a strong determinant of the health of people living in Roma settlements in Hungary; it fully explains their poorer health status but only partially determines their less healthy behaviours. In this regard, further research should be carried out to find out which health determinants (other than socio-economic status) is the cause of this health behaviour.

Final conclusions and recommendations

When talking about the health of Roma people, it is not possible to look at any health parameters without taking into consideration that a population that is segregated and discriminated against will never be a healthy population. This is for the simple reason that social integration is the main precondition for the building of health. Social marginalisation and stigma are, in fact, automatically translated into an unfavourable distribution across the country, with Roma inhabiting the most deprived parts of Hungary: often polluted; with sub-standard housing conditions; and inappropriate medical assistance services (where they even exist at all). Roma are not just the unhealthiest group in Hungary but they are also the least educated and the poorest. It is clear how this cannot be casual and that socio-economic status, segregation and discrimination are, at the same time, a cause and an outcome of poor health; all this within a vicious circle in which causes and consequences merge. It seems not to be casual that health care access by Roma is strongly affected by the distribution of Roma settlements on the outskirts of the country, and that what is defined as environmental racism heavily influences Roma health status and their attitude towards health care services.

At the same time, the attitude of health care providers towards Roma has been proven actively to influence the quality of care provided. We noted above that physicians who have a negative bias towards Roma offer less in terms of care to their Roma patients than they do to non-Roma ones. Furthermore, where the cost and institutional level of care provided to them is lower, where follow-up is more infrequent and where the affordability of medication is not always considered, their chances of health maintenance, recovery or rehabilitation will certainly be negatively affected.

By investigating whether the effect of Roma ethnicity on health is fully mediated by socio-economic status and whether Roma ethnicity modifies the strength of the

42 Lynch, J. W *et al.* (2000) 'Income inequality and mortality: importance to health of individual income, psychosocial environment or material conditions' *British Medical Journal* 320: 1200-4.

association between socio-economic status and health, the findings of the study show us that socio-economic status is strongly related to the health status and health behaviours of people living in Roma settlements. Differences in health status between the general population and people living in Roma settlements may be fully accounted for by differences in income, education and employment. However, the differences in health behaviours can not be explained by socio-economic factors alone. Ultimately, there is no unique model able to explain all the different aspects of the complex relationship of Roma ethnicity and health but, as we have seen, the social determinants of health still remain the most important cause of health inequalities between Roma and the rest of the population.

The findings of the study provide, above all, a great moral teaching: most of the time 'ethnic diseases' are not anything other than 'poverty diseases' and do not have any related racial or genetic roots. This opens up an interesting scenario, made at the same time out of responsibility and hope, in which all society in general and policy-makers in particular could actively and effectively operate in order to improve all the socio-economic factors that are now responsible for the poor health conditions of one of the most disadvantaged communities in the country. Decent housing, education and employment should be the first marks on the long road to empower Roma people to improve their health.

Hence, promoting Roma health means confronting the social structures which shape a person's health in the first place: inequality and discrimination in education and employment; poor housing, and access to clean water and sanitation; a lack of social integration and minimal political participation; poor access to food; and disparities in income distribution. All the health indicators referred to above come from the low socio-economic status of Roma people in society and they cannot improve without a reduction of poverty and the social integration of the Roma minority.

References

- Agency for Community Development (2006) *Roma Access to Social Services: 2005 Facts and Trends*.
- Baron R. M and D. A. Kenny (1986) 'The moderator-mediator variable distinction in social psychological research: conceptual, strategic and statistical considerations' *J Pers. Soc. Psychol.* 51: 1173-82.
- Bullard, R (2005) *The Quest for Environmental Justice: Human Rights and the Politics of Pollution* San Francisco: Sierra Club Books.
- Cooper, R and R. David (1986) 'The biological concept of race and its application to public health and epidemiology' *J Health Polit. Policy Law* 11: 97-116.
- Cserti, Csapó T (2006) 'Szociológiai, szociális tényezők a cigány népesség vizsgálatában' in Forray R. Katalin (Ed.) *Ismeretek a romológia alapképzési szakhoz* HEFOP 3.3.1-P.-2004-09-0134/1.0 Budapest: Bölcsész Konzorcium, PTE, pp. 161-187.
- Delphoi Consulting (2004) *Differences in Access to Primary Healthcare – Structures, Equal Opportunity and Prejudice. The Results of an Empirical Study*.

- Dressler, W. W., Ks. Oths and C. C. Gravlee (2005) 'Race and ethnicity in public health research: models to explain health disparities' *Annu Rev Anthropol* 34: 231-52.
- European Commission Official Website: http://ec.europa.eu/justice/discrimination/roma/index_en.htm
- European Roma Rights Centre (2006) *Ambulance not on the way: The Disgrace of Health Care for Roma in Europe* European Roma Rights Centre: Budapest.
- Filcak, R (2007) *On the Distribution of the Environmental Benefits and Adverse Impacts*.
- György, U *et al.* (2005) 'Roma Colonies in Hungary – Medical Care of Children and Hygienic Conditions' *Orv Hetil* 146(15): 691-699.
- Hajioff, S and M. McKee (2000) 'The health of the Roma people: a review of the published literature' *J Epidemiol Community Health* 54: 864-869.
- Hancock, I (2002) *We are the Romani People* Hertford: University of Hertfordshire Press.
- Havas, Gábor and János Zolnay (2010) *Effect study regarding integration-centred education policy. Research report* European Comparative Minority Research Foundation, p. 4.
- Katalin, Forray R. and Beck Zoltán (Eds.) (2008) *Society and Lifestyles – Hungarian Roma and Gypsy Communities* University of Pécs: Pécs.
- Kósa, K, B. Lénárt and R. Ádány (2002) 'Health status of the Roma population in Hungary' *Orv Hetil*.
- Kósa, K *et al.* (2004) *Survey of Settlements and Settlement-type Residences* Debrecen, Hungary: Debrecen University School of Public Health.
- Kósa, Z *et al.* (2007) 'A Comparative Health Survey of the Inhabitants of Roma Settlements in Hungary' *American Journal of Public Health* 97(5), May.
- Kovats, M (2004) 'Roma health: problems and perception' in J. Healy and M. McKee *Accessing Health Care. Responding to Diversity* Oxford University Press.
- Lynch, J. W *et al.* (2000) 'Income inequality and mortality: importance to health of individual income, psychosocial environment or material conditions' *British Medical Journal* 320: 1200-4.
- Marmot, M and R. G. Wilkinson (1999) *Social determinants of health* Oxford: Oxford University Press.
- Ministry of Foreign Affairs Budapest Fact sheets on Hungary, 2004.
- National Health Interview Survey 2003 *Hungary – Executive Update* Johan Béla National Centre for Epidemiology, Budapest, Hungary. Available at: <http://www.oek.hu/oekfile.pl?fid=533>.
- Petek, D *et al.* (2006) 'Attitudes of Roma toward smoking: qualitative study in Slovenia' *Croat Med J* 47: 344-7.

- Probst, J. C *et al.* (2004) 'Person and place: the compounding effects of race/ethnicity and rurality on health' *Am. J Public Health* 94: 1695-703.
- Puporka, L and Z. Zsolt (1999) *The Health Status of Roma in Hungary* World Bank Regional Office, Hungary, NGO Studies No. 2 (Roma Press Centre).
- Smith, G. D (2000) 'Learning to live with complexity: ethnicity, socio-economic position and health in Britain and the United States' *Am J Public Health* 90: 1694-1698.
- Solyomosy, J. B (2012) *Health Component of the National Roma Integration Strategy* National Institute for Health Development.
- Steger, T and R. Filcak (2008) *Articulating the Basis for Promoting Environmental Justice in Central and Eastern Europe* May.
- UNDP (2005) *Faces of poverty, faces of hope. Vulnerability profiles of Roma population for Decade of Roma Inclusion* countries, Bratislava.
- van Cleemput, P *et al.* (2007) 'Health-related beliefs and experiences of Gypsies and Travellers: a Qualitative Study' *J Epidemiology Community Health* 61: 205. Available online via BMJ Journals: <http://jech.bmj.com/content/61/3/205.full.pdf+html>
- Vokó, Z *et al.* (2009) 'Does socioeconomic status fully mediate the effect of ethnicity on the health of Roma people in Hungary?' *J Epidemiol Community Health* 63: 455-460.
- WHO Regional Office for Europe project (1999) 'Training for gypsy peer educators' Summary of Final Report prepared by Tibor Szilagyi, Rapanuli, Ltd.
- Zoon, I (2001) *On the Margins: Roma and Public Services in Romania, Bulgaria and Macedonia* New York, NY: Open Society Institute.

