Social Determinants of Health in the Slovak Republic: A Case Study.

Authors

Katarina Hulanska, Dipl. Ing, MPH, Emil Ginter, RNDr., DrSc., Vanda Kráľovská PaedDr., Elena Morvicová M.D.
hulanska@uvzsr.sk; ginter.emil@stonline.sk; kralovska@uvzsr.sk; morvicova@uvzsr.sk

Public Health Authority of the Slovak Republic (PHA SR)
Trnavská 52
826 45 Bratislava
Slovak Republic
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Case Study

General information:
Slovak Republic is a country located in Central Europe, surrounded by the Czech Republic, Poland, Ukraine, Hungary and Austria. Slovak Republic is a member of the European Union since May 2004.

Official name
Slovenska Republika (= Slovak Republic)

Area
48,845 square km.

Number of inhabitants
5.4 million (July 2004)

Population density
110 people per square kilometer

Capital City
Bratislava

Monetary unit
Slovak Koruna (SK, or SKK international), divided into 100 Halier. (March 2007) 1 Euro = about 34 SKK

Economy:
GDP growth reached 8.3% in 2006 according to the statistical office of the Slovak Republic (the year-to-year growth amounted to unexpected 9.8% in the 3rd quarter of 2006 and stayed high at 9.5% year-to-year change in the 4th quarter of 2006), and 8.0% in 2007. In 2006, Slovakia reached the highest economic growth among the members of OECD and the third highest in the EU.

National context:
Public Health Authority of the Slovak Republic (PHA SR) is non-profit state organization with activity in the territory of the Slovak Republic and residence in Bratislava. PHA SR is headed and linked with their financial relations to the budget of Ministry of Health of the Slovak Republic. The PHA SR has responsibility in the field of Public Health in the Slovakia - Act of the National Council of SR No. 126/2006 Coll. of Laws on the Public Health. One of the public health priorities is to reduce health inequalities. That scope of activities of PHA included solving and improving of social determinates of health (SDH).

The PHA SR has created a network, consisting of 36 Regional Public Health Offices in the territory of the Slovak Republic. The network presents an excellent distribution of public health and health promotion in the area of the SR.
Situation and trends
Slovakia tackles SDH throughout several National Programs for *(page 7) e.g.: elderly people, disability people, children and youth, etc., which are provided with crossectoral cooperation. But these groups are not the most disadvantaged in population and the activities are not sufficient. According the next mentioned metaanalyse of available information about health status, we have learned that we have to aim our activities at the most disadvantaged groups.
Slovakia has extremely lack of basic statistical information or data on the number and health status of the population groups in relation of social determinants of health. We have got only partial outputs from different epidemiology studies. Mostly of these studies were providing for knowledge of the Roma community health.
Population groups at risk of inequalities ordered by endangerment of health and risk of occurrence of severe medical problems can currently be determined only by statistics on mortality, or by estimate.
Lifestyle affects health by 50-70% (WHO) – the best way how to improve health is to promote healthylife style through health promotion.
Increased consumption of alcoholic beverages among Roma

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Beer % positive answers</th>
<th>spirits % positive answers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-2 x per week daily</td>
<td>1-2 x per week daily</td>
</tr>
<tr>
<td>Majority</td>
<td>25.7 13.8</td>
<td>15.1 3.9</td>
</tr>
<tr>
<td>Roma</td>
<td>24.5 26.4</td>
<td>25.6 12.3</td>
</tr>
</tbody>
</table>

Source: UPKM, UVZ SR

Low physical activity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>gardening % positive answers</th>
<th>play sport % positive answers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>daily Never</td>
<td>daily never</td>
</tr>
<tr>
<td>Majority</td>
<td>23 21</td>
<td>8 51</td>
</tr>
<tr>
<td>Roma</td>
<td>20 45</td>
<td>4 80</td>
</tr>
</tbody>
</table>

Source: UPKM, UVZ SR
Extremely high number of smokers among Roma

Men
- Majority: 32.2% smokers, 55.3% non-smokers, 12.5% ex-smokers
- Roma: 30.2% smokers, 67.0% non-smokers, 2.8% ex-smokers

Women
- Majority: 20.4% smokers, 74.3% non-smokers, 5.2% ex-smokers
- Roma: 47.2% smokers, 46.0% non-smokers, 6.8% ex-smokers

Majority
- Red: smokers
- Gray: ex-smokers
- Blue hatched: non-smokers

Roma
- Red: smokers
- Gray: ex-smokers
- Blue hatched: non-smokers

Number of population of the Slovak Republic, 2004

Legend:
- I. to 38,000
- II. to 60,000
- III. to 90,000
- IV. to 120,000
- V. to 150,000
- VI. to 180,000

Map showing the distribution of population across different regions of the Slovak Republic.
Unemployment in the Slovakia, 2004

Quartiles of Unemployment in %

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 - 6.55%</td>
<td>do 13.1%</td>
<td>do 19.65%</td>
<td>do 26.2%</td>
</tr>
</tbody>
</table>

Regional social – economic valuation, 2005

(from the best to the worst)
Major health determinants

- Lower education level which may give rise to insufficient level of health and social awareness,
- Low standards of personal hygiene,
- Low standards of communal hygiene,
- Low standards of housing and ecological hazards related to polluted and devastated environment,
- Unhealthy eating habits, improper nutrition,
- Increasing use of alcohol and tobacco including during pregnancy,
- Spreading drug addiction causing increased risk of HIV and hepatitis B and C virus infection

Publications (only in the Slovak language):

Ginter, E.: Research of nutrition and life style of the three ethnical groups, 2003
Digne, M. and co.: Improving of the Roma situation in SR, Twinning covenant SK 0002/SK00/IB-01_december 2003
Krak, J.: Heath Status and mortality of the Roma community, National Health Promotion Program, regional project in the area of Poprad and Prešov
Falt'an, L, Pašiak J.: Development of regions of the Slovakia – basis and present status, 2004

Policies and action:

Improving of social determinates of health is a new part in the public health policy. Usually public health activities have been provided by PHA SR only by short term projects or programs on the regional or local level. The next steps of political agenda must be integrated and oriented on long term activities included systematically improvement of SDH.
*- Present policies and actions
Ministry of Health of the Slovak republic www.health.gov.sk
- Act of National Council of SR No. 282/2006 Coll. of Laws on Health Care and Health care services
- Act of National Council of SR No. 522/2006 Coll. of Laws on Health Insurance
- Health State Policy- government resolution No. 910/2000
- National Mental Health Program
- National Action Plan for Alcohol Problems
- National Program for Tobacco Control
- Program for environment sanitation, improving of hygiene condition and prevention of communicable diseases in Roma community – government resolution No. 550/2002

Ministry of Labor and Social Affairs of the Slovak Republic www.employment.gov.sk
- Act of National Council No. 599/2003 Coll. of Laws on Support in Material Distress
- Act of National Council No. 461/2003 Coll. of Laws on Social Insurance
- National Program for Development of Life Condition for Health Disabled People
- National Program for Protection of Elderly People
- Strategy for Prevention and Woman Violence Elimination

Ministry of Education of the Slovak Republic www.education.gov.sk

Governmental Office of the Slovak Republic - Plenipotentiary of the Slovak Government for Roma Communities www.vlada.gov.sk
- The base theses of government policy in the Roma community integration

Special features
Influence of SDH in Slovakia – Evidence Base

It is known that the idea according to which population health is determined only by the level of healthcare is wrong. The most important factor that determines population health is the quality of people’s lives. Sociologists emphasize the importance of the social capital for the quality of human life and health. In 2004 the Institute of Sociology of the Slovak Academy of Sciences (SAV) issued a noteworthy publication called „Regional development in Slovakia“
(editors L. Falt'an and J. Pašiak), which provides a complex view of the social situation in individual regions of Slovakia. The typology of regions is based on the overall characterization of respective counties that features the following factors:

- economic performance
- employment rate and labour market
- human potential – population situation
- educational potential
- population movements and migration
- social situation
- infrastructure level within a given territory
- settlements
- urbanisation
- ecological situation

Application of this procedure that is based on cluster analysis resulted in the definition of 8 types of regions that are shown in Table 1 and Chart 1. Due to the fact that sociology and medicine are usually separated scientific branches, we considered the interconnection of the sociological view and medical aspect interesting and important. For this purpose we have used the data concerning the life expectancy for men (or women) and their mortality rates within active years of life in individual counties of the Slovak Republic that cover a 5-year period of time – 1996 – 2000 (Baráková and Hlava).

### Table 1 Typology of regions (Institute of Sociology of the Slovak Science Academy)

<table>
<thead>
<tr>
<th>Type</th>
<th>Regions</th>
<th>Characterization</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BA, KE, BB, ZV</td>
<td>The situation is very good as to all the indicators, except for the population situation.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>PK, PN, TT, PD, PU, TN, NR, ZA</td>
<td>A favourable situation as to economic performance, employment rate and social situation. A good situation as concerns the area of education and urbanization. Weaker points: population index and ecology.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>MA, SC, DS, HC, SE, SI, BN, IL, MY, NM, TO, LM, TR</td>
<td>An excellent ecological situation, good situation as to employment rate and good social situation; an average infrastructure level and economic performance; a worse situation as to population index and education.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>PP, MT, PB, PO, BS, RK, ZH, HE, DK, SN, KM, MI</td>
<td>This type does not have any significantly strong or weak points; average infrastructure level and employment rate. The social situation, employment rate and education level represent weak points here.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>BY, CA, MO, TS, SL</td>
<td>These „northern“type has good ecological situation, character of settlement and population index, but insufficient information infrastructure, economic performance and education index.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>GA, PE, KN, LV, NZ, SA,</td>
<td>Bad social and population situation; weaker education index, employment rate and economy; stronger character of settlement</td>
<td></td>
</tr>
<tr>
<td>Region</td>
<td>Counties</td>
<td>Positive Features</td>
<td>Negative Features</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
<td>-------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>7</td>
<td>DT, KA, PT, BJ, LE, ML, SV, SP, SK, SO</td>
<td>The only positive feature: good ecological situation. Negatives: economy, employment rate, social situation, education level and migration indexes, low information infrastructure.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>RA, RS, VK, KK, SB, VT, GL, KS, RV, TV</td>
<td>No common positive feature. The weakest features: unemployment rate, social situation, economy, education index, urbanization rate, technical infrastructure.</td>
<td></td>
</tr>
</tbody>
</table>

All urban counties as Bratislava, Košice, Banská Bystrica, and Zvolen represent Type 1. The region of Western Slovakia that is composed of important economic centres as, for instance, Trnava, Trenčín, Nitra, and Žilina and the developed counties around Bratislava and the Považie region represent Type 2. These two types are of the highest quality from the sociological point of view. The newly created counties of Western Slovakia represent Type 3. The counties in the northern part of Central and partially Eastern Slovakia represent Type 4. Geographically, counties of this type are scattered throughout the entire country, from Považská Bystrica to Michalovce. The counties of Northern Slovakia are only of Type 5. Except for the Stará Lubovňa country, these counties create a compact area called Kysuce and Orava. Type 6 mostly includes small, newly created counties in the south of Slovakia, predominantly located in the region of Nitra. The east of Slovakia does not have any county of this type. The counties in the northern part of Eastern Slovakia and several counties of Central Slovakia – mostly small, newly created counties represent Type 7. Type 8 that represents the lowest quality applies to the counties of Eastern Slovakia and those in the south of Central Slovakia. Red and deep brown colours emphasise the urgent need of help for these low developed regions.

**Chart 1 (According to the Institute of Sociology of SAV)**
We have complemented these data with the statistics and the health concerning data. The data have been analyzed using the ANOVA method (analysis of variance) via the STATISTICA program. The results are interesting and we present them in a short form – Charts 2-5. Chart 2 documents the quality work of sociologists: the share of people with only elementary education increases linearly with decreasing sociological cluster.

Chart 2
Due to the fact that education is closely related to the lifespan (this fact has been confirmed by many international teams as well as by our work team) it was possible to assume that the chance to live this long would be smaller in sociologically weaker regions. This assumption has been confirmed as it is shown in Chart 3. But we did not expect that the difference would be that remarkable – the chance of a boy born in the sociologically weakest region to live as long as a boy born in the sociologically strongest region is smaller and the difference represents three years.

Chart 3
The most surprising was that also standardized mortality rates for men and women in the active age (25 to 64 years) due to two major causes – malignant tumours and cardiovascular diseases – have such a close relation to sociological evaluation – Charts 4 and 5. The mortality rate for men with malignant tumours increases with decreasing sociological level and this increase is absolutely continuous. In two sociologically weakest regions it is by 40% higher when compared with the strongest region (Chart 4). This difference cannot be explained by a lower quality of the environment. The authors of the sociological study expressly state that the cluster before the last one has one positive feature: a good ecological situation.

Chart 4
The analysis of variance concerning early deaths of women due to cardiovascular diseases in age between 25 and 64 years has brought a similar surprise - Chart 5

**Chart 5**

Female cardiovascular mortality rate increases with decreasing quality of regions

Also in this case the mortality rate within the last three clusters is by 40% higher than within the best cluster 1. Cluster 3 that represents an exception within this continuity is characterized by an excellent ecological situation but a lower level of education. According to our older data obtained from multi-factor analysis, in the Slovak Republic the level of education is, unlike the situation concerning ecology, ethnic minorities, and religion or population rate, decisive for occurrence of early deaths that are related either to cancer or cardiovascular diseases. This is caused by a worse lifestyle of people with lower education: a higher prevalence of alcoholism, higher number of smokers and low-quality nutrition (low consumption of protective substances from fruit and vegetables). It is probable that the lower cultural level plays here an important role too.

**Authors:**
RNDr. Emil Ginter, DrSc., ginter.emil@mail-t.com.sk
Ing. Katarína Hulanská, MPH, Statistics and graphic: B. Hatalová
Public Health Authority of the Slovak Republic, Bratislava

**Evaluation and outcomes**
All programs and policies are regularly evaluated and reports are submitted by responsible ministry to the Government of SR.

Report on Health Status of the Slovak Population (for the period 2003-2006) and Report on Health Awareness of the Slovak population (for the period 2004-2005) are submitted to the government of the SR on a regular basis, every 2 years.
Next steps
Slovakia has proposal for Health promotion program for disadvantaged communities for the years 2007-2015. This program is the first addressed program targeting on improving on SDH. This program is planed to submit for approval by the Government of SR on June 2007. The main characteristics of this program are long terming and sustainability.

Scope of activities:
- Promote health equality and fairness
- Improve health and lifestyle of disadvantaged communities in Slovakia
- Increase an individual responsibility for own health

Focal Group:
The group from population who has the lowest health and social status

Target groups:
- Roma community, as an extremely disadvantaged community, this community is the first focal group of our program
During the work, when we will improve health quality of this community (2009), we will extend our activities to next focal groups:
  - Homeless people
  - Refugees

Other comments
Future progress and economic growth in Slovakia, is based on a good health status of the population. Good health creates good condition for economic and sustainable development. For this purpose, solidarity, co-operation and synergy and multisectoral action on all levels between all parts of society are inevitable

Differences between Slovak regions have been recently increasing in various respects, majority of them leading to inequalities in health. High unemployment rate, poverty, social inclusion, or low education has strongly influenced all risk factors of non communicable diseases.

Socio economic gradient is important determinant of health. Inappropriately economic and social status affected health for all people life. The lowest social groups have double risk of illness.

They are different forms of inequalities:
- inequality of health
- inequality of income
- inequality in consumption and life style
- inequality in social status
- inequality in education
- inequality in influence and power

Many countries in Europe have experienced a significant rise in health inequalities during last years. There is an urgent need to develop strategies for levelling up the health status of vulnerable groups.
References and links

www.uvzsr.sk
www.health.gov.sk
www.employment.gov.sk
www.education.gov.sk
www.vlada.gov.sk