Country report Slovakia – June 2015

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Health care l Risk factorsl Prevention methodsl Prevention activitiesl Cardiac rehabilitationl Future

I. Structure of Health care in Slovakia

The health care system in Slovakia is based on universal coverage, compulsory health insurance, a basic benefit package and a competitive insurance model with selective contracting and flexible pricing. Health care, with exceptions, is provided to insured for free through benefits-in-kind.

In 2013, Slovakia had 3.39 practising physicians per 1000 inhabitants, 7.75 practising nurses per 1000 inhabitants. The most numerous group are physicians aged 55 – 59 years (14.6 %). The share of physicians aged 60 and over increased from 19.4 % to 21.1 %, of which physicians aged 65 years and over represent 8.9 %. Number of cardiologist per 100 000 inhabitants was 5.0, the number of cardiologists in training per 100 000 inhabitants was 3.34 and the number of specialists in internal medicine was 14.2.

Primary health care is provided by general practitioners. The number of general practioners was 38.5 per 100 000 inhabitants in 2013. The main task of primary health care is disease prevention, treatment, coordination and the integration of all services. However the primary care system needs strengthening so that much more patients are really treated instead of being referred to a specialist.

In 2013 there were 126 hospitals in Slovakia with 596 beds per 100 000 inhabitants compared to the EU average of 551.

Finances

Health insurance companies are obliged to ensure accessible health care to their insured according to provisions laid down by law. Health insurance companies fulfil this obligation by contracting health care providers. The Health Care Surveillance Authority is responsible for surveillance over the health insurance, the health care provision and the health care purchasing markets. As of 2010, three health insurance companies operate on the market, one state-owned and two privately-owned.

The state, represented by the Ministry of Health, is the owner of the largest health insurance company. Furthermore, the state owns the largest health care providers,

including university hospitals, large regional hospitals, highly specialised institutions and most of psychiatric hospitals and sanatoria. The majority of them are contributory organisations. Since 2007, the health care facilities in state ownership must be contracted by health insurance companies.

Total health spending accounted for 8.1% of gross domestic product (GDP) in the Slovak Republic in 2012, lower than the average of 9.3% in OECD countries. Total expenditure on health (THE) was 5577 (million NCU [national currency unit]); private expenditure on health 1644 (million NCU); out of pocket expenditure 1273 (million NCU), non-profit institutions serving households 54 (million NCU) and prevention and public health services as % of THE was 3 in 2012.

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4. World Health Organization Report 2014
http://www.who.int/countries/svk/en/

II. Mortality and Risk factor statistics

CVD Mortality

In Slovakia, the most common cause of death in the long run are cardiovascular diseases (CVD). Compared to 2012, the mortality rates for CVD decreased in both sexes accounted for 43.6% for males and 57.4% for females. The crude death rate declined from 471 down to 444 per 100 000 males and from 554 down to 521 per 100 000 females. However, these results need to be interpreted with caution. Standard practice of coroners and processes of reporting causes of deaths has been very limited in Slovakia. According to a variety of experts, disproportionally large number of deaths is attributed to circulatory diseases due to problems with the "objectification of deaths". This led to a re-classification in 2011. On the basis of the re-examination from the year 2012, the standardised mortality rate for CVD fell by nearly 15 % in comparison with the rate before the re-examination (from 27 773 to 23 596). Following the re-examination, the proportion of deaths from CVD demonstrated a decrease for males from 46.2 % to 39.7 % and for females from 60.1 % to 50.6 % (Table 1). The revised data affected the proportion of deaths from the most common causes of deaths out of all causes of deaths, mainly in the population over 65 years. The age-standardised death rate (SDR) for CVD has decreased since 2003 by 26% (Figure 1). Nevertheless, it is still 50% higher compared to the average SDR in the EU (58 % higher in men and 43 % higher in women).

Table 1

T 2.2.3 ROZDIELY V MIERE ŠTANDARDIZOVANEJ ÚMRTNOSTI NA CHOROBY OBEHOVEJ SÚSTAVY V SR PRED A PO REVÍZII, NA 100 000 OBYVATEĽOV

DIFFERENCES IN STANDARDIZED DEATH RATE ON DISEASES OF THE CIRCULATORY SYSTEM BEFORE AND AFTER DATA REVISION, PER 100 000 POPULATION

Vybrané skupiny chorôb *Selected groups of diseases*	Charakter údajov *Nature of data*	Typ štandardnej populácie / *Type of standard population*					
		WHO/ EURÓPA [1]	OECD [2]	EUROSTAT [3]	WHO/ EURÓPA [1]	OECD [2]	EUROSTAT [3]
		muži / *males*			ženy / *females*		
rok / *year* 2011							
I00 – I99	pred revíziou	515,7	758,0	976,7	337,6	546,6	715,6
	po revízii	447,8	654,0	842,4	290,9	469,9	615,0
I20 – I25	*before revision*	309,4	461,6	599,8	198,5	327,1	429,6
	after revision	258,8	382,8	494,4	165,8	271,9	357,0
I60 – I69	pred revíziou	100,1	144,9	187,2	66,4	105,4	137,4
	po revízii	101,2	147,7	190,9	67,4	107,1	139,7
rok / *year* 2012							
I00 – I99	pred revíziou	510,4	753,2	971,3	337,3	547,4	717,1
	po revízii	435,6	637,9	821,5	284,7	459,7	602,0
I20 – I25	*before revision*	305,4	457,7	592,0	199,6	330,0	434,4
	after revision	257,3	383,7	495,5	166,0	272,3	358,3
I60 – I69	pred revíziou	95,3	138,3	178,9	64,8	102,7	133,7
	po revízii	99,0	144,0	186,4	67,2	106,5	138,7

[1] WHO pre EURÓPU používa na výpočet štandardnú populáciu z 80. rokov 20. storočia (HFA databáza WHO) / *for standardisations, WHO Europe uses the standard population of the 1980s (WHO HFA Database)*

[2] štandardná populácia vypočítaná v OECD z 34 krajín OECD (r. 2010) / *standard population was calculated by OECD from 34 OECD members (y. 2010)*

[3] štandardná populácia vypočítaná v EUROSTATE z 27 krajín EÚ (r. 2012) / *standard population was calculated by Eurostat from 27 EU countries (y. 2012)*

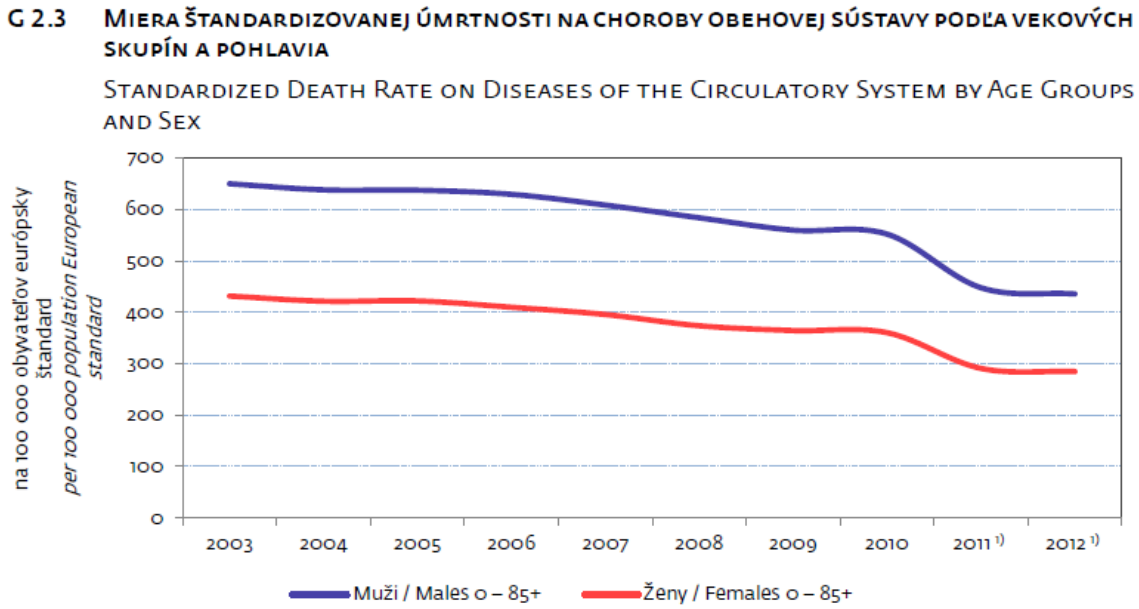
Uvedené údaje za SR sú vhodné len na medzinárodné porovnanie SR s inými krajinami s použitím rovnakej štandardnej populácie. / *The published data for Slovakia are only suitable for international comparisons with countries using the same standard population.*

Skupina ochorení podľa MKCH-10 / *Group of diseases by ICD-10*

I00 – I99	Choroby obehovej sústavy	*Diseases of the circulatory system*
I20 – I25	Ischemické choroby srdca	*Ischaemic heart diseases*
I21 – I22	Infarkt myokardu	*Myocardial infarction*
I10 – I15	Hypertenzné choroby	*Hypertensive diseases*
I60 – I69	Cievne choroby mozgu	*Cerebrovascular diseases*
I70	Ateroskleróza	*Atherosclerosis*

Source: Health Statistics Yearbook of the Slovak Republic 2013, Bratislava, 2015, p. 241
http://www.nczisk.sk/Publikacie/Edicia_roceniek/Pages/default.aspx

Figure 1



Source: Health Statistics Yearbook of the Slovak Republic 2013, Bratislava, 2015, p. 241
http://www.nczisk.sk/Publikacie/Edicia_roceniek/Pages/default.aspx

PCI resources

There are 6 centers undertaking percutaneous coronary interventions (PCIs) in Slovakia. All of them provide a 24 hour service for patients with acute coronary syndrome. In 2014, 21 799 coronary angiographies (4025 per 1 million inhabitants) and 8 881 PCIs (1640 per 1 million inhabitants) including 3110 primary PCIs were performed.

Main CVD risk factors

The prevalence of the main risk factors is presented in Table 2.

Smoking:
The prevalence of smoking among adults has been reduced slightly in Slovakia, coming down from 22.1% in 2003 to 19.5% in 2009, which is slightly less than the OECD average of 20.7%. The reduction in the number of daily smokers has been achieved due to frequent antismoking campaigns, new tobacco law and tax increases on tobacco. Unfortunately, prevalence of smoking in boys and girls is one of the highest in Europe.

Fruits and vegetables:
The average consumption of fruits and vegetables in Slovakia is still much lower than the average of EU.

Obesity:
The prevalence of obesity has increased since 1993 in both sexes to 26%. Mean body mass index (BMI) has increased in women by 3% and in men by 5.3%. According the EHES survey 2011 there are aproximately 62% of Slovaks who are obese or overweight.

Blood lipids:

Since 1993 there is reduction of total cholesterol by 7% in men and 8% by women. According EHES survey increased level of total cholesterol was detected in 46% of adult population.

Hypertension:
The prevalence of hypertension in adults is still high, approximately 32%. Since 1993 mean values of systolic blood pressure (BP) dropped in men by 2%, in women by 7.2%. BP is continuously higher in men than in women. The prevalence of untreated hypertension has significantly decreased since 1998 from 76% to 37% (CINDY, EHES). The prevalence of adequate BP control in general population is about 25% (on target levels), in specialists about 50%.

Diabetes mellitus:
The prevalence of diabetes has increased since 1993 (from 3% to 7%) and the trend is unfavourable. The main reason is the epidemics of obesity and reduction of physical activity.

Physical activity:
Generally there is a clear trend to less frequent physical activity, especially in youngsters. Therefore, more and more youngsters are getting obese and less physically active.

The prevalence of the main CV risk factors during last 10 years in adult population has improved with more adults without any risk factors (from 11% in 2003 to 22% in 2011), more adults just with one risk factor (from 29% to 32%) and less adults with 2 and more risk factors (CINDI 2003, EHES 2011).

Table 2 The prevalence of the main CV risk factors in Slovakia (2012)

	Total of adult (25-64) population	males	females
Smoking	18%	22%	15%
Hypertension	32%	37%	27%
Hypercholesterolemia	49%	52%	47%
Diabetes (mainly type II)	7%	7%	6%
Obesity	26%	26%	27%

Soure: Avdičová M. et al: Monitoring rizikových faktorov chronických chorôb v SR .2012.Monografia, p.120. ISBN 978-80- 971096-0-8. http://www.vzbb.sk/sk/publikacie/index.php

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http://www.vzbb.sk/sk/publikacie/index.php

III. Main actors and Prevention methods

Who delivers?

The main authorities acting in the prevention area are:

- Ministry of Health: Formulates and evaluates policies for health and the strategic planning of health services.
- Public Health Authority of the Slovak Republic plays a fundamental role as the central government's expert and supervisory institution.
- Chief hygienist (principal hygienist, medical doctor and Head of Public Health Authority of Slovakia): The main tasks, among others, includes prevention of main risks factors including smoking, overweight and poor physical activity

Cardiology care and prevention

Main official actors:

- The Slovak Society of Cardiology – an association of Slovak cardiologists, physicians, scientists, medical student and representatives of cardiology related activities
- Other medical societies (Slovak Medical Society, Slovak Society of Internal Medicine, etc)

Where?

The main actors in long term CV prevention are general practitioners and 36 regional public health authorities in 36 Slovak cities. The regional public health authorities are promoting healthy life style using intensive counselling about body weight, diet, physical activities etc. General practitioners act as first medical contact, frequently performing preventive examinations, prescribing medications, treating light forms of hypertension, dyslipidemias etc. Nurse based programmes are infrequent.

Guidance

The Slovak Society of Cardiology endorses all ESC guidelines. Some of them are translated into Slovak language and printed in the official journal of the Slovak Society of Cardiology "Cardiology Letters". All guidelines are available electronically on the official website of the Slovak Society of Cardiology (SSC) www.cardiology.sk. The translated pocket version of the guidelines is distributed among the members of SSC free of charge. The Slovak Society of Cardiology has been created the Slovak Heart Foundation in 2006. Its primary role is to promote education of the Slovaks on the CV risk factors including adequate prevention. During the period of 2010 – 2013 the Slovak Heart Foundation with the support of the Ministry of Health organised the National Programme on CV prevention.

Quality control

Nationwide registry of acute coronary syndrome called "SLOVAKS" organised by the Slovak Society of Cardiology provides information on secondary prevention of Coronary

artery disease (CAD) hospitalised patients due to an acute coronary syndrome. The SLOVAKS register showed significant improvements in management of patients with acute coronary syndrome (ACS) with significant reduction of hospital mortality from 12.1% in 1998 to 6% in 2011. Unfortunately, there are no relevant data regarding the quality of secondary prevention in Slovakia. There is room for improvement, since the prevalence of ACS is still high without any trends for decline.

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IV. Main Prevention activities

Campaigns

- **World Heart Day**
  The Slovak Heart Foundation in cooperation with the Slovak Society of Cardiology and the Regional Public Health Authorities organises every year the Slovak Heart Days called also MOST (the Month on Cardiac Topics). The campaign is nationwide – includes more than 50 cities, includes 2-4 trains of healthy heart, 300 measurement sites, including many pharmacists, all regional public health authorities, secondary schools etc. Spots on heart code and healthy life style are in TV, radio and well known internet sites.

- **Network of Regional Authorities of Public Health (RAPH) - Counselling Health Centres** provide individual and group interventional activities (smoking cessation, healthy nutrition, increasing physical activity, hypertension, etc)

- **World NO Tobacco Day & World Hypertension Day:** Both events are organised in Slovakia every year.
  http://www.uvzsr.sk/index.php?option=com_content&view=category&layout=blog&id=61&Itemid=68

- **Quit and Win campaign –** smoking cessation, every two years.
  http://www.uvzsr.sk/index.php?option=com_content&view=article&id=1504:prestan-an-vyhrajn-2012-n-suan-pren-fajiarov&catid=61:problematika-fajenia-a-alkoholu&Itemid=68

- **Campaign:** Stop smoke, eat apple
  http://www.uvzsr.sk/docs/info/alkohol/prestan_fajcit_daj_si_jablko.pdf (*in Slovak only*)

- **Challenge your heart to move** – National campaign with aim to increase physical activity is organising every two years. A number of events and campaigns promoting physical activity are organised each year on the regional level.
  http://www.vzbb.sk/sk/aktuality/spravy/2015/vskp2015.php

- **Fruits at school - campaign** promotes healthy food at schools. In most schools pupils are given "second breakfast" consisting of fruits, vegetables and milk or fruit juice several times a week. The goal of this initiative is to change eating habits of children. The campaign is supported by the Ministry of Education and Ministry of Agriculture.
  http://www.skolskeovocie.sk/flash/ (*in Slovak only*)

- **Milk Programme in school with aim to motivate and educate children to drink milk regularly.** The programme is supported by Ministry of Health, Education and Agriculture.
  http://ec.europa.eu/agriculture/drinkitup/the_school_milk_programme_sk.htm

- **Project: „I am 65+, I live healthy"is delivered for seniors.** http://www.uvzsr.sk/index.php?option=com_content&view=category&layout=blog&id=109&Itemid=34m

- Project "**We love eating**" specific nutritional recommendations for all age categories. (In cooperation with 7 EU countries, www.we-love-eating.eu)

Projects

- **The European Heart Health Charter**
  The European Heart Health Charter was accepted and signed by the Ministry of Health in 2007 in Bratislava.
  http://www.tvojesrdce.sk/images/stories/obrazky/9/npposc1.pdf

- **The National Programme on CV prevention 2010 – 2013.** This was the first CV preventive programme financially supported by the government. The main task of the Programme was to improve the knowledge and the awareness of Slovakian people on the main CV risk factors and its prevention. The Programme consists of many massive nationwide educational campaigns including TV, radio, web site, railways, hypermarkets, pharmacies, etc. The effectiveness of the campaigns was measured yearly by independent agency performing independent surveys nationwide. The programme started so popular educational activities that some of them successful still continue.

Education

The experts on primary and secondary CV prevention prepared within the National Programme on CV prevention 2010 – 2013 the publication called Healthy Life Style (Zdravý životný štýl), which was used not only during all campaigns the National Programme on CV prevention 2010 – 2013, but it is now a part of voluntary subject in the Slovak Health University in Bratislava for the students.

V. Cardiac rehabilitation

For whom

Slovakia has no age limit for participation in cardiac rehabilitation. Mostly patients after acute coronary syndrome (ACS), heart surgery and PCI are referred to rehabilitation centres. The first stage of rehabilitation usually starts in the cardiology or heart surgery departments. The second and the third stage is usually provided by specialised rehabilitation centres. Some of them are hospital-based, but most patients participate in 3-4 weeks rehabilitation programmes consisting of group-based therapies (exercise training, relaxation and stress management training, education therapy and lifestyle change therapy) usually in specialised cardiac rehabilitation centres. There are 7 active cardiac rehabilitation centres nowadays in Slovakia. Phase II is considered according to the Slovak law from 0-3 months after ACS etc. Phase III is from month 4 to 6. Generally speaking, 60% of all eligible patients post ACS, coronary artery bypass grafting (CABG) or other heart surgery operation (unpublished data) in 2010 were really participating in rehabilitation programmes in specialised rehabilitation centres.

Audit and costs

Cardiac rehabilitation for patients after ACS, heart surgery or PCI is fully covered by health insurance according the official indication list. Other indications are only partially covered by the health insurance. Nowadays, there is no formal quality assurance programme.

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VI. The Future

Needs

Slovakia has high CV mortality and morbidity. The trend is positive, but much slower than in other European countries. Therefore we need to improve prevention strategies (not only in adults, but also in young age) and detection of high risk patients and their treatment. The special attention must be paid to better blood pressure control, to reduction of smoking particularly in youth and to increasing attention to obesity issue associated with increasing prevalence of diabetes mellitus type 2. There are also huge socio-economic disparities between regions, which should be managed by the state politics.

Possibilities

The National CV prevention programmes should continue long-term, there is great need for relevant space in state TV and radio media for intensive nationwide education.

Obstacles

Due to time constrains the physicians mostly cannot spend enough time for education and motivation of patients as needed. Lack of patient discipline and insufficient motivation to care better for own health is important negative factor in Slovakia. The last, but important factor is low payment from the health insurances.

Plans

All we know, that better control of the main CV risk factors is fundamental. However, this is not possible to do without the interest of our patients/inhabitants. Most of the risk factor are completely asymptomatic, therefore intensive, comprehensive and motivating education on this topic is mandatory long term and nationwide. But this is usually not possible without relevant (financial) support from the government and health insurances.

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