

Country report Lithuania – August 2014



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Prepared for the EACPR "Country of the Month" initiative

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Basic information about Lithuania

Official name: Republic of Lithuania

Location: eastern coast of the Baltic Sea

Borders & length of borders: in the north Latvia (588 km), in the east Belarus (660 km), in the south Poland (103 km) and Kaliningrad Region of the Russian Federation (273 km), Baltic Sea coast (90 km).

Area: 65300 sq km

Population: 2,94 million, 80% Lithuanian; 9% Russian-speaking; 7% Polish

Capital city: Vilnius

Major cities: Kaunas, Klaipeda, Siauliai, Panevezys

Administration: 10 counties, which span 60 administrative districts and towns

Official language: Lithuanian

Form of government: republic

Religion: Roman Catholic (80%), Orthodox, Old Believers, Lutheran, Reformat, Judaist, Sunni, Karaite and other communities

Ethnic Composition: Lithuanians - 83.5%, Polish - 6.7%, Russians - 6.3%, Belarusians - 1.2%, others - 2.3%. Lithuania is home to as many as 115 ethnic groups

National emblem: white Vytis (a mounted armoured knight with a raised sword) against a red (since 1991)

Flag: yellow, green, and red with horizontal stripes.

I. Structure of Health care in Lithuania

The Ministry of Health is a major player in health system regulation through setting standards and requirements, licensing health-care providers and professionals and approving capital investments (Figure 1). In the 1990s many health administration functions were decentralised from the Ministry of Health to the regional authorities. The 60 municipalities, varying in size from less than 5000 people to over 500 000, become responsible for organising the provision of primary and social care, and for public health activities at the local level. They also own the majority of polyclinics and small-to-medium sized hospitals, yet concerns exist over whether they have the capacity to effectively govern these facilities.

The role of the private sector has been limited, particularly in inpatient care. The private sector does play a substantial role in dental care, cosmetic surgery, psychological therapy, some outpatient specialties and primary care. Since 2008, the National Health Insurance Fund (NHIF) has increasingly been contracting private providers for specialist outpatient care. Primary care is delivered by a general practitioner (GP) or a primary care team. The development of the GP gate keeping function has been an important goal of the primary health-care reforms.

The municipalities administer the entire network of primary health-care institutions through one of two models. In the centralised model, one primary health-care centre manages a pyramid of smaller institutions. In the decentralised model, GP practices or primary care teams are legal entities holding contracts with the NHIF. Emergency care is commonly provided by GPs during working hours. Alternatively, or during out-of-hours for GP service, it is provided by emergency departments of hospitals. Specialist outpatient care in Lithuania is delivered through outpatient departments of hospitals or polyclinics as separate legal entities, as well as through private providers. A major service restructuring in specialist services has been continuing since 2003. Day care, day surgery and outpatient rehabilitation services have been significantly developed; specialised hospital units have been closed in many local hospitals, and services have been transferred to multi-speciality hospitals, with some institutions merged.

Finances

Total health expenditure as a percentage of the gross domestic product (GDP) increased from 5.4% in 1995 to 6.6% in 2011, similar to the average for other central and eastern European EU countries, though less than the average of 10.6% for the 15 'old' EU Member States. Of this, public expenditure accounts for around 73% of total health expenditure (also similar to other central and eastern European EU states). Since 1997, the NHIF has been the main financing agent for the health system, accounting for 61% of the total expenditure on health in 2010. However, about half of NHIF revenue comes from the national budget in the form of transfers for population groups insured by the state (e.g. those receiving any pension or benefit, children and the elderly, women on maternity leave and single parents, amounting to about 60% of the population).

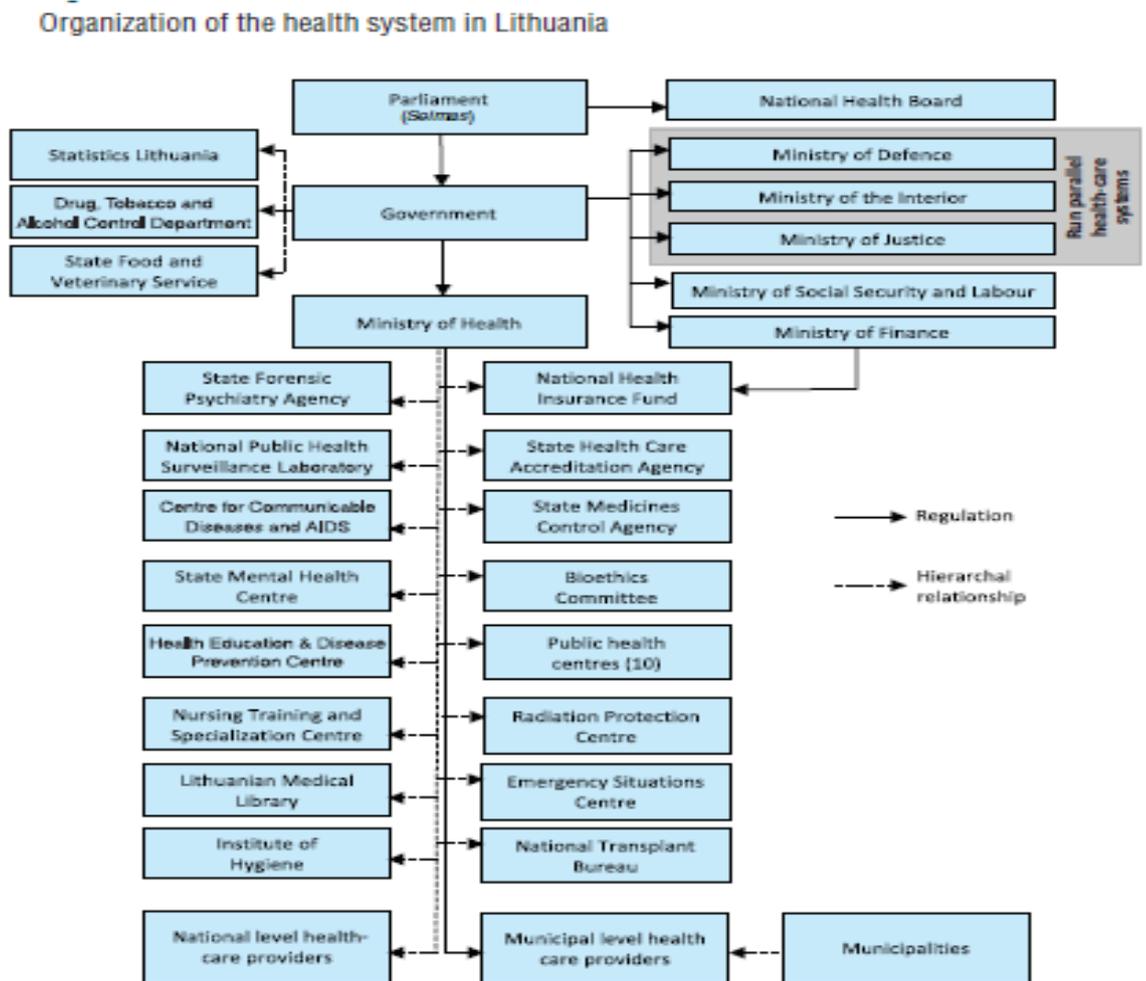
In addition, the state budget covers long-term care at home, health administration, education and training, capital investment and public health services, which in total accounted for 11% of total health expenditure in 2010. Consequently, in 2010, taxes were the main source of health financing, accounting for 40% of the total health expenditure, followed by social insurance contributions (32%) and out-of-pocket payments (27%).

Since 2011, the contributions from the economically active population have been increasing again, and so have the out-of-pocket payments. At present citizens have a formal choice of primary and secondary care provider. Actual opportunities to choose depend on availability of providers and so in the rural areas this freedom sometimes is only theoretical. A recent population survey showed that reputation and skills of physicians, availability of medical equipment and attitude of staff are the most important factors when choosing a provider.

Percutaneous coronary intervention (PCI) resources

There are 5 PCI centres in Lithuania equipped with 13 angiographs and employing 40 interventional cardiologists. 4 centres are active 24 hours/day and 7 days per week. The number of interventions is increasing. The number of PCI and coronary angiography for 1 million inhabitants is 2337 and 5585 procedures respectively. The number of primary PCI is 638/1 million inhabitants. The drug-eluting stents (DES) rate is 18.5 %.

Figure 1



Source: Health Systems in Transition. Lithuania: Health System Review

References:

1. Health Systems in Transition. Lithuania: Health System Review. http://www.euro.who.int/_data/assets/pdf_file/0016/192130/HiT-Lithuania.pdf
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II. Risk factor statistics

CVD Mortality

Cardiovascular diseases, the most important cause of death in Lithuania, accounted for 47.0% of deaths for males and 65.6% for females in the mortality structure for 2012. The importance of CVD did not change considerably over the entire period of 2 decades. In Lithuania cardiovascular diseases are the main cause of premature death in 54 % of general population (Figure 2). Life expectancy at birth has been fluctuating greatly since the early 1990s, with improvements seen in the most recent years, reaching 73.98 (68.39 for male and 79.45 for female) in 2012. Age-standardised mortality rates from all circulatory diseases in 2010 were 667 per 100 000 for males and 383 per 100 000 for females. Circulatory diseases became the major cause of deaths for those aged 50 years and over.

Age-standardised mortality from ischemic heart disease in Lithuania is one of the highest among the EU countries. In 2010, it was 436 per 100 000 males and 239 per 100 000 females (compared with the EU averages of 113 for males and 56 for females). The mortality rate from stroke in 2010 was 135 per 100 000 for males and 103 per 100 000 for females (compared with the EU average of 58 for males and 47 for females) (WHO Regional Office for Europe, 2013).

Analysing the trends of standardised mortality per 100.000 in 0-64 aged Lithuanian population there was a decrease of mortality over the period of 1990-2010 from cerebrovascular, ischaemic heart disease and circulatory diseases. The mortality had sharply increased after the collapse of the Soviet system reaching the peak in 1994. From the international literature, this phenomenon is known as the "transitional mortality crisis". Although there is no hard scientific evidence that explains the observed mortality trends, nevertheless, there is a generally accepted view that gross political, social, and economic changes that occurred during that time were the major contributors to the sharp worsening of health situation in post-Soviet populations. Stabilisation of political, social, and economic situation, at least in Lithuania, in addition to the investments into the health sector might be an indirect reflection of a significant improvement of national health indicators.

Unfortunately, this improvement was halted in the year 2000, and again an increasing trend in mortality was observed until 2008 (WHO/Europe, European HFA Database). The most recent data on cardiovascular mortality in Lithuania is presented in Table 1. There are large variations in mortality from cardiovascular diseases between regions in the country. (Figure 3) As a response to these geographical inequalities, a large project aimed at decreasing mortality and morbidity from cardiovascular diseases was implemented in the eastern region of Lithuania between 2004 and 2007. The project evaluation demonstrated some success in prevention of myocardial infarction; however, the overall mortality from cardiovascular diseases increased in the region over the period of evaluation (Ministry of Health, 2009; Health Information Centre, 2013).

In 2006, the National Cardiovascular Disease Prevention Programme for people with high cardiovascular risk was launched in the country. As part of the programme GPs needed to identify risk factors and produce an individual disease prevention plan for a patient or

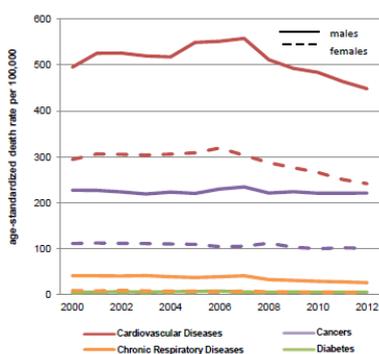
refer the patient to a specialised centre. Qualitative targets for circulatory system, ischemic and cerebrovascular diseases and level of their achievement as a result of Lithuanian Health Programme (LHP) 1998-2010 implementation are shown in Table 3.

Figure 2

Lithuania

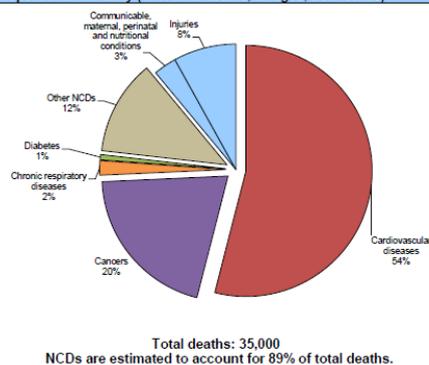
Total population: 3 028 000
Income Group: High

Age-standardized death rates



Percentage of population living in urban areas: 67.1%
Population proportion between ages 30 and 70 years: 51.7%

Proportional mortality (% of total deaths, all ages, both sexes)



Source: World Health Organization Report 2014

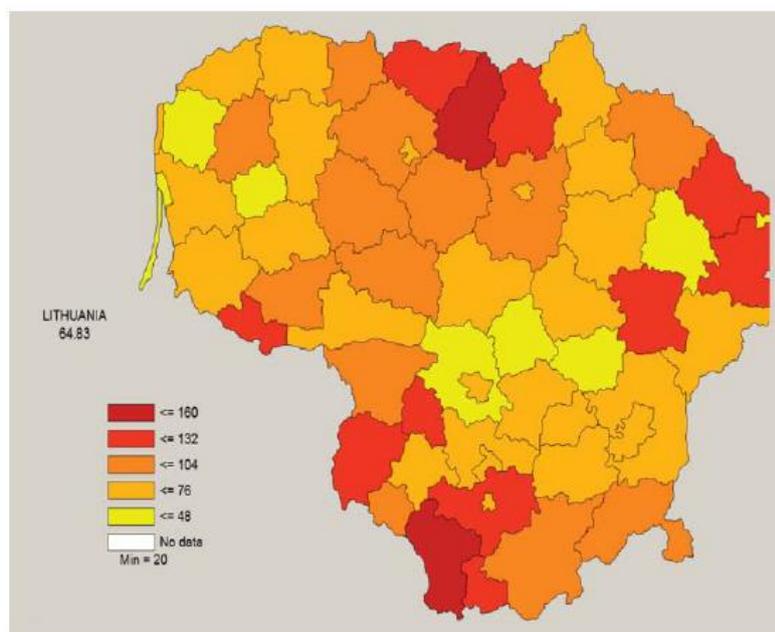
Table 1: Cardiovascular mortality rates in Lithuania, 2012.

Standardized cardiovascular mortality	Number per 100,000
Mortality from circulatory diseases	777.5
-male	718.2
-female	824.4
Mortality from coronary artery disease	501.5
-male	473
-female	525.9
Mortality from myocardial infarction	42.6
-male	47.6
-female	38.4

Source: Report of the institute of hygiene of Lithuania 2012

Figure 3

Map of age-standardized premature mortality from ischaemic heart disease in Lithuanian municipalities per 100 000, 2011



Source: Health Information Centre, 2013.

Source: Health Information Centre, 2013

Main CVD risk factors

Ten most important risk factors attributable to total mortality in Lithuanian population are hypertension, hypercholesterolemia and smoking (proportion of deaths: 33%, 23.2% and 17.8% respectively). Prevalence of cardiovascular risk factors in Lithuanian population aged 35-64 are indicated in table 2.

Table 2: Major cardiovascular risk factors among Lithuanian population

Risk factor	Total (%)	Males (%)	Females (%)	Reference number, year
Smoking (everyday smokers)	20.5	32.7	12.3	(1), 2012
Alcohol consumption (strong drinks at least once /week)	16.2	26.2	16.2	(1), 2012
Alcohol consumption (wine at least once/week)	9.5	9.4	9.5	(1), 2012
Overweight (BMI 25-29.9 kg/m ²)	33.5	43.5	26.8	(1), 2012
Obesity (BMI ≥ 30 kg.m ²)	19.9	19	20.5	(1), 2012
Dyslipidaemia	88,8	85.9	90.6	(3)2006-2013
Hypertension	60.2	52.4	65.0	(3)2006-2013
Metabolic syndrome	43.8	34.4	50.3	(3)2006-2013
Nutrition habits and physical activity				
Daily oil consumption	89.6	-	-	(1), 2012
Daily vegetable consumption	26.2	-	-	(1), 2012

Daily fruit consumption	15.5	-	-	(1), 2012
Exercising at least 4 times/week		31.2	27.4	(1), 2012

Source: Report of the institute of hygiene of Lithuania 2012

Smoking

Tobacco smoking is highly prevalent among Lithuanian population. In 2012, 32.7% of men and 12.3% of women were daily smokers, 19.6 % and 12 % were ex-smokers, 30.4% and 62.2% were non-smokers. The prevalence of smoking among Lithuanian adult population has been increasing up to the year 2000. Among women it had increased by 2.3 times. In 2002 the proportion of smoking men started to decline reaching 1.5 fold lower rates in 2010 compared to that in 1994. Since 2000 smoking prevalence among women has remained stable. The tobacco consumption in 2013 was 903 cigarettes/year for one inhabitant.

Alcohol consumption

Lithuania is among the European countries with the highest alcohol consumption, suffering significant consequences for public health. A Lithuanian National Health Programme was adopted in 1998, aiming to reduce alcohol consumption by 25% by 2010. However, in 2010 per capita consumption was 12.55 litre per annum in the adult population (15 years and older), which represents an increase of 98% from 1998.

Nutrition

The frequency of eating fresh vegetables has increased in Lithuania. Since 1996 the proportion of people daily consuming fresh vegetables has increased by 4.2 times among men and by 4.8 times among women. However, consumption of fresh vegetables is still insufficient in Lithuania. In 2010 only 24% of women and 17% of men reported daily usage of fresh vegetables.

The usage of vegetable oil for cooking and eating fresh vegetables and fruits has significantly increased.

Physical activity

Adequate physical activity, particularly at leisure time, is important in prevention of obesity. In 2010 29% of men and 28% of women reported having such physical activity at least four times a week while in 1994 this proportion was 16% among men and 13% among women. Since 1994 the proportion of people walking to and from a work place at least 30 min. has decreased.

Overweight and obesity

Obesity in Lithuania is more prevalent among people with low socioeconomic status. Over observational period of 15 years the prevalence of overweight and obesity among men has increased and the prevalence of overweight and obesity among women has not changed.

Hypertension

According to MONICA data in men over the period of 1983–2002 hypertension prevalence was 52.1–58.7% and did not significantly change whereas in women decreased from 61.0 to 51.0%. There was a significant increase in hypertension awareness among hypertensive men and women (45.0 to 64.4% and 47.7 to 72.3%, respectively) and in treated patients (55.4 to 68.3% in men and 65.6 to 86.2% in women). Unfortunately there is no reliable data on current prevalence of hypertension in Lithuania.

Dyslipidaemia

The data from CINDI survey indicated the mean values of total cholesterol 5.60 mmol/l in men and 5.51 mmol/l in women in rural population aged 25-64 year. The recent data coming from Lithuanian high cardiovascular risk primary prevention programme (year 2006-2013) revealed the increase of total cholesterol levels to $6,02 \pm 1,23$ mmol/l.

Table 3: Qualitative targets for circulatory system, ischaemic and cerebrovascular diseases and level of their achievement as a result of Lithuanian Health Programme (LHP) 1998-2010 implementation

Cause of death	Age	LHP target	Change	Result
Circulatory system disease	Under 65	-15%	-6,3%	Not achieved
	Entire population	-10%	-20,2%	Achieved
Ischaemic heart disease	Under 65	-15%	-2,9%	Not achieved
	Entire population	-10%	-17,7%	Achieved
Cerebrovascular diseases	Under 65	-15%	-15,5%	Achieved
	Entire population	-10%	-9,4%	Close to projected

Source: Programme evaluation: Lithuanian CINDI experience. Prof. Vilius Grabauskas, Lithuanian University of Health Sciences

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1. Report of the institute of hygiene of Lithuania 2012
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10. Health Information Centre, 2013 <http://sic.hi.lt/html/en/lhic.htm>
11. Overturn of the proposed alcohol advertising ban in Lithuania. Ernesta Paukšte, Vaida Liutkute, Mindaugas Štelemekas, Nijole Goštautaitė, Aurelijus Veryga. *Addiction. Policy case studies*, 2013.
12. Programme evaluation: Lithuanian CINDI experience. Evidence-based public health: a course in chronic disease prevention, 6-9 May 2014, Bregenz, Austria. Prof. Vilius Grabauskas, Lithuanian University of Health Sciences

III. Prevention methods and main actors

The process of cardiovascular prevention as part of health policy development is based on situation analysis (demographic processes, morbidity, mortality, disability, determinants, trend analysis, and resources), priority and target setting, resource allocation, intersectorialy/partnership, monitoring and evaluation.

The Lithuanian Health Programme introduced a set of three overall aims for population health:

- (1) To reduce mortality and increase average life expectancy
- (2) To improve quality of life
- (3) To increase health equity

Specifying the specific objectives to prevent and control major non-communicable diseases (NCD) and communicable diseases, the programme set strategies for implementation (healthier life-styles, environmental protection, and effective and balanced health care), emphasising fair financing and relevance of state programmes. General assessment of the Lithuanian Health Programme 1998-2010 implementation might be formulated as follows: majority of NCD related health indicators have been changing the direction that was predicted for the planned period.

Public health level

The principal guidelines for the public health service have been outlined in the Health System Law (1994), Lithuanian Health Programme (1998–2010) and the National Public Health Strategy (2006–2013). In 2002, the parliament adopted the Public Health Law and the Public Health Monitoring Law. Other relevant legal documents regulating public health service activities include the Law on Consumer Protection (1994), the Law on Prevention and Prophylaxis of Communicable Diseases (1996), the Law on Alcohol Control (1995), the Law on Tobacco Control (1995), the Law on Product Safety (1999), the Law on Food (2000), the Law on Dangerous Substances Control (2001) and the Occupational Health and Safety Law (2003).

The most important structure for CVD prevention at public health level is the Health Education and Disease Prevention Centre, which provides technical support and carries out prevention activities for non-communicable diseases and injuries as well as education of health professionals and the general public. At the local level, municipal public health bureaus are responsible for a number of functions, including health promotion and disease prevention, population health monitoring, planning and implementing local public health programmes. The bureaus also collaborate with non-governmental organisations (NGOs), communities, families, other sectors and stakeholders. Currently, there are 33 public health bureaus serving 57 municipalities out of 60.

Professional societies

- Lithuanian Society of Cardiology (with 5 regional societies)
- Lithuanian Heart Association
- Lithuanian Society of Hypertension
- Lithuanian Society of Endocrinology

- Lithuanian Society of Neurology

The main objectives of the societies is to disseminate evidence-based knowledge by adopting, translating and disseminating guidelines, statements and recommendations, organising educational courses, conferences, arrange and support preventive initiatives. Two editions of the European Guidelines on CVD Prevention in Clinical Practice (2007 and [2012](#)) and hypertension guidelines have been translated and disseminates among GP and specialists). Overall, the Lithuania Society of Cardiology has published 14 ESC pocket guidelines.

General practitioners and specialists

The main actors in cardiovascular prevention are general practitioners and specialists (cardiologists, endocrinologists, neurologists) performing long-term medication of hypertension, dyslipidaemia and diabetes as well as implementing therapeutic life-style changes. However, only the Lithuanian High Cardiovascular Risk (LitHiR) Primary Prevention Programme is reimbursed by the Statutory Health Insurance Fund.

Guidance

The Lithuanian Society of Cardiology has endorsed all ESC guidelines, including those on cardiovascular prevention, dyslipidaemia, hypertension and diabetes. Current treatment methodologies and algorithms prepared by the Ministry of Health and University Hospitals are based on most recent European guidelines, statements and consensuses.

Quality control

Population surveys indicate a varying degree of overall satisfaction with the health system, from comparatively low (European Commission's *Eurobarometer*) to relatively high (national surveys). Increasing waiting times reported in population surveys point to organisational barriers. There is little evidence on equity of access to health care by socioeconomic group. While family doctors formally serve as gatekeepers, the option to access a specialist doctor directly for a fee is under discussion. This, in turn, may have an impact on equity of access to specialist care. Evaluation of the Lithuanian Health Programme (1998–2010) showed that by 2010 some of the targets set for population health had been achieved: average life expectancy increased to 73 years.

References:

1. Health Systems in Transition. Lithuania: Health System Review. http://www.euro.who.int/data/assets/pdf_file/0016/192130/HiT-Lithuania.pdf
1. Programme evaluation: Lithuanian CINDI experience. Professor Vilius Grabauskas, Lithuanian University of Health Sciences . *EVIDENCE-BASED PUBLIC HEALTH: A COURSE IN CHRONIC DISEASE PREVENTION*, 6 - 9 May 2014, Bregenz, Austria

IV. Main Prevention activities

Lithuanian High Cardiovascular Risk (LitHiR) primary prevention programme

This programme recruits men at the age of 40–54 years and women between 50–64 years without overt cardiovascular disease. The two-level approach – primary health care institutions (PHCI) and specialised cardiovascular prevention units (CVPU) – is applied. The subjects selected were tested for cardiovascular risk in PHCI and those with high cardiovascular risk were sent to secondary (CVPU) level, for others the plan of preventive measures of risk factor reduction was created. The number of the primary health care institutions (PHCI) participating in the programme starting from 2006 grew from 101 in 2006 up to 413 in 2013.

Participants included in the programme by the PHCI undergo a physical examination, risk profile – lifestyle (smoking, physical activity, dietary patterns) analysis, personal and family patterns of cardiovascular disease in the first degree blood relatives (siblings and offspring less than 45 in men and 55 in women), anthropometry (height, weight, waist circumference and body mass index (BMI)), blood pressure and pulse determination. In all participants 12 lead electrocardiogram (ECG) is registered. Serum total cholesterol, high-density lipoprotein cholesterol, triglycerides, calculated low-density lipoprotein cholesterol are carried out and plasma glucose are sampled for the estimation of fasting blood glucose levels. The overall cardiovascular risk according to the risk estimation [SCORE](#) (Systematic COronary Risk Evaluation) system, approved by the European Society of Cardiology, is calculated.

Based on the results of investigations the subjects are categorised into two groups: low-moderate-risk and high-risk. For those subjects with low-moderate risk PHCI physicians themselves are supposed to prepare the scheme of lifestyle modification and treatment. In one year the repeated evaluation of the overall cardiovascular risk and the effect of the preventive methods are planned in all persons included in the program.

High-risk subjects are referred by primary physicians to specialised cardiovascular prevention units (CVPU) for additional studies, reassessment of their risk and creating the recommendations for cardiovascular prevention and treatment of risk factors. Each patient referred to a CVPU undergoes the following examinations:

- Echocardiography
- Stress-test
- Duplex scanning of carotid arteries for the assessment of the presence of the atherosclerotic plaques
- Measurement of carotid intima-media thickness
- Evaluation of the ankle-brachial index
- Determination of high sensitivity C-reactive protein levels
- Oral glucose tolerance test in cases with fasting glucose between 5.6 and 7 mmol/l, lipid profile (repeated).

In the years 2006–2010 overall 266,391 persons (36.9% from all target population) were examined. Among them 164,657 subjects (61.8%) were tested for the first time, 68,832 (25.8%) were tested repeatedly one time, 32,848 subjects (12.3%) were tested repeatedly for two and more times.

Policies and interventions

Table 4: Alcohol control

Policies and interventions	Implementation
Written national policy (adopted/revised) / National action plan	Yes (1995)/(2011) / Yes
Excise tax on beer / wine / spirits	Yes / Yes / Yes
National legal minimum age for off-premise sales of alcoholic beverages (beer / wine / spirits)	18 / 18 / 18
National legal minimum age for on-premise sales of alcoholic beverages (beer / wine / spirits)	18 / 18 / 18
National maximum legal blood alcohol concentration (BAC) when driving a vehicle (general / young / professional), in %	0.04 / 0.02 / 0.02
Restrictions for on-/off-premise sales of alcoholic beverages: <ul style="list-style-type: none"> ● Hours, days / places, density 	Yes, No / Yes, No
Legally binding regulations on alcohol advertising / product placement	Yes / Yes
National government support for community action	Yes

Source: WHO Health Statistics

Table 5: Smoking control

Action	Year
Ratification of FCTC (Framework Convention on Tobacco Control)	2004
Change of tobacco products labelling	2004
Smoking ban in bars, restaurants, cafe's, clubs	2007
Inclusion of tobacco and alcohol control issues into National Drug prevention program	2005
Total ban of tobacco advertisement	2000
Joining EU – new excise taxation policy	2004
Strong NGO movement (Lithuanian National Tobacco and Alcohol Control Coalition - member of European Network for Smoking Prevention (ENSP))	Ongoing

European Commission project "HELP – for a life without tobacco"	Implemented
National wide public awareness campaigns ("I am born a non smoker") competitions ("Quit and win", "Smoke-free class" competition)	Implemented

Source: WHO Health Statistics

Campaigns initiated by cardiovascular societies and non-governmental organisations

World Heart Day, World Heart Failure Day: Annual campaigns, held in the five biggest Lithuanian cities directed to draw the attention of the public to major risk factors – hypertension, dyslipidaemia, smoking and physical inactivity.

Heart Day in the Parliament: Annual campaign held in the Parliament, directed to discuss the relevant problems of cardiovascular prevention by delivering lectures, arranging discussions with the members of Parliament and Government, press-conferences, checking for the risk factors among willing employees of the Parliament.

European Commission initiatives to promote healthy lifestyles in secondary school ("Overcome hunger, thirst and laziness") and kindergartens ("Breakfast fiesta").

References:

1. WHO Health Statistics <http://www.who.int/gho/countries/en/>
2. Ministry of Health of Republic of Lithuania <http://www.sam.lt/go.php/lit/English>
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http://www.helleniccardiol.org/archive/full_text/2013/6/2013_6_441.pdf
4. Lithuanian Society of Cardiology <http://www.lcs.lt/> (Lithuanian only)

V. Cardiac rehabilitation

In Lithuania the number of beds/10 000 residents in inpatient rehabilitation is 1 and in sanatoriums (rehabilitation departments) the number is 16, while in outpatient rehabilitation it is 3 visits/10000 residents. There were four rehabilitation hospitals (with 610 beds in total) and eight other medical rehabilitation facilities (four for children and four for adults) in the country in 2011. The number of rehabilitation beds increased from 1092 in 2002 to 1682 in 2011. In average, there is an 80% occupancy rate for beds in rehabilitation hospitals, and the average length of stay is about 20 days. In sanatoria, the bed occupancy rate is lower (74%), while average length of stay is higher (21 days) (Health Information Centre, 2012).

In 2011, inpatient rehabilitation services were provided for about 57 000 patients (17.7 per 1000 populations), which is a 14% increase in volume since 2010. Outpatient rehabilitation service volume amounted to 29 000 cases and increased by 8% in 2011 (Health Information Centre, 2012). With 8.9 services per 1000 inhabitants it amounts to about half of inpatient service volume.

The percentage of disabled from cardiovascular diseases exceeds 27%. The number of patients participating in stage II rehabilitation is 90 % and is highest among other European countries. Cardiac I and II stage rehabilitation is indicated and reimbursed by NHIF for patients after acute coronary syndromes/acute myocardial infarction, coronary artery bypass surgery, percutaneous coronary intervention, valvular heart surgery, surgical correction of congenital heart disease and other cardiovascular surgery, ICD/CRT, pacemaker implantation.

The typical duration is less than 10 days. Stage II rehabilitation for patients with cardiovascular diseases is provided in 28 rehabilitation hospitals and sanatoriums for majority (90%) of patients, while home-based programmes are less popular and not reimbursed. Increasing availability and quality of outpatient rehabilitation is one of the objectives of health system development. It is being implemented through the establishment of outpatient rehabilitation units in municipal health-care facilities, allocation of capital investments towards infrastructure and regulatory measures (e.g. prohibiting primary health-care providers from referring adult patients to specialised inpatient rehabilitation, thus directing patient flows towards outpatient rehabilitation).

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VI. The Future

The principal (strategic) aim of the Lithuanian Health Programme (LHP)-2020 is to achieve that Lithuanian people by the year 2020 enjoy longer, healthier and wealthier life. The indicators are: healthy life expectancy increases not less than 2 years and general life expectancy reaches 76 years; difference between female and male life expectancy decreases up to 8 years and between urban and rural population up to 2 years.

A policy document, the Lithuania's Health System Development Dimensions 2011–2020, defined the main directions for health system development until 2020, intending to make the system more efficient and competitive. The key areas of focus are:

- Health improvement and disease prevention
- Expansion of the health-care service market through fair competition
- Increasing transparency
- Cost-effectiveness
- Rational use of resources
- Ensuring evidence-based care
- Access to safe and quality services

The document aims to perform:

- (1) Structural changes, including reduction in the numbers of hospitals, hospital beds and physicians
- (2) The introduction of budgetary ceilings for health-care providers
- (3) Increase in cost-sharing through Voluntary Health Insurance (VHI), legalising co-payments and introduction of fair competition and effective management principles in health care.

Trends in health indicators should be assessed taking into account gross political and socio-economic changes. Improvement in health behaviour, some positive trends in risk profile for major NCD's as well as disease outcomes in addition to political and socio-economic stabilisation in the country might also reflect positive contribution of CINDI (Countrywide Integrated Non-communicable Diseases Intervention) interventions.

However, special attention should be given to looking into the causes of health intervention failures in some public health areas. Lithuanian experiences demonstrate that all of the above should be more rigorously used for the informed decision making through national health policy formulation and implementation.

Target areas

National registries: There is no uniform and updated information on major cardiovascular risk factors. The information is taken from different sources, international surveys, registers based on different methodologies. For this reason data is inconsistent. The agency (or any other structure) should be established for regular follow up of cardiovascular risk profile of the country. The agency should closely collaborate with professional societies (e.g. Lithuanian Society of Cardiology).

National medical database: Current potential of informational technologies are able to provide the sufficient capacities and data transmission velocities to maintain the data and visual information of all patients of the country. The settlement to uniform the data collection and storage as well to establish the authorised access to it could facilitate the better awareness and control of risk factors and increase the treatment quality. The project is initiated in three university hospitals.

Primary prevention: The ongoing Lithuanian High Cardiovascular Risk (LitHiR) programme is successful and has been extended. The electronic medical record has been implemented in some primary care centres. The online data-processing is planned to be implemented in all participating centres of the programme.

Secondary prevention, rehabilitation: Recently endorsed order of the Lithuanian Ministry of Health on mandatory follow-up care of patients with chronic diseases seems to be redundant and may jam the currently overloaded ambulatory service. The cohort of patients after acute cardiovascular events and those after percutaneous or surgical interventions is not homogeneous. Clearly defined selection criteria for follow-up, follow-up algorithms, and quality control indicators are to be established in future.

Education, guidelines: Regularly updated guidelines of European Society of Cardiology are a great help for the specialists and general practitioners in their daily practice. We plan to continue the translation and spread of the pocket versions of the guidelines. We are developing a conception that every guideline for doctors should be accompanied by the guideline for patients dedicated to disease specific therapeutic lifestyle changes, general information on medication, physical activity patterns, and methods of social adaptation. This project could be implemented in cooperation with the Lithuania Heart Association.

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