

Country report Estonia – April 2014



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Health care | Risk factors| Prevention methods| Prevention activities| Cardiac rehabilitation| Future

Baseline information about Estonia

Estonia is a mainly flat country on the eastern shores of the Baltic Sea, with many lakes and islands. Much of the land is farmed or forested (55% of the country). Throughout history, many other nations that ruled the region – Danes, Germans, Swedes, Poles and Russians – have influenced Estonian cuisine. Among the traditional dishes are marinated eel, blood sausage and sauerkraut stew with pork. About one quarter of the population is of Russian-speaking origin.

Estonia regained its independence in 1991. Today Estonia is parliamentary democratic country. Head of the State is the President, who is elected by the parliament or an electoral body for 5 years. National legislature is a unicameral parliament of 101 members, elected for 4 years. Government headed by the Prime Minister. Suffrage is universal for citizens who have attained 18 years of age for national elections. All legal residents, regardless of citizenship, who have attained 18 years of age, can vote in local elections.

Estonia became a European Union member state and a NATO member state in 2004, the Euro is the official currency since 2011.

Capital:	Tallinn
Area:	45 227 km ²
Population:	1 311 000 (Statistics Estonia, January 1, 2014) The proportion of population is 68 % urban and 32 % rural (2011)
Population density:	31 inhabitants per square km
Coastline:	3794 km
Land borders:	343 km with Latvia and 338 km with the Russian Federation
Type of Government:	Parliamentary democracy
Administrative regions:	15 counties
Official language:	Estonian
Currency:	Euro

Sources: www.eesti.ee/eng ; www.vm.ee/eng ; www.oecd.org

I. Structure of Health care in Estonia

Estonia has a mandatory social health insurance system financed by income-related contributions and covering almost the whole population. Estonian Health Insurance Fund is responsible for collecting contributions, pooling and purchasing health care services. The financial protection of the population has remained an important objective.

Estonian health insurance is a social insurance and it relies on the principle of solidarity: the Health Insurance Fund covers the cost of health services required by the person in case of illness regardless of the amount of social tax paid for the person concerned. The purpose of health insurance in Estonia is to cover the costs of health services provided to insured persons, prevent and cure diseases, finance the purchase of medicinal products and medical technical aids, and provide the benefit for temporary incapacity for work and other benefits.

Primary health care is provided by general physicians based in private practices. Fundamental part of primary health care is disease prevention, treatment, assistance, coordination and integration of different services. Currently, the whole population is covered by a network of family physicians and enrolled with individual family doctors. Since 2006, a performance bonus system has been implemented in general practices to incentivise physicians to achieve specified targets in key areas of health care. The system also rewards physicians for engaging in activities directed at the prevention of cardiovascular disease.

Prevention has been a priority on government level. Estonian National Cardiovascular Prevention Strategy 2005-2020 is the component of the National Health Plan 2009-2020. Estonian Health Insurance Fund has created (together with the Estonian Society of Cardiology) and financed Estonian CVD Prevention Programme (2000-2012). Expenditure on public health and prevention programmes in Estonia is 2.8 % current expenditure on health (OECD Health Data 2010).

Hospital health care is provided by licensed hospitals acting as public limited companies or foundations. Estonia has succeeded in significantly reducing the excess capacity of acute care hospitals to the average level of the EU. The number of practicing cardiologists is 130 (10 per 100.000 inhabitants).

In 2011, the share of the Health Insurance Fund was the largest in the budgets of the primary health care providers (94%) and the hospitals (80%) followed by nursing care providers (74%) and outpatient specialist care providers (46%). Estonian Health Insurance Fund pays for prevention, for medication (major drugs are reimbursed by 75-90%), and partially for cardiac rehabilitation.

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 5. Health in Baltic countries 2011
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II. Risk factor statistics

Although the life expectancy of Estonian men is low compared to the old European countries, it is growing rapidly. In the period of 2007–2011, Estonian men benefited the most in average life expectancy and healthy life years. Therefore, men born in 2011 will live on average four years longer and 4.5 years healthier than men born in 2007. Most important achievement reflecting CVD risk factors management in Estonia is “promotion” from very high risk country to high risk country according to the [European Guidelines on CVD Prevention in Clinical Practice \(2012\)](#) of the ESC.

Smoking rate among adults in Estonia is still very high despite the proportion of regular smokers among adults has shown decline over the past two decades. Alcohol consumption is also extremely high in Estonia, at 12.0 litres of alcohol per adult in 2011. This level of consumption is well above the OECD average of 9.4 litres per adult.

Obesity rate among adults was 20.2 % in males and 17.6 % in females. Obesity’s growing prevalence foreshadows increases in the occurrence of health problems (such as diabetes and cardiovascular diseases), and higher health care costs in the future. Especially it concerns raising overweight among children.

Table 1. Main CVD risk factors

Risk factor	Overall	Males	Females	Source
Alcohol consumption (2012)	12,3 L per capita			Alcohol market, consumption and harms in Estonia Yearbook 2013
Health threatening /damaging alcohol consumption(2012) (men >160 g; women >80 g per day)		20,5 %	7,3 %	Alcohol market, consumption and harms in Estonia Yearbook 2013
Daily fruit consumption	aged 15+ (2008)	48 %	64 %	Health At A Glance: Europe 2012 OECD
	among 15-year-olds (2009-2010)	17 %	27%	Health At A Glance 2013 OECD
Daily vegetable consumption	aged 15+ (2008)	48 %	55 %	Health At A Glance: Europe 2012 OECD
	among 15-year-olds (2009-2010)	16 %	21%	Health At A Glance 2013 OECD
Overweight (% of total population)		39%	27 %	Eurostat, data from November 2011
Obesity Adults aged ≥20 years		20,2 %	17,6 %	WHO Health Statistics 2013
Physical inactivity	19,6%	16,6%	22,1%	WHO - NCD Country Profiles, 2011
Prevalence of raised blood Pressure Adults aged ≥ 25 years		47,3 %	33,2 %	WHO Health Statistics 2013
Prevalence of raised fasting blood glucose Adults aged ≥ 25 years		9,0 %	7,8 %	WHO Health Statistics 2013

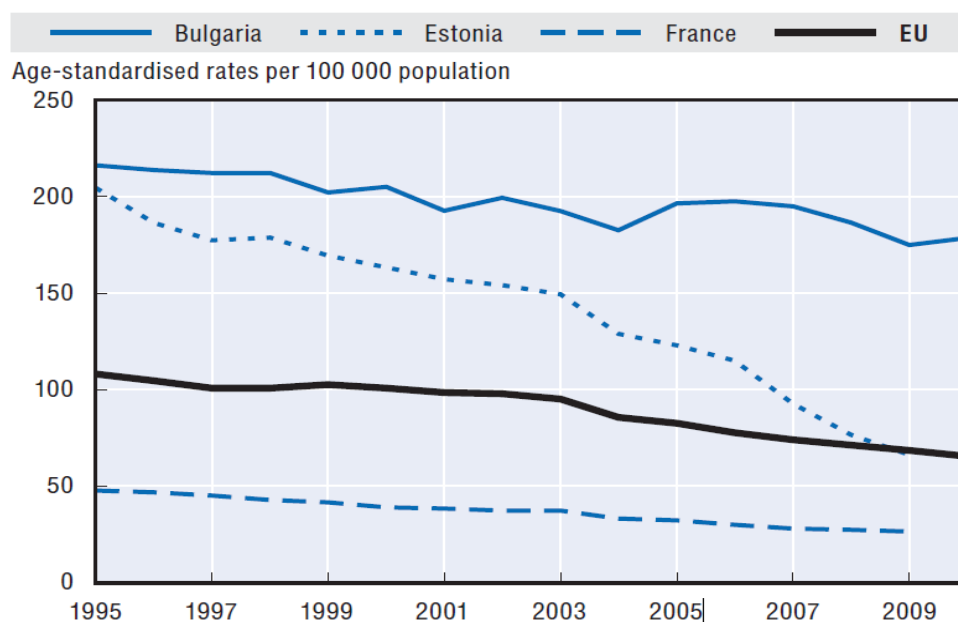
Raised cholesterol	59,2 %	56,8 %	61,1 %	WHO - NCD Country Profiles, 2011
Salt intake Age-standardised estimated sodium intakes (g/day), persons aged 20 and over	8,9 g			Global, regional and national sodium intakes in 1990 and 2010: a systematic analysis of 24 h urinary sodium excretion and dietary surveys worldwide. <i>BMJ Open</i> 2013
Smoking Smoking any tobacco product among adults aged ≥15 years		46 %	23 %	WHO Health Statistics 2013

Source: Margus Viigimaa


CVD Mortality

The rate of deaths from diseases of the circulatory organs in Estonia is higher than the average in the EU and is 3.5 times higher than that of 'old' Europe. Although mortality is higher compared to Europe, it declined the most during 2007–2010 in Estonia. Deaths by diseases of the circulatory system per 100,000 populations in 2011 were total 609.4; males 549.7; females 660.6.

Table 2. Trends in stroke mortality rates, selected EU member states, 1995-2010



Source: Eurostat Statistics Database. Data are age-standardised to the WHO European standard population.

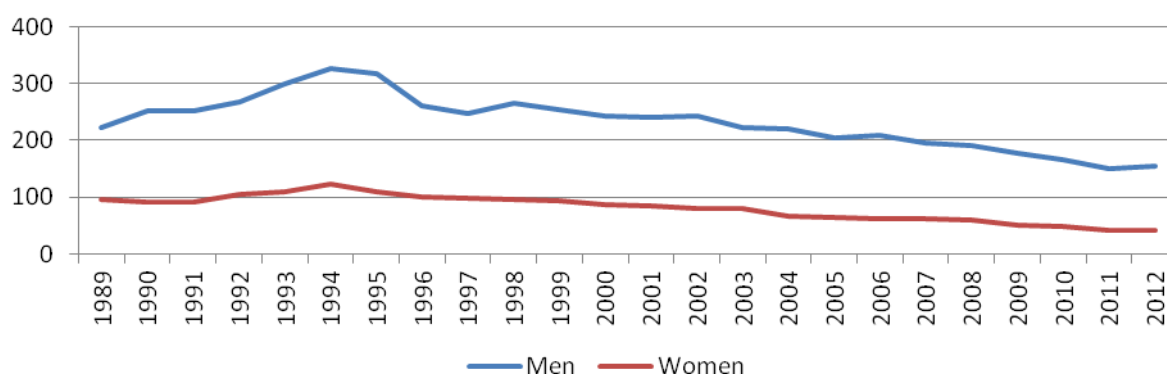
StatLink  <http://dx.doi.org/10.1787/888932703107>

OECD (2012), Health at a Glance: Europe 2012, OECD Publishing.

<http://dx.doi.org/10.1787/9789264183896-en>, or OECD iLibrary: www.oecd-ilibrary.org

Table 3.

CVD mortality per 100 000 Estonian inhabitants aged < 65 (1989-2012)



Source: Estonian Ministry of Social Affairs statistics

PCI resources

Total number of PCI in 2013 was 3099 (2312 per 1 million inhabitants).

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III. Main actors and Prevention methods

The main actors are general physicians and cardiologists. Since 2006, a performance bonus system has been implemented in general practices to incentivise physicians to achieve specified targets in key areas of health care. The system awards points for performing specified activities and doctors who achieve the required number of points receive a bonus for the year. The system covers the follow-up and monitoring of patients with chronic cardiovascular diseases, including patients with hypertension and diabetes and those who have had a myocardial infarction. The system also rewards physicians for engaging in activities directed at the prevention of cardiovascular disease. By 2008, 80% of GPs were participating in the bonus system.

Stimulated by the performance bonus system, an active programme for screening CVD risk in general practices is in operation in Estonia. Screening is partly opportunistic – any patient visiting a surgery will also have their blood pressure and cholesterol checked and their cardiovascular risk assessed. Practices are also inviting registered patients to attend the screening programme. The programme is successful and has had a good reception amongst the general public, but it is acknowledged that it is not reaching everyone.

In addition, paediatricians are inviting parents to bring their children to clinics for screening so that risk factors may be tackled starting from childhood.

There is a network of around 20 smoking cessation offices across Estonia that are financed from the national cardiovascular disease prevention strategy, so funding comes from the state budget, not from the Health Insurance Fund. Members of the public can request a consultation to talk to a pulmonologist specialising in smoking cessation. The programme has been in operation for several years; however, the number of patients participating remains relatively low.

There are 3.3 practicing physicians per 1000 population (over OECD average 2011), 6.2 nurses per 1000 population (below OECD average 2011). The number of health care providers has not changed considerably throughout the years; the number of nursing care providers has increased the most. Nursing care also includes institutions that provide school health care and home nursing care.

The [European Guidelines on CVD Prevention in Clinical Practice \(2012\)](#) of the ESC are endorsed by Estonian Society of Cardiology. The pocket versions of ESC guidelines are translated, introduced and spread out over the country including all involved doctors. Estonian Society of Cardiology in cooperation with Estonian Health Insurance Fund has created local guidelines in CVD Prevention and Management of Hypertension in Primary Care.

There is an established quality control system in Estonian auditing efforts in CVD prevention. National CVD Prevention programme was audited in 2006. Results of the audit were generally positive and helped to increase efficacy of the programme. In 2010-2011, two more important audits were carried out. Estonian CVD risk factor screening in general physician's practice was audited. Simultaneously management of hypertension in general physician's practice and cardiology services was audited. These audits allowed us

to make additional efforts for effective risk factor screening and hypertension management.

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IV. Main Prevention activities

Main and largest CVD prevention activity is “National strategy for prevention of cardiovascular diseases 2005-2020” issued by Ministry of Social Affairs in public health sector.

This strategy is implemented through 5 strategic areas to the main CVD risk factors:

- Physical activity
- Nutrition
- Smoking
- Health care
- Dissemination of information and securing local capacity

This strategy acts as a part of the Estonia's National Health Plan 2009-2020. Overall objectives are long life and quality of life. By 2020 the average age to which men are living in good health in Estonia will be 60 and for women 65, while the average life expectancy will have risen to 75 for men and 84 for women.

Estonian CVD prevention programme 2000-2012 has been very successful during the years: decreased CVD mortality, increased public awareness understanding cholesterol, blood pressure, physical activity and healthy nutrition. Result of this program is the present CVD prevention system started in 2013. Family doctors are screening population concerning CVD risk factors. High risk subjects/patients will be referred to district heart health offices (12) managing primary and secondary CVD prevention patients. Tertiary level consists of 3 heart health centres – North Estonia Medical Centre, Tartu University Clinics and East-Tallinn Central Hospital.

Since 1993 third week of the April is official Heart Week, it is national cluster of CVD prevention and CVD screening activities. Every year there is special focusing slogan to manage CVD risk factors, promote healthy living. Actions varying “wall to wall”, starting from parliament members CVD risk factors screenings up to mass events to increase public awareness of CVD risk factors and how to manage them in bigger cities or county centres.

Estonia has established Tobacco Policy Green Paper on the government level to decrease number of smokers by one-third to 2025th. Policy focuses on reducing the attractiveness of tobacco products, limiting access to minors, tobacco alternative products in a regulated market, promoting a smoke-free environment and curbing the black market. Tobacco Law is efficient and effective implementation of the collaboration with the supervisory bodies and the media.

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Estonia approved Alcohol Policy Green Paper in February 2014. Goal of the green paper is to reduce alcohol availability, find solutions to influence pricing policy (including considering the possibility to set minimum unit price), tackle illegal market, reduce

drinking as a whole and alcohol related harm, raising awareness and improve treatment and rehabilitation options.

For CVD prevention on the local level, county health offices were created to disseminate information on heart health, healthy lifestyles, information dissemination, public health events. There is a large number of health promoting schools, kindergartens, hospitals, cities in Estonia.

There are healthy lifestyle projects in kindergartens and in schools. To support healthy nutrition, kindergartens continued to receive milk and dairy products and fruits and vegetables. There are on-going school milk and fruit programs and various food, food production and preparation programs, special information days in museums and educational institutions promote healthier nutrition choices. A study on the energy drink consumption among 7 - 45-year-olds will assess at what age the consumption of energy drinks starts, the reasons (purpose, situations) for consumption, its frequency and quantities, consumption with alcohol, and overall coffee and tea drinking habits (to assess the daily caffeine amounts).

Estonian School Sports Union will continue to receive support for introducing and providing various physical activities to promote physical activity among children and youth. The availability of healthy and active school holidays is ensured by supporting both permanent and project-based camps. Basic swim training will continue to receive the same amount of support as before, although the search for opportunities to increase the support will continue. Health examinations will continue for 9-19-year-old young athletes with training loads of at least 5 hours a week.

Youth oriented campaigns have been created to prevent alcohol consumption. There is an on-going competition "Smoke free Class" - smoking prevention program for 4-12 grade students.

Prevention has been included in training of students and in postgraduate training programmes in Estonia.

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5. National Institute for Health Development
<http://www.tai.ee/en/r-and-d/health-promotion>

V. Cardiac rehabilitation

Cardiac rehabilitation activities in Estonia are professionally supervised measures to help patients post myocardial infarction, heart surgery and percutaneous coronary intervention (PCI) procedures such as stenting and angioplasty. This programme provides education and counselling services to help heart patients increase physical fitness, reduce cardiac symptoms, improve health and reduce the risk of future heart problems, including heart attack. These services are partially paid by Estonian Health Insurance Fund but unfortunately high proportion has to be paid by the patients.

The availability of rehabilitation and follow-up treatment has decreased in recent years. Therefore we cannot be satisfied with the present cardiac rehabilitation system in Estonia, especially as acute treatment of myocardial infarction is well organised. We have to make rehabilitation accessible for more patients after acute coronary syndromes and cardiac surgery.

Cardiac rehabilitation is also a part of in-hospital treatment of myocardial infarction. Taking into consideration cardiac patient's relatively low average age in Estonia, most common are different booklets and brochure to remember and amend base of risk factor screening and lifestyle modifications. Special online programs are developed to monitor everyday diet and exercise habit.

The Physical Medicine and Rehabilitation (PRM) exist as a medical speciality since 1992. Estonian Society of PRM Doctors (ESPRMD) was founded in 1992 and comprises approximately one hundred active members. Postgraduate training of PRM doctors started in 1997; residency lasts for three years in the University of Tartu.

At present time ESPRMD is committed to improve access to medical rehabilitation and quality of care. The main priorities of the PRM include easily accessible outpatient rehabilitation, centralisation of inpatient beds into specialized units (stroke unit, cardio rehab etc), developing of local evidence based guidelines of rehabilitation (stroke, PCI, cardiovascular rehabilitation, OA etc) and co-operation with other medical societies (family doctors, cardiologists, etc.).

There is a development plan for the physical and rehabilitation medicine in Estonia made in 2003. The system was built on the different levels of service with the bigger units by the hospitals, based on the multidisciplinary teamwork. The cardiac rehabilitation centres in Estonia are located in Tartu University Hospital, North Estonia Medical Centre, East-Tallinn Central Hospital and West-Tallinn Central Hospital. The activities in these centres are focused on regular controlled physical activity, counselling and education to help patients quit smoking, eat right, lose weight, and lower blood pressure and cholesterol levels. These professionals also communicate with primary care doctor and cardiologists.

Cardiac patient's rehabilitation is mainly conducted in three out of seven Estonia's rehabilitation centres. According to the data of Estonian Health Insurance Fund (EHIF) less than 10% of acute coronary syndrome (ACS) patients have been through rehabilitation (EHIF database 2012) and only 2.7% have received treatment in time (The National Audit Office 2006). Estonian guidelines for the rehabilitation of cardiac patients have been compiled in 2006 and are accessible via Internet. However, rehabilitation protocols vary in different medical institutions. The rehabilitation of cardiac patients is mainly conducted in outpatient setting (ca. 85% of patients). Estonian Health Insurance Fund covers the total cost of cardiac rehabilitation for over 6 months after ACS.

One to two weeks after ACS the patients start with 50-minute exercise therapy sessions three times a week with an overall length of 12 weeks. The patients undergo bicycle cardiopulmonary testing before and after the rehabilitation programme, while the functional indices of cardiorespiratory system are measured; ECG registration in 12 standard leads and arterial blood pressure are registered simultaneously at each 1 minute. Exercise test is performed using a stepwise increasing workload by 10 watts per minute with an initial load of 40 watts. Aerobic training is performed on the stationary bicycle. During the exercise session patients' vital data are continuously monitored with telemetric devices. Periodic adjustments of exercise intensity are made according to individual progression. A rehabilitation team conducts regular sessions on coronary artery disease (CAD) risk factor reduction twice a month. As a result of the programme the essential indices of exercise capacity and cardiorespiratory reserve demonstrated remarkable improvement (mean increase 20-30%).

The quality of cardiac rehabilitation, delivered in Estonia is variable. The reason for that is mainly due to uneven funding and different priorities in Estonian medical institutions.

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VI. The Future

Ambition plan in the national level is to extend the health-adjusted life expectancy and average life expectancy for women and men approximately 3 years by 2020. CVD risk factors managing are very important to achieve this goal. To find financial balance between prevention, treatment and rehabilitation is important as well. We are continuing to carry out activities described in the National Health Plan 2009–2020 and National Strategy for Prevention of Cardiovascular Diseases 2005–2020.

Important obstacles are misleading public information available in the internet and high in-pocket cost for rehabilitation. We have to further restrict alcohol, tobacco, sugar and salt decrease in food products. Important field is also Health development of children and young people. Governmental budget of cardiac rehabilitation should be increased.

We are planning to continue successful annual CVD prevention campaign- Heart week in order to continuously increase public awareness, to implement self-monitoring interactive programs for CVD patients. Active continuation of special programs to control alcohol consumption and smoking are very important in Estonia. We have to continue motivate primary health care providers and cardiologists to engage in prevention.

More emphasis should be placed on the implementation of [European Guidelines on CVD Prevention in Clinical Practice \(2012\)](#) of the ESC; otherwise they remain theoretical and don't influence or change practice. Intersectional cooperation in implementation should receive more attention as improving lifestyles occurs in the broader context of society, not just in the health sector according to the ESC report on the 4th Joint Task Force Guidelines implementation in Estonia.

More evaluation of implementation should be carried out to see whether adherence to guidelines really gives results.

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