

**National Strategy  
for Prevention of Cardiovascular Diseases  
2005–2020**

**2005**

## CONTENTS

<b>CONTENTS</b> .....	2
<b>1. INTRODUCTION</b> .....	3
<b>2. DESCRIPTION OF SITUATION</b> .....	3
<b>The Global Burden of CVD</b> .....	3
<b>The Burden of CVD in Estonia</b> .....	4
Need for and nature of CVD prevention strategy .....	5
Legal and strategic basis for CVD prevention strategy .....	6
<b>3. GOAL OF THE STRATEGY</b> .....	8
<b>3.1. AREA: PHYSICAL ACTIVITY</b> .....	9
Background .....	9
Measures for improving exercise habits .....	10
<b>3.2. AREA: FOOD AND NUTRITION</b> .....	11
Background .....	11
Measures for improving eating habits .....	12
<b>3.3. AREA: SMOKING</b> .....	14
Background .....	14
Measures to reduce the prevalence of tobacco consumption and time spent in an environment which contains tobacco smoke .....	15
<b>3.4. AREA: HEALTH CARE</b> .....	16
Background .....	16
Measures for improving health care services in CVD prevention .....	17
<b>3.5. AREA: DISSEMINATION OF INFORMATION AND SECURING LOCAL     CAPACITY</b> .....	18
Measures for increasing the effectiveness of disseminating information about the CVD prevention strategy and ensuring cooperation .....	18
<b>4. IMPLEMENTATION OF THE STRATEGY</b> .....	20

## 1. INTRODUCTION

Cardiovascular diseases (hereinafter CVD) are the main reason for early loss of work capacity (at an age below 65) and death in Estonia. Estonia is a leader in CVD mortality in Europe and the whole world. There has been no significant change for the better over the past 20 years. Illness continues to strike at an early age and during the working years.

The high rate of premature morbidity and mortality compared to developed countries in Europe poses a serious challenge to the socio-economic development of the nation. Of even greater importance is this lack of tendency to decline over the past six years against a background of a constantly negative population growth. Experience in many countries has convincingly demonstrated that the average life expectancy of people can be prolonged and healthy years of life can be extended by CVD prevention.

CVD is a problem encompassing the life and people of Estonia as a whole, which cannot be solved solely by action in one area or solely on the medical level. The experience of other countries shows that cardiovascular diseases can be reduced by long-term programmes covering multiple disciplines and enlisting the population extensively. Coordinated cooperation between different fields (education, culture, the economy, traffic control, science, medicine, etc.) in the name of a common goal is crucial.

Current health policy is based on the understanding that the health of the population can be improved only if the roots of the problems are tackled, and those are largely outside the health care system – in health education, in health-promoting workplaces, sufficient income to care for health, rejection of lifestyles that pose a health hazard, and the availability of healthy recreation.

This strategy is a step toward improved heart health, combining the knowledge and action plans of various fields. It was drawn up to provide as comprehensive as possible an overview of the factors that affect CVD incidence in the light of Estonia's own as well as international understanding. An evidence-based description is given for whence, why, and where Estonia must move to reduce CVD incidence. The main factors in reducing CVD are: regular physical activity, balanced nutrition, abstinence from smoking, control of blood pressure and cholesterol level, valuing of health, and psychosocial factors.

The strategy was drawn up having regard to the guidelines of the World Health Organization and the Council of the European Union conclusion on "Promoting Heart Health" (2 June 2004).

**The common strategic goal on the European level is:  
to provide the prerequisites and conditions for each child born in this millennium to enable him or her to live to at least an age of 65 without suffering from avoidable cardiovascular diseases.**

The activities planned herein are aimed at shaping the health behaviour of the growing generation, and will yield results in the long term. The strategy therefore sets its goals for the years 2005-2020 and the action plan corresponding to the national budget strategy for the years 2005-2008, which is why the outcome indicators are also set for the year 2008. The action plan will then be extended by 4-year cycles, meaning that the action plan for the next period, 2009-2012, will be drawn up in 2008.

This CVD prevention strategy is based on the version prepared by the Estonian Heart Association (19 March 2004).

## 2. DESCRIPTION OF SITUATION

### The Global Burden of CVD

Cardiovascular diseases are the main cause of premature deaths and disability throughout the world. About 17 million people die of CVD in the world every year, 80% of them in countries where the population's income is low or average (World Heart Federation, 2002). Treatment of CVD is prolonged and costly. Early occurrence of CVD results in costs outside the health care system and has a negative impact on overall economic development.

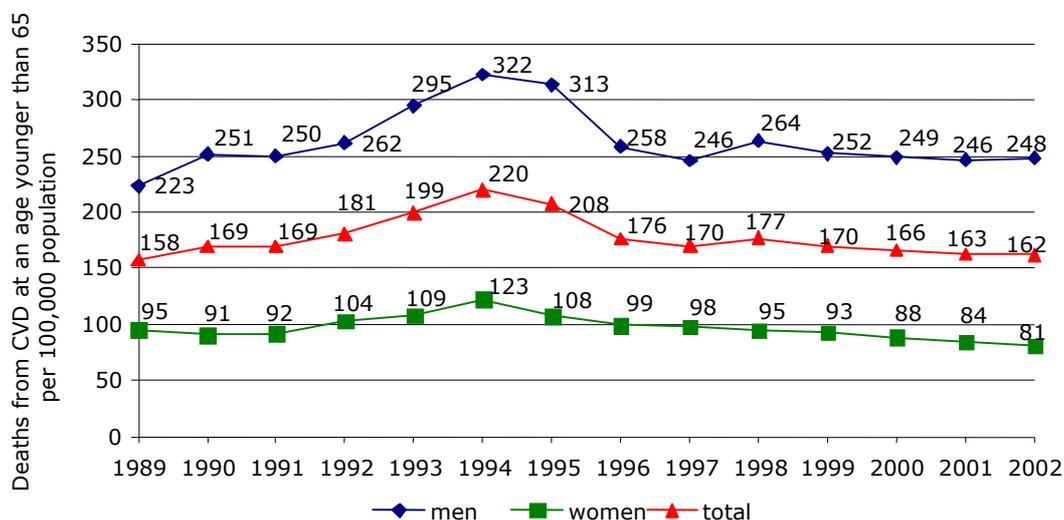
In Europe, CVD is a main cause of death: more than 4 million people die of CVD every year. In 2000, CVD caused nearly 41% of all deaths: 21% from myocardial ischaemic diseases, 9% from apoplexy and 11% from other diseases of the heart and vascular system (European cardiovascular disease statistics, 2000).

Myocardial ischaemic disease is the most frequent cause of death in the European Union among people younger than 65, amounting to more than 170,000 deaths. In the European Union, 14% of men and 7% of women die of myocardial ischaemic disease before the age of 65 (Shelly, 2004).

### The Burden of CVD in Estonia

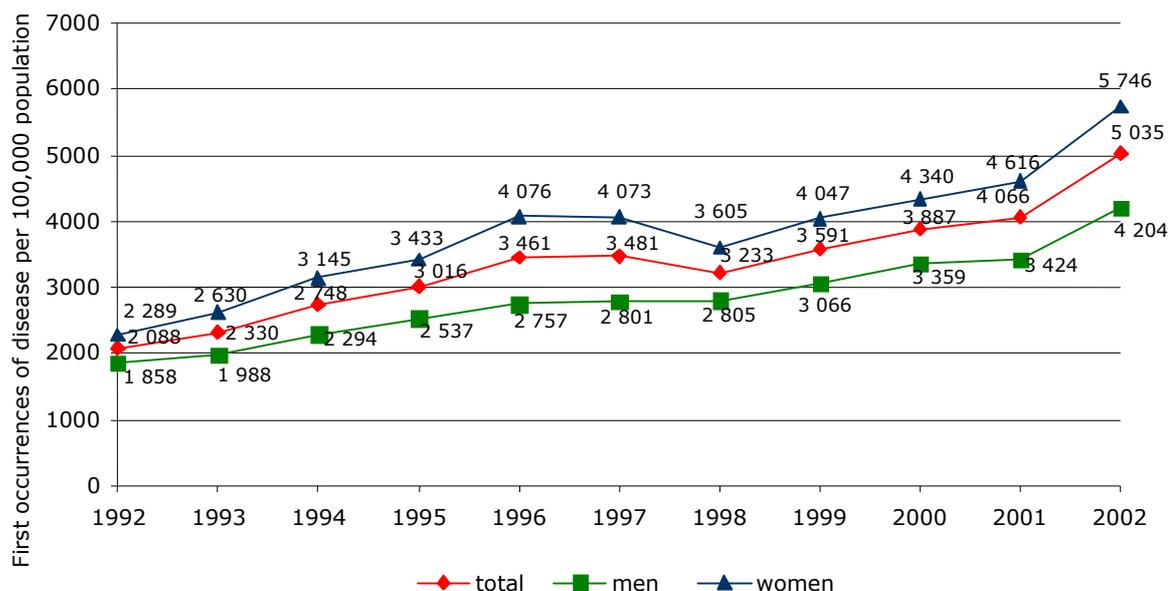
Each year Estonia loses nearly 40,000 years of life of its potential human capital (i.e. years foregone due to premature death) due to premature deaths caused by CVD (Years of life lost or declining health due to disease toll in Estonia. Institute of Health Care of the University of Tartu, 2003).

CVD mortality before the age of 65 causes noteworthy harm to the health of the population as well as to the economy at large. Each year, of every 100,000 inhabitants at least 250 men and 80 women die of CVD before the age of 65. During the socio-economically revolutionary period of 1992-1994, premature deaths caused by CVD increased substantially. In recent years mortality has decreased to the same level as at the beginning of the 1990s, but a stable and constant decrease has still not been reached (see Figure 1).



**Figure 1. Deaths from CVD at an age younger than 65 per 100,000 population in Estonia in 1989-2002 (Estonian Statistical Office, 2004)**

An additional concern besides the high level of premature mortality is the steady and steep increase in CVD incidence. The first occurrence of CVD per 100,000 population has more than doubled during the past ten years (Figure 2). In 2002, there were 4204 and 5746 first occurrences of CVD among men and women, respectively, per 100,000 inhabitants. Socio-economic factors (availability of health care including improved diagnostic facilities, improved quality of databases, etc.) account partly for this.



**Figure 2. First occurrences of CVD per 100,000 population in Estonia in 1992-2002 (Estonian health care statistics 1992-1999, 2002)**

### Need for and nature of CVD prevention strategy

Since 1995, health promotion projects have been funded from the health insurance budget; about EEK 14 million has been allocated annually. Activities aimed at reducing the risk factors of heart disease have been a long-term priority of health promotion, and over EEK 26 million was allocated to heart disease prevention during 1995-2004. Within the framework of projects, the population has been consistently supplied with information about the risk factors of heart disease such as improper nutrition, smoking, low physical activity, elevated cholesterol level, etc. Regular project activities have included "heart weeks", training of the family doctors and the health education teachers of schools, dissemination of heart health information in the media and at local events, and other training. However, citizen-initiated projects which were funded from the health insurance budget during these years have not been systematically planned and organised and because of their project-based nature, the sustainability of these activities has not been ensured.

Despite these many activities, there is no national strategy for CVD prevention. A systematic and need-based approach to all CVD prevention activities has therefore not been possible.

CVD prevention should be aimed at reducing risk behaviour and improving a health-supporting environment. The main behavioural risks of CVD are low physical activity, unhealthy eating habits and smoking. An unhealthy working and living environment is a major environmental risk. Since the risk factors of chronic diseases are similar, it has been found that an effective CVD prevention strategy also contributes to the reduction of the disease toll from other chronic diseases. The most cost effective method of reducing the effect of risk factors at the population level is to apply measures aimed at the entire population. The most effective measures are integrated, multidisciplinary, broad-based, and targeted at multiple levels such as individuals, localities, the environment, and political decisions.

Identification of the population at risk of CVD and reduction of its risks are an essential part of the prevention effort. There is solid evidence that even for people who already suffer from a cardiovascular disease, changes in the eating habits, lifestyle and environment can slow the development of disease. Special attention should be paid to people identified as having increased blood pressure, elevated cholesterol level,

myocardial ischaemia or peripheral vascular or cerebrovascular diseases. Symptom-free persons who present with multiple risk factors or show a significant increase in one of the risk factors (cholesterol level, blood pressure, blood sugar) should be monitored at the same time (European Guidelines on CVD Prevention, 2003).

The strategy cannot cover all the activities which contribute to CVD prevention and reduce the risk of illness. Therefore it focuses on five major areas and within these it plans out activities which are evidence-based and likely to bring about changes in attitudes, health behaviour, and the environment, and thus in the long run in morbidity and mortality. Mental health problems and alcohol abuse are also important CVD risk factors, but since these areas will be covered by separate strategies, they are not directly tackled in this strategy.

The CVD prevention strategy will be implemented through five strategic areas pertaining to the main CVD factors:

- 1) physical activity
- 2) nutrition
- 3) smoking
- 4) health care
- 5) dissemination of information and securing local capacity

### **Legal and strategic grounds for CVD prevention strategy**

The measures and activities of the CVD prevention strategy were planned in accordance with the following principles.

#### **Compliance with legislation, national strategies and development plans, and international treaties**

The CVD prevention strategy is based on:

##### *Legislation*

1. The Constitution of the Republic of Estonia<sup>1</sup>
2. The Public Health Act<sup>2</sup>
3. The Council of the European Union conclusion on “Promoting Heart Health”, 2 June 2004<sup>3</sup>

##### *International treaties*

4. The Ottawa Charter (1986)<sup>4</sup>
5. The World Health Organization’s “Health for All” policy framework (1998)<sup>5</sup>
6. The Verona Initiative (2000)<sup>6</sup>
7. European Guidelines on CVD prevention (2003)<sup>7</sup>
8. The World Health Organization’s “Global strategy on diet, physical activity and health” (2004)<sup>8</sup>
9. The CINDI strategy to prevent chronic disease in Europe (2004)<sup>9</sup>

##### *National strategies and development plans*

10. The coalition agreement for the Union for the Republic -- Res Publica, the Estonian Reform Party, and the Estonian People’s Union -- for the years 2003-2007<sup>10</sup>
11. “Success Estonia 2014”<sup>11</sup>
12. Government of the Republic Order No. 392-k “Approval of state budget strategy for 2005-2008”, of 31 May 2004<sup>12</sup>

**Equal opportunities**

The creation and ensuring of equal opportunities is characteristic of a fair and democratic society. The activities at all sectors and levels of society in implementing the CVD prevention strategy must be primarily aimed at those social groups who need support and help the most.

**Quality**

The quality of all activities is crucial for the successful implementation of the CVD prevention strategy. This means precise planning of the activities is based on evidence-based premises, the use of correct and high quality means and methods of implementing the activities, and the joint and coordinated activities of all those involved.

**Joint responsibility for health**

Caring and being responsible for one's own health and that of the people close to one is a key factor of health improvement. Increased valuing of health has to result in greater responsibility for all sectors of society and for individuals. Each decision (political, economic, social or other) has a public health impact and in the planning of activities each decision-maker has to take responsibility for promoting his own health and the nation's health .

**Cooperation**

Only joint efforts can result in a shift toward a better heart health for the nation. The means and capacities of the health sector are not enough to improve the health of the nation. The major health-promoting factors can be developed in a favourable direction only through the joint effort and investment of the whole society. The health sector plays an important role in coordinating and monitoring the implementation of the strategy and in consulting with other disciplines in planning and performing their activities.

### 3. GOAL OF THE STRATEGY

The overall goal of the strategy is:

**The premature CVD morbidity and mortality of the population will decline steadily**

#### Outcome indicators

- The CVD mortality of men younger than 65 has decreased by 40% by the year 2020, as a result of which of every 100,000 men, 100 fewer men die before the age of 65 than in the year 2002 (248 men per 100,000 inhabitants died in 2002).
- The CVD mortality of women younger than 65 has decreased by 30% by the year 2020, as a result of which of every 100,000 women, 24 fewer women die before the age of 65 than in the year 2002 (81 women per 100,000 inhabitants died in 2002).

The national CVD prevention strategy is focused on the general factors affecting the health of the population: socio-economic and environmental factors, living and working conditions, access to services, social networks, individual health behaviour. These are the factors that most determine the quality of life and welfare and the development of diseases.

For improving heart health, it is vital to increase individual and social responsibility for health and to reduce the risk factors that endanger health. It is important that the physical activity of the people be increased, eating habits be improved, tobacco consumption and time spent in an environment of tobacco smoke be reduced, and the availability of preventive health care services be improved. This requires the enhancement of health awareness and attributing value to health on the individual, organisational, local and national levels, improved skills for making healthy choices and health promoting decisions, and the strengthening of cooperation between all sectors to favour health promotion.

### 3.1. AREA: PHYSICAL ACTIVITY

#### Strategic subgoal:

#### **The physical activity of the population will increase**

#### Outcome indicators

- The proportion of people aged 16–64 who exercise at least twice a week is increased to 40% by the year 2008 (30% in 2002) and to 60% by the year 2020 (source: Health behaviour study of the Estonian adult population).
- The proportion of students who exercise for at least 30 minutes at least 5 times a week is increased to 70% by the year 2008 (59% in 2001/2002) and to 80% by the year 2020 (source: Physical activity of Estonian schoolchildren 2001/2002)

#### Background

#### *Low physical activity increases the risk of cardiovascular diseases*

Physical activity is defined as energy-consuming physical movement. Exercise has multiple positive effects on cardiovascular health. Exercise reduces CVD risk factors, retards the occurrence, development and recurrence of CVD, and contributes to rehabilitation from heart diseases. It is not competitive sports but regular physical activity that is important for heart health.

The physical activity of over 30% of the European adult population is low. People who engage in regular physical activity have been estimated to have only half of the myocardial ischaemic disease risk of sedentary people (Morris et al., 1953, Powell, 1987, Berlin and Colditz, 1990, Vouri, 2001). The risk of apoplexy has been assessed to be 25% lower for physically active people compared to less active people (Lee et al., 2003, Promoting Heart Health, 2004).

Among the Estonian adult population, 30% engage in fitness sports (including walking and bicycling) at least 2-3 times a week, including 20% of those aged over 40. These indicators have remained stable over the past decade. Up to 15% of men and 10% of women engage in regular fitness sports, whereas the physical load from daily activities is greater for women. The proportion of people whose work is sedentary has increased, especially among women. The proportion of men whose work was sedentary was 25% in 1996 and rose to 35% in 2002; for women the percentages were 28% and 41%, respectively (Health behaviour study of the Estonian adult population, 2002). The number of people not exercising at all has greatly increased over the past five years. While non-exercising people formed 21% of the population in 1998, their proportion had already increased to 33% by 2003 (Estonian Sports Information Foundation, 2004).

The data of the Sports Sociology Laboratory of the Tallinn Pedagogical University (1992, 1996, 2003) show that the sports activity of secondary school students has largely remained the same over the past decade – two-thirds of boys and a somewhat smaller proportion of girls exercise at least twice a week (excluding the physical education class at school); however, the sports and exercise activities of girls have increased. Intensive exercise is practiced by boys and girls during an average of 3-4 and 2-3 hours a week, respectively (Arvisto et al., 1995, Noormets, 1998, Kaal, 1998). Of all students, 90% participate in all or most of the physical education classes (Harro et al., 2004).

**In conclusion, the physical activity of the population is inadequate mainly among the adult population, and shaping the exercise habits of young people needs continued support.**

## **Measures for improving exercise habits**

The relative proportion of people engaging in fitness sports and the physical activity of people have been at a low for years. Information about the importance of physical activity has been disseminated during various projects (heart project, the May race, public running races, etc.), but this has not yielded any broad positive shift toward better daily physical activity habits in Estonia.

Nationwide activities and development of infrastructure can have an impact on the exercise habits of the Estonian population. It is especially important in organising these activities to involve the local governments and enhance their capacity in implementing local activities. Positive examples can be found in Finland, where large-scale programmes have been carried out over the past fifteen years for changing the population's exercise habits. As a result, a steady improvement in exercise habits in Finland was achieved at the beginning of the 1990s, which has remained stable during recent years.

The two evidence-based components of the exercise habits promotion programme are informing the population and the development of a supportive environment and infrastructure. The mistakes made in the informational activities in Estonia so far are the insufficient scale of the campaigns or their excessive focus on sports events.

It is important to understand that not only sport, but also simple physical activity is healthy. Even moderate physical activity, which all of us can combine with our daily routines, has a positive impact on health. Shaping the exercise habits of children is of special importance, since people who are physically active in their childhood are very likely to continue to have a physically active lifestyle as adults. Physical education lessons that are carried out methodologically correctly at school age later motivate the formation of exercise habits. Children of different physical capabilities should be involved in the school physical education classes so that all the children develop a willingness and habit of being physically active.

Many people with their quick tempo of life and limited financial resources have difficulties joining a sports club. Therefore, people should be encouraged to find alternative ways of being physically active. Daily walking and bicycling are inexpensive and readily available forms of exercise, which nearly all can work into their daily schedule. Providing an environment that favours and supports exercise must therefore be one of the priorities of the transport development strategy.

### **Measure 1. Enhancing the awareness of the population regarding healthy physical activity**

#### **Activities**

- 3.1.1. Development and implementation of a systematic information dissemination mechanism that takes account of the needs of all target groups (implemented under activity 3.5.4)
- 3.1.2. Development and availability of a self-testing system of physical capability for different target groups
- 3.1.3. Continuing education of family doctors and their nurses for a broader application of advice on fitness sports (implemented under activity 3.4.3)

### **Measure 2. Ensuring an environment and infrastructure which favour physical activity**

#### **Activities**

- 3.1.4. Raising the awareness of local governments regarding their role in shaping an environment that favours physical activity, as a result of which local development plans should include the development of exercise-favouring environment and infrastructure (sports facilities, safe bicycle paths and health trails, children's sports fields and playgrounds, safe routes to school)
- 3.1.5. Additional funding of local governments on condition that the local development plan include the development of exercise-favouring environment and infrastructure and they are willing to make additional contributions to the implementation of the development plan
- 3.1.6. Providing all students with sports and exercise facilities in the educational institutions
- 3.1.7. Supplementing the basic and continuing education curricula of teachers (of both academic subjects and physical education) with topics that take account of the physical capability of the students (including special medical needs).
- 3.1.8. Documentation of the facilities available for physical education in child care facilities and creating conditions for physical activity in all child care facilities
- 3.1.9. Substantial increasing of the state's support for physical activities, mainly to involve previously unserved people in physical activity
- 3.1.10. Amending the Sports Act, the Non-Profit Associations Act and the relevant taxation acts to stimulate a healthy lifestyle and physical activity
- 3.1.11. Courses for physical activity trainers

## 3.2. AREA: FOOD AND NUTRITION

### Strategic subgoal:

**The nutrition habits of the population will improve**

#### Outcome indicators

- The proportion of adults who consume fresh fruits and vegetables on 6-7 days a week is increased to 30% by the year 2008 and to 70% by the year 2020 (24% in 2002) (source: Health behaviour study of the Estonian adult population)
- The proportion of young people aged 11-15 who consume fruits and vegetables is increased to 45% by the year 2008 and to 60% by the year 2020 (36% in 2002) (source: Health behaviour study of students)
- The proportion of people who use mainly vegetable oil in cooking is increased to 92% by the year 2008 and to 96% by the year 2020 (89% in 2002) (source: Health behaviour study of the Estonian adult population)
- The proportion of people using common salt is decreased to 73% by the year 2008 and to 65% by the year 2020 (77% in 2002) (source: Health behaviour study of the Estonian adult population)

#### Background

*Low consumption of fruits, vegetables and berries, excessive consumption of salt and saturated fats, low fibre content in food, and overweight caused by poorly balanced nutrition are the nutritional risk factors of cardiovascular diseases.*

About 1/3 of CVD in Europe is associated with poorly balanced nutrition. Poorly balanced nutrition accounts for 4.6% of all years of life lost due to lack of work capacity and disability in the European Union; years of

life lost due to overweight and little physical activity are added to this (3.7% and 1.4%, respectively).

The nutrition habits of Estonians have improved over the past decade. The most remarkable changes concern the use of food fats. There has been an abrupt replacement of animal fats by vegetable fats and an overall decrease in using food fats. While only 28% of the respondents used vegetable oil as the main fat in cooking at the beginning of the 1990s, this proportion had increased to 89% by the year 2002.

Another noteworthy change in the nutrition behaviour of Estonians over the past decade is the rapid growth in the frequency of and the number of people consuming fresh vegetables and fruits among both men and women. The consumption of fresh vegetables on all days of the week has increased among men and women and was 17% and 27%, respectively, in the year 2002 (12% and 20% in 1998). The household surveys conducted in Estonia show that the daily consumption of vegetables, fruits and berries is still below 260 g, which is much lower than the minimum of 400 g a day recommended by the World Health Organization.

The food offered in child care facilities and schools plays an important role in shaping the eating habits and balanced nutrition of children and youth. An average of 63% of students ate school lunch in 2000. The main shortcomings of the food offered at school are the low content of vitamins C and D, iron and calcium, excessive contents of saturated fatty acids and sodium, and the little provision of water (Pitsi, 1998). A study of the actual nutrition of young people conducted by the Institute of Cardiology in 1998-1999 showed that young people's diet of the main nutrients is poorly balanced. Fats and carbohydrates formed 37.5% and 49.4% of the total food energy, respectively. Polyunsaturates comprised 39.6% of all fats and the proportion of food energy obtained from sucrose was relatively high (14.5%). Of vitamins and minerals, the consumption of vitamin A and calcium were lower than needed (Saava, 2002).

Obesity and overweight increase the risk of cardiovascular diseases and non-insulin-dependent diabetes. Obesity has become a serious public health problem in Europe. Obesity is not yet a large-scale problem in Estonia, but studies have shown a relatively large percentage (44.2%) of overweight people among young and middle-aged physically inactive men (Pihl et al., 1998).

**In summary, it may be said that although a number of positive changes have occurred in the nutrition behaviour of the Estonian population over the past decade, the Estonian diet is still poorly balanced to a large extent, especially from the aspect of cardiovascular health.**

### **Measures for improving eating habits**

Although the eating habits of the Estonian population have improved over the past decade, further change is needed on heart health considerations. In CVD prevention, a nationwide healthy nutrition programme is considered to be the most cost effective activity compared to other programmes (e.g. smoking cessation counselling, reduction of blood pressure by medicines, etc.). Consuming at least five portions of fruits and vegetables a day reduces the risk of chronic diseases by up to 20%. (One portion = 100-200 g of raw or cooked vegetables, or 1 fruit (100 g); 2 dl of berries; 2 dl of fruit juice) An additional portion of fruits or vegetables per day helps reduce the risk of CVD by 4% and that of heart attack by 6%, and also helps reduce high blood pressure.

To improve the eating habits of the population, people have to be informed about healthy nutrition. Long-term, regular and consistent informing can increase the knowledge of society and in the longer term will cause positive shifts in attitudes and health behaviour. For example, as a result of the "6-a-day" project carried out in Denmark, the consumption of fruits and vegetables increased by up to 40% over two years. The fruits and vegetables project carried out in Estonia via the mass media in 2003 showed that 47% of people aged 15-74 consumed vegetables (other than potatoes) every day in 2003 (35% of the population in 2002) and 46% consumed fruits/berries every day (27% in 2002).

Information is not enough to improve eating habits; people must be given the practical opportunity for healthy nutrition. Changes in the environment (such as changing the composition of food in catering establishments) are considered to be one of the most effective activities and to yield the quickest results. School meals comprise an important part of institutional catering. The special success of Finland in the prevention of CVD is partly attributable to the fact that Finland grants free school food to all the students – an equal opportunity for all schoolchildren.

### **Measure 3. Facilitating the healthy nutrition choices of the population and improving knowledge of balanced nutrition**

#### **Activities**

- 3.2.1. Collection and systematisation of healthy eating recommendations for target groups with different needs
- 3.2.2. Creation of an Estonian computer programme about nutrition, which allows people to assess the healthfulness of their nutrition
- 3.2.3. Information campaigns for promoting the consumption of fruits and vegetables, rye bread and products with a low fat and common salt content targeted at young people and adults
- 3.2.4. Training on heart healthy nutrition and training on the use of information sources for family doctors and family nurses, school nurses and health promoters of health rooms (implemented together with activity 3.4.3)
- 3.2.5. Systematisation and implementation of a labelling system for foodstuffs. Informing the population about the nature of the labelling system
- 3.2.6. Preparation of information materials containing nutritional recommendations for persons suffering from chronic diseases, to be distributed via the health care system, and distribution of healthy lifestyle guidelines among all age groups
- 3.2.7. Informing and thus motivating producers, caterers, and food merchandisers to think about their role in shaping the eating habits of the people and influencing their choices

### **Measure 4. Ensuring compliance with the principles of balanced nutrition in institutional catering**

#### **Activities**

- 3.2.8. Training on heart healthy nutrition and training on the use of information sources for providers of institutional catering
- 3.2.9. Publication on a health portal of recommended menus and training materials for child care facilities, schools, hospitals, nursing homes and other enterprises in which the state organises catering (implemented under activity 3.5.3)
- 3.2.10. Strengthening the effectiveness of a surveillance mechanism to monitor the compliance of food composition with the legislation on institutional catering
- 3.2.11. Launch of the “One Fruit at School” project for offering fruits in child care facilities and schools
- 3.2.12. Continuation of the school milk and school lunch programmes

### 3.3. AREA: SMOKING

#### Strategic subgoal:

**Prevalence of tobacco consumption and time spent in an environment which contains tobacco smoke will decrease steadily**

#### Outcome indicators

- The proportion of daily smokers among 13-year-olds shows a steadily decreasing trend and is reduced among men aged 16-64 to 40% by the year 2008 and to 30% by the year 2020; among women, to 16% by the year 2008 and to 10% by the year 2020 (in 2002, men – 45%, women – 18%, 13-year-olds – 10%) (sources: Health behaviour study of the Estonian adult population, Health behaviour study of students, 2002).
- The proportion of men who spend at least one hour a day in an environment which contains tobacco smoke is reduced to 12% by the year 2008 and to 6% by the year 2020; among women – to 5% by the year 2008 and to 2% by the year 2020 (in 2002, men – 26% and women – 10%).

#### Background

*Both active and passive smoking are harmful for the entire cardiovascular system, increasing significantly the risk of atherosclerosis, myocardial ischaemic disease, heart attack and apoplexy.*

In the popular mind smoking is mainly associated with lung cancer. Much less is known about the harmful effect of smoking in relation to cardiovascular diseases. More than 4000 chemical compounds are produced by a lit cigarette, plus various solid particles, many of which are also harmful to health or outright toxic. Upon regular inhalation of these by a smoker or anyone in his or her immediate vicinity, the person's endarterium is damaged, the normal blood biochemistry is impaired along with the oxygen demand and supply of the heart muscle, which inevitably leads to irreversible changes in the organism and the development of chronic illness. It has been estimated that the prevalence of CVD would decrease by nearly 40% if nobody smoked.

Smoking is the only single risk factor of heart health that can be eliminated at once. The risk is reduced immediately when one quits smoking and becomes equal to the CVD risk of non-smokers within about ten years.

According to the health behaviour study of Estonian adults, 45% of men and 18% of women in Estonia were smokers in the year 2002. The increase in the smoking prevalence of students over the past decade is worrisome, where the growth has been especially high among girls. According to the health behaviour study of students carried out in 2001-2002, an average of 10.3% of 13-year-olds smoked at least once a week (12.8% of boys and 8% of girls). Among 15-year-olds, 24.2% smoked at least once a week (30.4% of boys and 18.2% of girls).

A majority of daily smokers (nearly 75%) are worried about their health in relation to smoking. The proportion of daily smokers who wish to be free of tobacco addiction has grown over the years and is approaching the study results published in other countries (80%).

A noteworthy proportion of non-smokers are more or less forced to spend time in rooms polluted by tobacco smoke and endanger their health through such passive smoking. The prevalence of passive smoking has improved in particular outside the home, where the proportion of people who have stayed in smoke-filled rooms has started to decrease significantly. Still, in 2000 only 50% of the people aged over 16 were able to breathe smoke-free air at all times outside their home.

**The characteristic trends of smoking prevalence over the past decade have been: a rapid growth after 1990 and a decreasing trend since 1994, mainly among people with a higher income and higher education; an overall growth among students at all the age brackets investigated; an increase of tobacco-free environment outside the home; the creation of counselling and treatment opportunities for smoking cessation.**

### **Measures to reduce the prevalence of tobacco consumption and time spent in an environment containing tobacco smoke**

Health and economic loss caused by tobacco consumption have been underestimated so far. Few people know that smoking is an addiction disease, included in the International Classification of Diseases as a diagnosis. Only one-third of smokers succeed in fully getting rid of the addiction.

In the developed industrial countries of the world, prevalence of tobacco consumption showed a clear decreasing trend in 1970-2000, achieved by three simultaneously applied strategic activities: reduction of the demand for and availability of tobacco products, assistance to smokers in quitting smoking, and increasing the tobacco-free environment.

Setting the reduction in the prevalence of tobacco consumption as a long-term national priority is a conceptual prerequisite for carrying out such a strategy.

Of the aforementioned three activities, the first one covers the following: launching of projects/programmes including preventive media campaigns; making tobacco a mandatory subject of elementary school curricula; review of the legislation to increase smoking prohibitions in public places; improved surveillance at points of sale of tobacco products; reduction of the illegal market share in tobacco trade; prohibition of tobacco advertising, sales promotion and sponsorship; keeping the price rise of tobacco products higher than the average inflation and income growth; inclusion of the topic of smoking in all development plans.

The second activity consists of ensuring the availability of long-term counselling and treatment services for quitters together with training of the relevant staff and appropriate guidance material. Regular competitions in quitting smoking have also proved to be an effective tool.

The third activity consists of increasing the social accountability of employers in ensuring a tobacco free environment, changing the attitudes of the population to condemn smoking, and more effective monitoring of compliance with legislation.

### **Measure 5. Shaping the values and behavioural models of different target groups to avoid tobacco consumption and passive smoking**

#### **Activities**

- 3.3.1. Inclusion of the topic of smoking in national curricula (framework curriculum of pre-school education, national curricula of elementary schools and secondary schools) for developing healthy attitudes, enhancing self-esteem, coping in different situations, together with the use of examples and teaching aids (videos, role games, quizzes, competitions, etc.)
- 3.3.2. Covering smoking and other harmful activities in the basic and continuing education of teachers and ensuring the supply of relevant teaching and methodological materials

- 3.3.3. Reduction of smoking in the armed forces by providing counselling and establishing restrictions on smoking on military bases
- 3.3.4. Increasing the agreed level of tobacco excise taxes according to the requirements set out in the EU accession agreement within five years instead of ten. Of the excise taxes collected, 1% will be used to finance activities and health campaigns aimed at the reduction of smoking
- 3.3.5. Implementation of motivation strategies in organisational development strategies (participation in international campaigns, e.g. “Quit and Win”, “Smoke Free Class”, implementation of a motivation system), inclusion of the topic of tobacco in all health promoting movements (health promoting school/hospital/city/job), participation in the EU cooperative project ENYPAT

#### **Measure 6. Creation and making available to the public a counselling system for quitting smoking**

##### **Activities**

- 3.3.6. Integration of smoking cessation counselling in the primary level of the health care system (implemented under activity 3.4.3)

#### **Measure 7. Increasing the tobacco-free environment via improving the surveillance system**

##### **Activities**

- 3.3.7. Effective and productive implementation of the Tobacco Act in cooperation with the surveillance agencies and the media. Increasing citizen initiative together with publicity. Regular training of surveillance officials (inspectors)

### **3.4. AREA: HEALTH CARE**

#### **Strategic subgoal:**

**Quality health care services aimed at CVD prevention will be available**

#### **Outcome indicators**

- The percentage of people aged 30-60 on a family doctor’s roster for whom CVD risk factors are identified increases steadily by 5% a year.
- The rehabilitation and follow-up treatment system for CVD patients will be reorganised by the year 2008.

#### **Background**

*Readily available, quality treatment of CVD patients and persons with an enhanced risk of CVD helps prevent illness and premature mortality and improves the quality of life of the patients.*

About 32 million heart attacks and apoplexies occur in the world every year, while billions of people are at a high CVD risk without being identified. Influencing those risk factors by lifestyle changes and medication is of substantial help in reducing the risk of complications (WHO Report. Geneva, 2002). Contemporary

treatment and clinical prevention of heart diseases are important components of CVD prevention.

The average arterial blood pressure and cholesterol level indicators of men and women in Tallinn exceed the corresponding indicators of their counterparts in most European countries. From another perspective, studies by researchers at the Institute of Cardiology have demonstrated that Estonian doctors are insufficiently oriented to preventive activities and are little involved in CVD prophylaxis and health promotion. Only 14% of the inhabitants of Tallinn were advised by physicians to improve their lifestyle (Voloz, 1999).

Despite the high mortality/morbidity, the frequency of use of many CVD diagnosis and treatment methods is many times lower in Estonia compared to the West European countries. The waiting lists in specialised ambulatory care have exceeded the maximum level established by the Health Insurance Fund in regional hospitals and some central hospitals. The relative proportion of non-emergency medical care is small in cardiology due to inadequate resources and staffing; inpatient treatment often begins only when complications occur, at which stage the likelihood of recovery and full restoration of work capacity is modest and the treatment costs are higher.

The availability of rehabilitation and follow-up treatment has substantially decreased in recent years. A systematic and comprehensive rehabilitation of patients who have received acute treatment (cardiology, cardiovascular surgery, neurology) helps to restore the work capacity more rapidly and to a fuller extent, as well as increasing a person's ability to cope without external help.

## **Measures for improving health care services in CVD prevention**

Prevention activities so far have been mainly project-based, involving approximately one-fourth of family doctors and the major hospitals. Prevention is also a mandatory part of all the guidelines approved by the Health Insurance Fund. Besides health services, more attention has to be paid to discovering illness at its early stages and to identifying the factors that may trigger illness. It is important to establish motivated prevention activities and identification of at-risk persons as a routine process (not campaigns) both at the primary level of health care as well as by medical specialists. Primary level physicians need to be specifically trained in the skills and knowledge that allow for an active use of early CVD diagnostics in their everyday work.

The creation of a contemporary health care environment is a precondition for effective and quality treatment, which prevents complications and reduces the need for expensive rehabilitation later.

### **Measure 8. Identification of the population at risk of CVD and reduction of risks**

#### **Activities**

- 3.4.1. Development of a system of preventive health services aimed at CVD prevention and early discovery at the primary level of health care, and screening for the CVD risk factors
- 3.4.2. Preparation, approval and implementation of instructions for health promoters of health rooms (implemented under activity 3.5.1)
- 3.4.3. Training on heart healthy nutrition, physical activity and smoking cessation and on the use of information sources for family doctors and family nurses, school nurses and health promoters of health rooms. (This activity supplements the Health Insurance Fund's activities carried out as a part of the general costs of the reference prices of health services in the primary level.)

### **Measure 9. Ensuring the availability and quality of specialty medical care**

### Activities

- 3.4.4. Ensuring the availability of evidence-based and quality health services
- 3.4.5. Bringing the supply of work equipment, facilities and apparatus into compliance with requirements
- 3.4.6. Reorganisation of the rehabilitation and follow-up treatment of cardiovascular diseases
- 3.4.7. Increasing the public financing of applied research in the area

### 3.5. AREA: DISSEMINATION OF INFORMATION AND SECURING LOCAL CAPACITY

Dissemination of information and intersectoral cooperation, which are usually not limited to a single strategic area, are needed for achieving the strategic area goals. Therefore, common dissemination of information and cooperation between all the strategic areas is regarded as a separate area. CVD prevention consists of the prevention of heart health problems, and decisive in this is the shaping of healthy attitudes and the full development of the health potential via increasing a health-supporting environment.

#### Strategic subgoal:

**To ensure the full and effective implementation of the programme**

#### Measures for increasing the effective dissemination of information about the CVD prevention strategy and securing cooperation

The success of the strategy is secured by the activities on the county and local government levels, which requires cooperation between the local units. The purpose of the county system is to decentralise health promotion activities, as this helps to better meet the local needs and peculiarities. According to § 9 of the Public Health Act, the county governor is responsible for organising health promotion activities in the county. A health council will be set up in each county government, consisting of the representatives of different entities, including local governments. The exact duties of the health council will be defined in cooperation with the representatives of the county governments. The main duty of the health council in implementing the strategy is to prepare and carry out a county implementation plan of the strategy. For implementation, county health rooms will be established, employing a health promoter. The health rooms are non-medical and their main duty is to implement the county implementation plan of the strategy in cooperation with the local governments and various networks. In the longer term, such organisation on the county level should become a permanent structure and engage in other public health programmes besides the implementation of this strategy.

#### Measure 10. CVD prevention on the local level

##### Activities

- 3.5.1. Implementation of the concept of local organisation of health promotion, including county health councils

- 3.5.2. Creation of county health rooms, from which information on heart health and a healthy lifestyle is disseminated and which organises public health events
- 3.5.3. Creation of a health portal
- 3.5.4. Creation of a local system of dissemination of information
- 3.5.5. Invoking and supporting a movement of health-promoting workplaces; using personnel workers, making a positive impact on the conditions of the workplace environment and the heart health awareness of employers and employees. Preparation of the relevant guidance material
- 3.5.6. Extension of the activities of health promoting schools, child care facilities, cities and hospitals

### **Measure 11. Development of health sustaining attitudes to life**

#### **Activities**

- 3.5.7. Development of the public information concept and its implementation for carrying out various media campaigns on public television and radio, and issuing print publications and VHS tapes with Russian subtitles
- 3.5.8. Organisation of a nationwide heart week every year

### **3.6. Research related to the strategy and statistical databases**

- 3.6.1. Monitoring of physical activity  
A survey covering the entire population will be carried out to identify physical activity trends. The study will make it possible to assess changes in the physical activity of the population
- 3.6.2. Anthropometrical database  
The anthropometrical database is kept in the University of Tartu. It is important to supplement and update the database for monitoring anthropometrical trends. Monitoring of the anthropometrical trends of the population is essential for assessing nutrition and physiological changes
- 3.6.3. “Children and Obesity” project  
Participation in the international project “Children and Obesity and Associated Avoidable Chronic Diseases”. The goal of the project is to stop childhood obesity and it is mainly focused on environmental factors: measurement and analysis of the impact of food marketing and advertising on children and youth. As a final result, a consensus document should be prepared on the European and national levels, indicating activities and guidance for the future. The total duration of the project is 32 months and it covers all the old member states of the European Union and the new member states of Estonia, Slovenia, Hungary and the Czech Republic
- 3.6.4. Nutrition database  
Activity aimed at the implementation of a nutrition database. The Ministry of Social Affairs and the Ministry of Agriculture have performed various food composition and food safety studies, which need systematisation and harmonisation of the software
- 3.6.5. Health behaviour entries in the e-health file  
Data fields for health behaviour (physical activity, smoking habits, passive smoking, balanced nutrition) should be included in the preparation of the e-health file project so that trends and risk factors can be readily assessed in the future

#### 3.6.6. Heart attack register

The heart attack register is maintained in the Tartu University Hospital Foundation on a project basis. It is important to extend the heart attack register nationwide to collect information for heart attack statistics and research at the level of the entire population. The heart attack register also supports the conduct of medical audits, which can enhance the quality of medical treatment.

#### 3.6.7. Establishment of an apoplexy register

Apoplexy is a health disorder caused by a lesion in cerebral blood vessels, which is often permanent. Similarly to the heart attack register, an apoplexy register should be maintained to provide apoplexy morbidity statistics and allow for an analysis of the prevalence and causes of apoplexy and the survival of apoplexy patients, for organising their health care, improving the quality of medical treatment, developing prevention measures and assessing their effectiveness

#### 3.6.8. Health behaviour studies of children and adults

The studies have been carried out every other year since 1996. Both studies serve as a basis for monitoring the health trends and health behaviour trends of the population and allow for an assessment of the health measures applied (including under the CVD strategy), which is why it is especially important to continue these studies following the established scheme

### **3.7. Support for implementation of the strategy**

#### 3.7.1. Annual quantitative and qualitative expert assessment of the implementation process and impacts of the strategy

#### 3.7.2. Management and development of the strategy

## **4. IMPLEMENTATION OF THE STRATEGY**

The implementation of the strategy is managed and coordinated by the strategy council set up in the Ministry of Social Affairs, which includes representatives of county governments, local governments and relevant ministries and other institutions, including non-profit associations and professional associations.

The chairman of the strategy council is the Minister of Social Affairs, who annually submits an implementation report to the Government of the Republic.

The strategy council is competent to review and approve the measures and proposals drawn up for the annual implementation plan of the strategy, review and approve the implementation reports, and assess the effectiveness of implementation of the strategy.

The decisions of the strategy council are approved by the Minister of Social Affairs with his signature.

The composition and rules of procedure of the strategy council are approved by an order of the Minister of Social Affairs.

The servicing unit of the strategy council is the Public Health Department of the Ministry of Social Affairs. The preparation of the strategy and annual report are coordinated by the Public Health Department of the Ministry of Social Affairs.

Proposals for the composition of the strategy council:

Chairman of the council:

## Minister of Social Affairs

## Members:

Deputy Secretary General of the Ministry of Social Affairs  
 Head of the Public Health Department of the Ministry of Social Affairs  
 Head of Health Policy of the Public Health Department of the Ministry of Social Affairs  
 Chief Specialist, Chronic Diseases, of the Public Health Department of the Ministry of Social Affairs  
 Chief Specialist of the Health Information and Analysis Department of the Ministry of Social Affairs  
 Representative of the Ministry of Finance  
 Representative of the Ministry of Education and Research  
 Representative of the Ministry of Culture  
 Representative of the Ministry of Agriculture  
 Representative of the Ministry of Internal Affairs  
 Representative of the Estonian Employers' Confederation  
 Representative of the Association of Estonian Cities  
 Representative of the Association of Rural Municipalities of Estonia  
 Representative of the Estonian Heart Association  
 Representative of the Estonian Cardiac Society  
 Representative of the National Institute for Health Development  
 Representative of the Department of Food Processing of the Tallinn University of Technology  
 Representative of the Estonian Health Insurance Fund  
 Representative of the Estonian Chamber of County Doctors  
 Representative of the Estonian Health Promotion Society  
 Representative of the Estonian Society of Family Doctors

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<sup>1</sup> RT 1992, 26, 349; RT I 2003, 29, 174; 64, 429

<sup>2</sup> RT I 1995, 57, 978; 1996, 3, 56; 49, 953; 1997, 37/38, 569; 1999, 30, 415; 88, 804; 2001, 23, 128; 2002, 32, 187; 53, 336; 61, 375; 63, 387; 90, 521; 2003, 26, 156 and 160; 2004, 45, 315; 75, 520; 87, 593

<sup>3</sup> EU Council conclusions of 2 June 2004 "Promoting heart health", 9627/04 SAN 92

<sup>4</sup> Ottawa Charter for Health Promotion, 1986

[http://www.who.dk/AboutWHO/Policy/20010827\\_2](http://www.who.dk/AboutWHO/Policy/20010827_2)

<sup>5</sup> EUR/RC49/R9 HEALTH21: the health for all policy framework for the WHO European Region  
[http://www.who.dk/Governance/resolutions/1999/20030225\\_6](http://www.who.dk/Governance/resolutions/1999/20030225_6)

<sup>6</sup> Rethinking Health - The Verona Initiative Grows

[http://www.who.dk/mediacentre/PressBackgrounders/2000/20010926\\_7](http://www.who.dk/mediacentre/PressBackgrounders/2000/20010926_7)

<sup>7</sup> De Backer G et al. European Guidelines on CVD prevention. European Journal of Cardiovascular Prevention and Rehabilitation 10, Suppl 1, 2003.

<sup>8</sup> WHO Global strategy on diet, physical activity and health

[http://www.who.dk/nutrition/ActionPlan/20031111\\_1](http://www.who.dk/nutrition/ActionPlan/20031111_1)

<sup>9</sup> EUR/04/5049624 A strategy to prevent chronic disease in Europe [www.who.int](http://www.who.int)

<sup>10</sup> <http://www.riik.ee/valitsus/index.php?id=1276&PHPSESSID=77c16a10c29b8432229db943d2587447>

<sup>11</sup> <http://www.riigikantselei.ee/failid/EE2014.doc.pdf>

<sup>12</sup> RT L 2004, 74, 1218