

First Period (2009–2012) Performance Report

National Health Plan (NHP) 2009–2020

This Progress Report serves to provide an overview of the achievement of indicators, linked to goals and sub-goals of the first period (2009-2012) of the NHP 2009–2020. More substantial information about the main activities of the NHP are available from the annual NHP activity reports that are published at the website of the Ministry of Social Affairs at www.sm.ee.

During the first implementation of the NHP, a number of other health sphere strategies were applicable, apart the NHP. These all establish goals, sub-goals and indicators to measure their achievement. Therefore, this report does not represent a comprehensive overview of the development of all the health related spheres.

General Objective of the Plan

The number of years of healthy life for both men and women is expected to increase, by 2020, to 60 and 65 years, respectively, for men and women while the average life expectancy will increase to 75 years for men and to 84 years for women.

Indicator	Baseline 2006	Year 2012	Year 2016	Target level 2020	Performance 2012
Expected life expectancy at of birth – men. Source: Statistics Estonia	67.4	71.2	73	75	71.2 (2011)
Expected life expectancy at of birth – women. Source: Statistics Estonia	78.5	81.1	82.5	84	81.2 (2011)
Number of years of healthy life (unrestricted) at birth – men. Source: Statistics Estonia	48.0 (2005)	56	57.5	60	53.0
Number of years of healthy life (unrestricted) at birth – women. Source: Statistics Estonia	52.2 (2005)	60.5	62.5	65	57.0
	2012 target level achieved				
	2012 target level not achieved				

From the end of 2008 the influences of the global economic recessions reached Estonia, which had a significant impact on the performance of activities planned in the NHP and most of the NHP performance indicators. Even when cutbacks occurred in activities, activities were promptly reprogrammed and after adjustment to the new circumstances, some activities were even added or funded in greater amount than initially planned. The changed circumstances also resulted in unexpected shifts in the indicator results.

Until 2007, the **life expectancy increased slowly**, but **sped up considerably after 2008**. In 2008, life expectancy grew an average of 1.1 years and in 2009, by one more year. In years 2010 and 2011 that followed, the growth was rather modest and averaged to 0.5 years in 2011. A 0.23 year decrease in the life expectancy for men during 2006–2007 can be observed. It should be noted that although the life expectancy for women also saw an increase again from 2008, the respective increase for men was twice as large as that of women and the difference in life expectancy between genders decreased and dropped below 10 years for the first time in 2010. Even though life expectancy data on 2012 is not yet available, it can be assumed based on the initial mortality data that the growth of the recent

years will continue albeit at a slower pace. Although the increase of life expectancy has been faster in Estonia than in the EU and Estonia ranks first for its life expectancy level among the Baltic states, the respective indicators is still well beyond the respective average of majority of the European Union Member states. The average EU life expectancy at birth is higher than in Estonia, for women, the difference is 2.1 and for men – 6.2 years.

Until 2007, 1.4 year difference in life expectancy of urban and rural inhabitants was detected, in favour of urban population. From 2008, the difference has slowly disappeared and became notable again in comparison of 2010-2011, showing a 0.3 year increase. The difference of life expectancy of women of urban and rural areas was, in average, 0.51 years in 2006–2010 and the same indicator for men was 0.47 years. In 2011, the average life expectancy of men, living in urban areas, was 71.34 years and of men living in rural areas – 70.95 years, which means that in average, men living in urban areas exceeded the average Estonian life expectancy by 0.18 years while in rural areas their life was, in average, shorter by 0.21 years. For women, the differences are comparable. The life expectancy of women, living in urban areas, was 81.37 years in 2011 (exceeding the Estonian average by 0.28 years) while for women living in rural areas the average life expectancy was 80.96 years (shorter than the average by 0.13 years).

Single exceptions excluded, the life expectancy grew in 2006–2011 in all the counties. At birth, the highest life expectancy was in years 2010–2011 in Tartu county (77.30 years) and the lowest in Ida-Viru county (73.15 years). Therefore, the average life expectancy of the population of Ida-Viru county was lower by 4.15 years than in Tartu county. The biggest increase of life expectancy (0.95 years), comparing years 2009–2010 and 2010–2011, took place in Hiiu and Võru county. The life expectancy in two counties decreased during the same period, in Pärnu county by 0.06 years and in Valga county – by 1.05 years. Life expectancy in Ida-Viru county increased in years 2006–2011, like in other counties, but as we observe the general picture, the respective indicators for the population of Ida-Viru county are still lower. This may be due to the fact that the mortality of the population of Ida-Viru county, due to diseases of circulatory organs and injuries and poisoning is higher than in other counties. Shorter life expectancy of inhabitants of Ida-Virumaa is influenced, among other this, socio-economic conditions that are poorer than the Estonian average, higher unemployment rates among them. In years 2010 and 2011, the highest unemployment rates in this area were, respectively, 25.8% and 20.3%, which is higher than the Estonian average by 8.9 (2010) and 7.8 (2011) percent.

The number of years of healthy life increased very rapidly in 2006–2009, reaching the level of 54.8 years for men (growth of 5.2 years) and 59.0 years for women (growth of 5.3 years). **From 2010, the number of years of healthy life has decreased** by 1.8 years for men and 2.0 years for women. The fact that although the number of years of healthy life at birth dropped over recent years but the number of years of healthy life continued to grow for people aged 65 continued to grow: from 3.9-let years in 2006 to 5.4 years in 2009 and from there on, to 5.6 years in 2011, is positive.

There are also big gender differences in the number of years of healthy life in Estonia – in average, women live longer than men by 3.8 years, however, the period of healthy life is, in average, 71.1% of life expectancy for women and 75.7% for men. As for the number of years of healthy life, the gap with the EU average is bigger than we experienced with life expectancy. In 2011, the expected number of years of healthy life for women in Estonia was 57.7 years (the respective EU average being 62.2 years, difference from the EU average 4.5 years) and for men – 53.9 years (the respective EU average being 61.8 years, difference from the EU average 7.9 years). Comparison by counties shows that the number of years of healthy life for inhabitants of Põlva county is considerably lower than the respective Estonian average: in 2011, average the number of years of healthy life in Estonia was 56 years, while in Põlva county the respective outcome was only 42.5 years. The period of healthy life is the longest in Läänemaa – 60.8 years. From 2008, the number of years of healthy life, lived by

Estonians, is longer than the respective outcome for non-Estonians (respectively 57.2 and 53.7 years) and the decline in the number of years of healthy life, experienced in 2010–2011, is largely attributable to the non-Estonian population the number of years of healthy life.

The number of years of healthy life is a complex indicator that demonstrates the average number of years that an individual can probably enjoy without daily restrictions that result from long-term illnesses. The share of people aged 16 years and older, suffering from long-term diseases, grew from 38.5% to 43.5% in 2006–2012. One of the components, used to calculate the number of years of healthy life, is subjective opinion of people, regarding daily restrictions that result from long-term illnesses. From 2006, the share people aged 16 years and older, suffering from long-term diseases, dropped from 34% to 28.4% by 2009, and started to grow steadily again in 2010, reaching 31.1% in 2011 and 32.5% in 2012. In the given situation, the target level for the number of years of healthy life for 2012 was not achieved. The biggest growth of daily restrictions incurred among people aged 55–64 years (from 38.1% to 48.8% in 2009–2012). In 2006–2012, the general mortality rate among people of 50-64-years of age has dropped by approximately 30%, and therefore, one of the reasons for decreasing number of years of healthy life is the fact that more and more people stay alive and suffer from chronic illnesses. We can't also underestimate the influence of recession on health and coping of people and availability of medical care.

I area – social cohesion and equal opportunities

SO 1. Social inclusion in Estonia has significantly increased and the social capital has grown

Indicator	Baseline 2006	Year 2012	Year 2016	Target level 2020	Performance 2012
Percentage of population covered by health insurance. Source: Estonian Health Insurance Fund, SA	95.2% m: 93.3% w: 96.8%	99%	99%	100%	96.2% \$ m: 93.1% w: 98.8%
† Relative poverty level (percentage of persons whose equivalent income is lower than the median annual equivalent net income of 60% of household members). Source: SA	18.3% m: 16.3% w: 20.0% (2005)	16.8%	16% (16.5%)	16% (15%)	17.5% m: 16.8% w: 18.1% (2011)
Child poverty risk (percentage of children aged 15 and younger and living below the poverty line). Source: SA	19.8% m: 20.8% w: 18.8% (2005)	19%	18%	17%	16.2% m:16.4% w:15.9% (2011)
† Percentage of long-term unemployed (over 12 months). Source: SA	2.3% m:2.9% w:1.7% (2007)	1.7% (5.7%)	1.3% (3.7%)	0.8% 2.5%	5.5% m: 6.1% w: 4.9%
Suicide deaths rate per 100,000 inhabitants. Source: SA, NIHD	18,4 m: 30,9 n: 7,7	15	12,5	10	18,2 m: 31,7 n: 6,5
† Indicator's target level was adapted in the action plan for 2013–2016, the adjusted target level is shown in brackets. \$ The indicators for years 2006–2011 and 2012 are calculated, using different base information (census of 2000 and 2011) and therefore, are not comparable. Adjusted numbers of population,					

eliminating under-coverage from census information, will be published by Statistics Estonia on years 2000–2013 during the 1st quarter of year 2014.

2012 target level achieved
2012 target level not achieved

Target levels were not achieved for majority of the indicators that demonstrate material welfare.

The **proportion of people, having valid health insurance**, dropped during the recession. In 2011, 93% of the population had valid health insurance, respectively, 90.4% of men and 95.1% of women. The best situation is in Harju county, where 96.9% of the population has valid health insurance; health insurance coverage is the lowest in Jõgeva county (87.3%). The indicators were even better in 2012 – 96.4% of the population had valid health insurance; however, this information can't be compared to previous years as the population numbers are just being adjusted for the period between two censuses. Long-term unemployed, who remain registered at the Estonian Unemployment Insurance Fund, will maintain their health insurance. The persons without valid health insurance mostly include the discouraged, people receiving irregular income, free-lancers, people getting income from abroad and people paid under the table. People without valid health insurance can get free accident and emergency medical care; some local governments support provision of accident and emergency medical care to those with no valid health insurance albeit this is not the legal obligation of local governments. Absence of valid health insurance will postpone seeing doctor in case of health problems, but the earlier we start to deal with a sickness, the cheaper it will be and the lower will be the risk of developing chronic illnesses.

Unemployment rate remained stably at a low level in Estonia before the recession hit. The influence of financial and economic crisis on labour market started to become apparent at the end of 2008 and the number of unemployed **had tripled by the beginning of 2010**. The growth of unemployment rates was among the fastest in the EL and reached the level of 16.9% in 2010. As of the second half of 2010, Estonian economy started to recover and grow again and this meant new jobs; by 2012, unemployment rate has dropped to 10.2%, being still twice as high as during the pre-recession period (5.5% in 2008).

In 2006, long-term unemployed formed 2.3% of labour; their proportion continued to drop over the next two years, reaching 1.7% in 2008. **As the consequence of the recession, long-term unemployment rates grew, compared to the earlier situation**, reaching the maximum level in 2010 (7.7% of labour). By 2012, the number of long-term unemployed has dropped and contributes 5.5% of the labour. Although long-term unemployment rates dropped faster than short-term unemployment rates in 2012, more than half of the unemployed have looked for a job for a year or longer. Among men, the number of people, having looked for a job for a year or longer is higher (6.1%) than among men (4.1%). The number of non-Estonians among the long-term unemployed is much higher than among the Estonians (respectively, 9.4% and 3.7% of the labour). Quite probably, these indicators would have dropped even further, if different labour market measures had not been applied to improve the situation of people.

Unemployment, above all, in long term, will influence the income, living conditions, and healthy choices of people and may exhaust natural defence mechanisms of people. As the consequence, both mental and physical health problems may express themselves. Therefore, it's important to contribute to prevention of long-term unemployment and integrate the unemployed into labour market as soon as possible.

Long-term goal for decreasing the share of long-term unemployment by 2020 was adjusted in the NHP 2013–2016 action plan as the consequence of labour market changes that

resulted from the recession and were brought into compliance with the goals of the Competitiveness Plan Estonia for 2020.

In contrary to indicators that demonstrate material welfare, **the indicators that reflect social stratification have taken a slightly positive trend.** Relative poverty reflects distribution of income in the society: this means that as the income of population increases, but the distribution of income between social groups remains the same, the relative poverty rate will also remain the same in the society. The relative poverty rate remained stable until 2008 (in 2008 – 19.7%), but dropped to 15.8% in 2009 (the respective EU average was 16.4%) at the same time. Therefore, while the general material welfare of the population dropped, the gaps between different social groups diminished and social cohesion, which is one of the objectives under 1st NHP area, improved. Decline of relative poverty line is the main engine between abrupt drop of relative poverty rate in 2009, but not the abrupt increase of income of people with lower incomes. Therefore, improved situation in labour market and decrease of average gross wages slowing down in 2010 **increased the relative poverty ratio to 17.5% again in Estonia.** The respective EU average was 16.4% at the same time. The relative poverty rate did not change in 2011.

Like in majority countries, the relative poverty of women is higher than the relative poverty of men in Estonia. In comparison of years 2008-2010, the difference in relative poverty rates of men and women, influenced by factors resulting from the recession, decreased and in 2020, the relative poverty rate among men reached a level higher than the same rate for women. In 2011, the relative poverty rate among women was, again, higher than the respective indicator for men (for women, 18.1%; for men, 16.8%).

The relative poverty rate of population of rural areas is higher (21.4%) than the respective rate in urban areas (15.8%). In comparison of counties, the relative poverty rate of inhabitants of Ida-Virumaa is almost three times as high as in Harjumaa (respectively, 29.4% and 10.6%). Education is an important component that helps to prevent relative poverty – the relative poverty rate is 28.4% among people aged 16–64-years and only 8.7% among the same age group with higher education. Like in other countries, the relative poverty rate is the highest, among Estonian household, in families with child/children and single parent (32.6%) and in households with three and more children (21.2%).

The target level for the relative poverty rate indicator for 2020 was adjusted slightly in the NHP 2013–2016 action plan to bring it into compliance with Estonia's goal for 2020 – to decrease the relative poverty rate to 15% instead of the current 16%. Growth of income with lower income level is needed to meet this goal (incl. social transfers, e.g. pensions) and avoid people falling into poverty.

The share of children under the age of 15 years, living below the poverty line, has dropped to 16.2%, which is lower than the respective indicator for the population in general. This is the only Area I objective, where the target level is achieved. The achievements now have to be maintained, which is a challenge big enough, as the poverty risk of children has fluctuated between 16.2–19.4% over the recent years.

Thus, the general aim in the field of social cohesion is to prevent a new increase in socioeconomic inequality with economic growth.

The number of suicides went up during the recession, hitting the ceiling in 2009 (20.1 suicides per 100,000 inhabitants). After that, in 2010–2011, the suicide rate decreased, compared to the pre-crisis level (which was 16.3 suicides per 100,000 inhabitants), **but increased to pre-crisis level again in 2012** (18.2 suicides per 100,000 inhabitants). Men commit suicide five times more often than women. Men's suicide morbidity rate starts to grow from age 40, reaches the highest level among men aged 50–59 years and 70–79 years (respectively, 52.8 and 78.8 suicides per 100,000 men); the group of men aged 70–79 years is characterised by considerable growth of the rate. Among women, the suicide rates are the

highest among women 65 years old and older (12.4 suicides per 100,000 women). In Estonia, suicide mortality rate is almost 1.5 times as high than the respective EU average (above all, due to men) whereas we rank to the average level, in comparison with the new member states. The suicide rate is higher than in Estonia in Lithuania, Hungary and Latvia.

Strategic Area II. Safe and Healthy Development of Children and Young People

SO 2. Decreasing mortality and primary morbidity in mental and behavioural disorders among children and young people, and an increasingly more positive assessment given by children and young people to their health

Indicator	Baseline 2006	Year 2012	Year 2016	Target level 2020	Performance 2012
† Infant death rate (number of infant deaths during the first year of life per 1,000 live births). Source: SA	4.4 m: 5.7 w: 3.1	3.6	3 (2.2)	2.6 (1.7)	3.6 m: 4.1 w: 3.1
† Child and adolescent (age group 0–19) death rate per 100,000 people. Source: SA	61.2 m: 82.2 w: 39.1	46	39 (34)	31	39.5 m: 43.2 w: 35.6
† Child and adolescent (age group 0–19) accident, poisoning and injury deaths rate per 100,000 people. Source: SA	30.1 m: 42.1 w: 17.5	23	19 (12)	15 (7)	12.0 m: 15.4 w: 8.5
Child and adolescent (age group 0–19) mental and behavioural disorders primary morbidity rate per 100,000 people. Source: SoM, NHID	2,251 m: 2,597 w: 1,886	2,058	1,929	1,801	1,987 m: 2,455 w: 1,492 (2011)
Percentage of children aged 11, 13 and 15 years reporting very good assessment of their health. Source: TAI, HBSC	31.3% m: 34.2% w: 28.5% (2005/ 2006)	32.9%	33.8%	34.7%	29.3% m: 32.1 w: 26.6 (2009/ 2010)
† Indicator's target level was adapted in the action plan for 2013–2016, the adjusted target level is shown in brackets					
	2012 target level achieved				
	2012 target level not achieved				

Some positive changes have taken place in the sphere of safe and healthy development of children and young people.

The target level established for infant death rate for 2012 was already achieved in 2009 and we've been able to maintain it over the years to follow. Infant mortality rate dropped below the level of 2.5 infant deaths during the first year of life per 1,000 live births in 2011; in 2012, the number of infant deaths during the first year of life showed a slight increase, going up to 3.6 infant deaths during the first year of life per 1,000 live births. In Estonia, the infant death rate is below the respective EU average (in 2011, 4.1 infant deaths during the first year of life per 1,000 live births).

Infant death rate target level for 2020 was slightly increased in the NHP 2013–2016 action plan as the goal for 2020 (2.6 infant deaths during the first year of life per 1,000 live births) was met in 2011.

As it was the case with infant mortality, **the 2020 target for child and adolescent mental disorders primary morbidity rate, first incurrence of mental disorders and injury death rate was achieved already by the end of 2009.** Regardless of a slight relapse in 2010, the child and adolescent morbidity rate was kept lower than the target level for 2012 in 2011–2012. The decrease of primary morbidity and injury death rate has been faster for boys, influencing decrease in gender difference in life expectancy. Compared to the baseline value (year 2006), the difference in morbidity of boys and girls diminished considerably – 4.4 times for accidents and 5.5 times for poisonings and traumas. However, injury death rate among Estonian children and adolescents is still almost twice as high as the respective EU average. Estonia, with the Baltic states and Romania, is amount the member states where the highest number of children younger than 19 years die from injuries and poisoning.

Target level for death rate of age group 0–19 for 2020 was slightly increased in the NHP 2013–2016 action plan as the goal for 2016 was already achieved. The final goal, established for 2020, will remain the same. Also, the final target values of injury, poisoning and accident death rates of age group 0–19 were slightly raised for 202 as the former target level was already reached. The new goal involves further decreasing of injury death rate of children and adolescents by half, compared to today's level (7 deaths per 100,000 inhabitants), which meets the current average level of the European Union Member States.

Regrettably, **the assessment given by children to their health has moved in a direction that is opposite to the expected.** According to the outcomes of two studies, the share of students that assess their health as good, has decreased, however, there is one positive aspect – the share of students who assessed their health as very poor has somewhat decreased. Based on the results of a survey, conducted in academic year 2009/2010, the number of girls who assess their health as good is lower than that of boys, respectively, 26.6% and 32.1%. Also, Estonian students gave worse assessment to their health than non-Estonians. Children's positive assessment towards health was linked to economic situation of families. Children from families with good economic situation assessed their health as very good, in 2006, respectively, 1.3 and 1.4 times more often than children from families with average or bad economic situation. According to a recent study (2010), the respective gap has somewhat decreased.

Strategic Area III. Healthy Living, Working and Learning Environment

SO 3. Health risks from the living, working and learning environment are reduced

Indicator	Baseline 2006	Year 2012	Year 2016	Target level 2020	Performance 2012
† Respiratory disease mortality rate per 100,000 inhabitants. Source: SA	36.9 m: 57.2 w: 19.6	34.5	33 (31)	31.4 (31)	34.7 m: 50.4 w: 21.1
† Number of fatal occupational accidents per 100,000 employed persons. Source: Labour Inspectorate, SA	4.5	3.6	3 (2.7)	2.4	2.2
† Number of working days lost due to occupational accidents per 100 employed persons. Source: Estonian Health Insurance Fund, SA	20	18	17 (16)	15	17.2
Health impact of work: percentage of	59.2%	50%	40%	30%	43.5%

employed persons who believe that their work deteriorates their health. Source: European Working Conditions Survey	(2005)				(2010)
Food-related infectious diseases primary morbidity rate per 100,000 inhabitants. Source: Health Board	303	250	200	200	288 \$
Percentage of population supplied with drinking water conforming to requirements. Source: Health Board	73% (2006)	86%	88%	90%	88.3%
Percentage of persons diagnosed with or treated for asthma among the age group 16–64. Source: NHID, Health Behaviour Study	2.1% m: 1.8% w: 2.4%	1.8%	1.7%	1.5%	2.7% m: 2.0% w: 3.3%
† Annual average concentration of fine particles (PM10) in the air in Estonian cities (µg/m ³). Source: EEIC	20.7 (2005)	18	16 (14)	14	12.6
† Indicator's target level was adapted in the action plan for 2013–2016, the adjusted target level is shown in brackets. \$ The indicators for years 2006–2011 and 2012 are calculated, using different base information (census of 2000 and 2011) and therefore, are not comparable. Adjusted numbers of population, eliminating under-coverage from census information, will be published by Statistics Estonia on years 2000–2013 during the 1 st quarter of year 2014.					
	2012 target level achieved				
	2012 target level not achieved				

Positive changes can be observed in the achievement of majority of the environmental health indicators.

Respiratory disease mortality rate has consistently dropped; the target level for 2012 was achieved already in 2009 and the target level for 2020 – in 2011. Respiratory disease mortality rate increased in **2012 slightly above the target level.** Respiratory disease mortality rate for men is twice as high as for women; mortality rate increases with age.

The final target level of respiratory disease mortal rate for 2020 was slightly lowered in the in the NHP 2013–2016 action plan as the final objective is already reached. Maintaining the level achieved will be an ambitious goal, as the respective indicator of Estonia is almost two times lower than the European Union indicator and in an ageing developed society we need to make more efforts to control contraction of chronic lung diseases and mortality rates.

The incidence of chronic lung diseases is showing a growth trend. This is **evidenced by the growth of the percentage of persons diagnosed with or treated for over the last couple of years.** Contrary to the goal established, the incidence of the disease is growing. The number of people suffering from asthma among the age group 16–64 has grown from 2.1% in 2008 to 2.4% in 2012. Asthma is more common among women. In Estonia, the incidence of asthma is lower than in the EY by approximately 1.7 times.

The target levels for working environment indicators that were established for 2012 were achieved already in 2009. Health problems and occupational accidents that result from working environment that deteriorates one's health and working under unfair conditions result in decrease in life quality and coping of people. This will also cause bigger expenses on benefits for temporary incapacity for work, medical expenses, pension for incapacity for work and social welfare benefits.

By 2012, the number of fatal occupational accidents per 100,000 employed persons dropped by approximately one half, compared to 2006 (from 4.5 deaths per 100,000 employed persons to 2.2 deaths). **Number of working days lost due to occupational accidents** decreased during the recession to 15.4 working days per 100 employed persons in 2009. Over the years that followed, recovering economy brought along slow increase of the number of working days lost due to occupational accidents, reaching the level of 17.2 working days per 100 employed persons in 2012.

The target levels for 2016 for the number of fatal occupational accidents and the number of working days lost due to occupational accidents was slightly increased in the NHP 2013–2016 action plan as the target levels for 2016 were achieved in 2010–2011. The final goals for 2020 remained the same, as the further decrease in the number of working days lost due to occupational accidents is slow as decrease in the number of fatal occupational accidents will mean more life-related occupational accidents that require taking out a leave for temporary incapacity for work.

According to the European Working Conditions Survey, which is held at every five years, **43.5% of employees have formed an opinion that the work they do will deteriorate their health.** Compared to year 2005, the number of such employees has dropped by one fourth (the level of 2005 being 59.2%). Men see the influence of the work they do to be more negative for their health than women. Estonian employees find much often than the EU employees that their work deteriorates their health (24% of employees), which serves to demonstrate the fact that in the European Union, Estonia is still among the countries where the working environment is less safe and does not support the health of employees. Employees of Latvia and Slovenia have formed even worse opinion of their working environment than the Estonians (respectively, 53% and 45% of employees).

According to the environment health indicators, the spread of food-related infectious diseases still remains a major problem. The number of people, diagnosed with food-related infectious diseases per 100,000 inhabitants remained largely at the same level until 2010 and in 2011; abrupt increase of the respective figure was observed (up to 340 cases per 100,000 inhabitants). According to the initial data, in 2012 the situation has somewhat improved and 288 people per 100,000 inhabitants were diagnosed with food-related infectious diseases. However, this is not sufficient to meet the desired target level. Awareness of the population needs to be enhanced to decrease the incurrence of food-related infectious diseases.

Other environment health safety indicators have improved faster than expected; both the percentage of population supplied with drinking water conforming to requirements and annual average concentration of fine particles in the air in Estonian cities have decreased.

The percentage of population supplied with drinking water conforming to requirements increased to 87.5% in 2010; after that, we've succeeded to maintain this level (in 2012, 88.3%). The annual average concentration of fine particles (PM10) in the air in Estonian cities has dropped; the target level for 2012 was achieved in 2010, after the concentration had dropped to 17.8 µg/m³. In the following years, the average concentration of fine particles in ambient air dropped even more, to 12.6 µg/m³ in year 2012. PM10 particles originate, above all, from soil, road surface and dusty environment. In addition to intensified activities that increase environmental safety, recession that brought reduced traffic flows may also have contributed to improvement of the situation.

In the NHP 2013–2016 action plan, the target level of annual average concentration of fine particles (PM10) in the air in Estonian cities in 2016 was somewhat increased, as the target level for 2016 was almost reached in 2011. Further activities focus on maintaining the level.

Strategic Area IV. Healthy Lifestyle

SO 4. Physical activity of the population has increased, nutrition is more balanced and the level of risk behaviour has decreased

Indicator	Baseline 2006	Year 2012	Year 2016	Target level 2020	Performance 2012
Percentage of overweight persons in the age group 16–64. Source: NHID, Health Behaviour Study	30.5% m: 37.3% w: 26.1%	28%	26%	25%	29.9% m: 35.9% w: 25.6%
Percentage of obese persons in the age group 16–64. Source: NHID, Health Behaviour Study	15.2% m: 14.9% w: 16.5%	13%	13%	12%	19.0% m: 18.6% w: 19.3%
Percentage of overweight school students. Source: School health reports of EHIF	7.8 % (2006/ 2007)	7%	6.5%	6%	10.5% (2011/ 2012)
Number of new HIV infection cases per 100,000 inhabitants. Source: Health Board	47.2 m: 60.4 w: 35.9 (2007)	30	20	15	24.4 \$ m: 34.9 w: 15.3
Percentage of pregnant women with HIV among all pregnancies. Source: Health Board	0.3%	<1%	<1%	<1%	1.05%
Percentage of young people (age group 15–16) who have tried illegal drugs. Source: ESPAD	33.5 % m: 37% w: 23% (2007)	29%	24%	21%	32% m: 36% w: 27% (2011)
Number of fatal accidents, poisonings and injuries per 100,000 inhabitants Source: SA	121 m 201 w: 53	95	78	61	89 m:150 w: 37
† Number of people killed in traffic accidents with participation of intoxicated drivers. Source: Estonian Road Administration	53	35	25 (14)	15 (14)	8
† Indicator's target level was adapted in the action plan for 2013–2016, the adjusted target level is shown in brackets.					
\$ The indicators for years 2006–2011 and 2012 are calculated, using different base information (census of 2000 and 2011) and therefore, are not comparable. Adjusted numbers of population, eliminating under-coverage from census information, will be published by Statistics Estonia on years 2000–2013 during the 1 st quarter of year 2014.					
	2012 target level achieved				
	2012 target level not achieved				

Unhealthy lifestyle of the population is one of the most concerning problem in our society. The main behaviour-related health risks among Estonian population are alcohol abuse, smoking, low physical activity and too little attention to healthy eating habits.

Excessive body weight and obesity are becoming a more and more serious problem in Estonia. The respective target levels were not reached by 2012. Although compared to the previous years, the percentage of overweight persons among the population has somewhat dropped, the percentage of obese persons is increasing. While in 2006 there were 30.5% of overweight persons in the age group 16–64 and 15.2% of obese persons, then in 2012, there were 29.9% of overweight persons while the percentage of obese persons was 19.0% (growth of 3.8 percentage points). The number of overweight men is higher while obese persons dominate among women. However, men are steadily catching up

with women, as the percentage of obese persons is growing faster among men – by 2012, the percentage of obese men had grown by 3.7% while the percentage of obese women had increased by 2.8%, compared to year 2006. As the age advances, the percentage of overweight and obese persons grows both among men and women. The overweight and obesity indicators among adults in Estonia are slightly above the respective EU average.

Information also shows that obesity is starting to be a problem already among the young. When in the academic year 2006/2007 the percentage of obese students was 7.8%, it had reached 10.5% in 2011/2012. Although obesity indicators among Estonian children remain slightly below the EU average, the growth trend of obesity is much faster among Estonian children than in the EU in average.

Increasing popularity of physical exercise is worth highlighting. The number of people who exercise more often than once a week has grown over the last years. While in 2006, 30.4% of population aged 16–64 exercised more than once a week, then in 2012 the respective percentage is 35.6%. When in 2006, physical activity indicators among men were slightly better than among women, then in 2008 the trend was reversed and increase in physical activity is largely attributable to women.

For Estonia, drug addiction and spread of infections HI virus, which is, by nature, concentrated epidemics), remain a problem and a great source of threat for human health and life expectancy (the spread of HIV among intravenous drug users is above 5% and below 1% among pregnant women).

Current preventive measures, adopted to slow down the spread of HIV, have given positive results. **Compared to year 2007, the incurrence of new cases of HIV infection has dropped by almost half** (from 47.2 new cases to 24.4 per 100,000 inhabitants) and the NHP 2012 target level has been met. Slowing down the spreading of the disease is most notable among younger age groups. For example, among the age group 0–19, the number of new cases, compared to baseline, decreased by 4.5 times and among the age group of 20–24, by 3.9 times. Majority of new cases of HIV are still registered in Ida-Virumaa and Tallinn (in 2012, respectively 79 and 37 new cases per 100,000 inhabitants), while in other parts of Estonia, in 2012, 4.7 new cases of HIV were diagnosed per 100,000 inhabitants. 34% of the new cases were diagnosed in women. The highest incidence of new cases of HIV incurs in age groups of 25–29 and 30–34 years. Starting from age group of 25–29 year olds, the number of men becomes prevalent. The number of new cases of the disease, diagnosed among intravenous drug users, has gradually dropped. The percentage of new cases of HIV among intravenous drug users is the highest in – 50% of the new cases identified. As new cases of sexually distributed infection are becoming more frequent, we have the reason to believe that heterosexual spread is showing growth and as the result, young women, mostly sexual partners of intravenous drug users, are infected. Estonia held, in 2010, the first place for new cases of HIV infection; the difference from the EU average is 4-5- fold and with Latvia, holding the second place with new cases, 2.8-fold. To maintain the current decreasing trend of HIV infection it is important to continue with the preventive measures and treatment, combined with consistent testing. Inevitably, the total number of people with HIV infection continued to grow (at the end of 2012, in total, 8,377 carriers of HI virus and 390 people, sick with AIDS, were diagnosed in Estonia). Over the next ten years to come, HIV will become one of major reasons for disease load.

According to the information supplied by HIV treatment council, in 2012, there were 145 pregnant women in Estonia who has tested positive for HIV; the number of births was 13,845. **This means that in 2012, the percentage of pregnant women with HIV infection had increased to 1.05%** and the NHP indicator's target level for 2012 was not met. However, it is positive that modern medicine allows to prevent the spreading of HIV infection from mother to children and the percentage of people, contracting HIV by vertical infection, still remains below 2%.

The results of a drug use survey ESPAD of 2011 allow us to conclude that **drug use among school students has slowed down**. However the target level percentage for 2012 for students of age group 15-16, who have tried illegal drugs, was not met. Compared to 2007, the percentage of young people of age group 15–16, having tried drugs, has dropped from 33.5% to 32%, but among girls, the percentage of students who have tried drugs has increased by 4%. The results for boys and girls in Estonia are, compared to the average of the countries that took part in the survey, exceed the average, respectively, by 1.5 and 1.3 times.

Wide spread of HIV creates the pre-requisites for the spread of tuberculosis, as people infected with HI virus have weaker immune system and therefore, they face a danger of contracting tuberculosis that is higher than the average by third. The incidence of tuberculosis has decreased, thanks to programme-based activities. While in 2007, 30.4 new cases of tuberculosis were registered per 100,000 inhabitants, then in 2012, according to the initial data, only 12.8 first cases were registered per 100,000 inhabitants, which is still twice as high as the EU average. **Extremely high percentage of multi drug resistant new cases of tuberculosis is the main problem for Estonia** (16.3%), this ranks us among the top there with Latvia and Romania and compared to conventional medicinal products, treatment of this form of tuberculosis requires medicinal products that are ten times more expensive. From 2000, Estonia has held a leading position in the world for multi drug resistant (MDR) and, above all, extremely resistant (XDR) cases of tuberculosis and therefore, declared to be M/XDR-TB burden country by the World Health Organisation. **The percentage of people with HIV infection, suffering from tuberculosis, has doubled**, increasing from 8.7% in 2007 to 15.8% in 2012. According to this indicator, Estonia ranks the second after Portugal. Effective treatment of tuberculosis is becoming more and more complicated, as more and more patients are simultaneously diagnosed with several diseases (tuberculosis, HIV, drug addiction, alcoholism). Integrated approach is needed for patients with multiple diagnoses.

The number of accidents, poisonings and injuries that result in death per 100,000 inhabitants had decreased, by 2011, compared to 2006, by 26% (from 121 cases to 89 cases that result in death per 100,000 inhabitants). The target level for 2012 was achieved in 2010. Mortality rate dropped in almost all the age groups; the decrease is largely attributable to decrease of death rate among men of age group 50–54 (40% decrease, compared to 2006). Almost half of the inhabitants, dying as the result of injuries and poisoning, are younger than 50 years. Mortality of men, resulting from accidents, poisoning and injuries, is four times higher than the respective indicator for men. High mortality rates among young Estonian men, attributable to injuries and poisoning, is one of the main reasons for low life expectancy and big gap in gender differences for life expectancy. Injury-induced death rate in Estonia is almost twice as high as the respective EU average. Decrease of injury-induced deaths has been faster as the consequence of decreasing number of traffic and fire fatalities and killing, while poisoning fatalities have increased in number. **Death induced by alcohol poisoning decreased in numbers during the recession, until 2010, and then started to grow again; at the same time, death caused by drug overdose has shown a consistent growth trend**. It should be noted that in Estonia, the number of drug deaths per one million people is the highest in the European Union and European Economic Area countries (146), which is almost twice as high as in Norway, holding the second place in the ranking (81).

Alcohol poisoning mortality rate dropped from 11.8 deaths per 100,000 inhabitants in 2006 to 6.9 deaths in 2010. Diminished purchase power of inhabitants and alcohol products becoming more expensive as the result of increasing excise duties play an important role here. As the income of population started to grow again in 2011, alcohol poisoning death rate went up to 9.5 deaths per 100,000 inhabitants and by 2012, already to 11.1 deaths per 100,000 inhabitants. Similar changes have taken place in alcohol consumption patterns of

the population. According to the statistical information, available from the Estonian Institute of Economic Research, alcohol consumption increased in Estonia, consistently, until 2008 and dropped in 2009 and 2010 (respectively, to 10.1 and 9.7 litres of absolute alcohol per capita). In 2011, Estonian people consumed 10.2 litres of absolute alcohol per capita and in 2012 – 10.6 litres per capita. Alcohol consumption is alarmingly frequent also among young people: according to the Health Behaviour Study among students, in academic year 2009/2010, 10% of boys aged 11-15 and 7.4% of girls of the same age group consumed alcohol at least once a week. In 2008, Estonia held the second place in alcohol consumption among the EU countries, after Luxemburg; by 2010, Estonia's position had improved in comparison to other countries, but still exceeded the EU average by 1.1 times (in Estonia, the consumption of alcohol was 11.4 litres of absolute alcohol per capita (inhabitants older than 15 years), while the EU average was 10.7 litres).

Decreasing drug addiction, excessive use of alcohol and smoking hold an important potential for extending the average life expectancy and number of healthy years of life for Estonian population. Alcohol abuse and smoking contribute to the incurrence of numerous diseases and morbidity rate, attributable to alcohol and tobacco facilitated diseases, in Estonia still exceeds the indicator for the old EU countries almost twice. **The number of regular everyday smokers in age group 16–64 remained stable during the recession, while smoking among men slightly reduced** (from 38.6% in 2008 to 36.2% in 2012), while the same indicator for women **increased** (from 17.1% to 18.3%). According to the information on 2010, the situation, regarding the percentage of regular everyday smokers, is slightly better in Estonia (26.2%) than in Latvia (27.9%) and Lithuania (26.5%), still exceeding the EU average (23.0%). The number of smoking children is alarmingly big, in academic year 2009/2010, 22% of 15 year old boys smoked once a week or more often, the same percentage for girls was 16%. Apart traditional smoking, **the use of alternative tobacco products is also widespread in Estonia**; in 2012, 16.2% people of age group 16–64 had used hookah at least some times a year; 4.8% and 4.6%, respectively, had used e-cigarettes and snus. The percentage of users of alternative tobacco products is higher among men and in age group 16–34, **13.3% of 16-24 year old men and 2.1% of women of the same age group use snus at least a couple of times per month or more; 11.1% of 16–24 year old men and 7.3% of women of the same age use hookah**. The use of hookah is more widely spread among Estonians than non-Estonians; also, hookah is more popular among households with higher level of income.

As the result of decreased alcohol consumption and successful prevention and information distribution work, **the number of traffic accidents, caused by intoxicated drivers, dropped rapidly**; target level of the indicator for 2012 was achieved in 2009 (33 road fatalities); in 2012, intoxicated drivers caused 8 road fatalities. The number of road fatalities, resulting from drunk driving, was adjusted in the NHP 2013–2016 action plan to a level lower than the target for 2020, as the target level for 2020 – decreasing the number of road fatalities to 15 – was met in 2011 (14 fatalities) and the achieved level must be now maintained.

Strategic Area V. Development of the Healthcare System

SO 5. All people have access to high-quality healthcare services.

Indicator	Baseline 2006	Year 2012	Year 2016	Target level 2020	Performance 2012
Number of doctors per 100,000 inhabitants. Source: TAI	322	320	320	320	323 (2011)
Number of nursing staff per 100,000 inhabitants. Source: TAI	680	761	830	900	640 (2011)
† Percentage of people who are fairly or very satisfied with the quality of medical care. Source: SoM, survey “Satisfaction of Residents with Healthcare Services”	69% (2007)	70%	71% (76%)	72% (80%)	78.5%
Percentage of people who believe that accessibility of medical care is good or very good. Source: SoM, survey “Satisfaction of Residents with Healthcare Services”	60% (2007)	62%	65%	68%	55.0%
Percentage of household expenditures on the total healthcare expenditures. Source: TAI	24%	<25%	<25%	<25%	17.6% (2011)
† Indicator’s target level was adapted in the action plan for 2013–2016, the adjusted target level is shown in brackets.					
	2012 target level achieved				
	2012 target level not achieved				

As the consequence of the recession, the health system’s income base decreased and this has also influenced accessibility of medical care indicators.

There have been no major changes in numbers of health care staff. **The number of doctors** per 100,000 inhabitants **remained** 323 in 2011 (the respective number was 320 in 2006) and **the number of nursing staff** per 100,000 inhabitants had dropped from 680 in 2006 to 640 by 2011. As the NHP target levels for RTA health care staff were established, the goal was to adjust the ration of doctors and nursing staff in health care to 1:3 and by expanding the opportunities for independent work of nursing staff, to mitigate the resource requirement pressure in health care in general. The NHP 2012 target level for doctors was achieved but was not met for nursing staff. Despite everything, school health care has been transferred to nursing staff during the first NHP implementation period; the scope of role of family nurses has increased, midwives can receive patients independently and a number of similar initiatives has been launched for more efficient use of resources. In Estonia, the ration of doctors and nursing staff is 1.9, which is at the same level with Lithuania and higher than in Latvia (1.6), but still considerably below the EU average (2.5) and, above all, the Nordic countries’ average (Sweden 2.9, Norway 3.5, Denmark 4.4 and Finland 4.3). This means that we still have potential for further optimisation of organisation of work of nurses and doctors.

Although the number of doctors is not a problem as acute as the number of nursing staff, keeping the number of doctors stable in the next years to come will become a major challenge, as a large share of doctors are elderly (¼ of doctors are 60 years old or older and almost 30% aged 50–59 years). Approximately 8% of doctors will leave o work abroad. The work load of those who stay will increase as the result. Many health care workers work in a number of health care institutions to achieve desired level of income, incl. both at home and abroad. According to a test trial, conducted by the National Health Development Institute, 19.4% of the doctors who took part in the study had two or more employers.

Despite the recession, **the general satisfaction of population with medical care has steadily grown.** Percentage of people who are fairly or very satisfied with the quality of medical care went from 69% in 2006 to 78% in 2012. The target level in NHP 2013–2016 action plan for the percentage of people who are fairly or very satisfied with the quality of medical care was increased for 2020, as the earlier goal was already achieved in 2008–2009.

At the same time, a setback occurred in the availability of services. The respective indicator has been relatively stable during the recession; however, there have been a number of setbacks, like changes in funding arrangements and longer therapy waiting lists. Only 55% of the population considered the availability of medical care good or very good, which is the same as in 2010 yet below the level for 2007 (60%). The NHP target level for 2012 was not achieved. Estonians rate the availability of services higher than Russians (respectively, 58% and 47% see the accessibility of medical care is good or very good). Accessibility of medical care is rated lower by people with long-term diseases and people who suffer from restrictions to their activities as the consequence of diseases.

Compared to earlier period, the waiting lists of family physicians and medical specialists have grown longer (**in 2012, 22% of the patients who visited medical specialists had to wait longer than 2 months**): the respondents mostly stressed long waiting lists as disturbing factor (in 2012, 45% of respondents and in 2009, 31% of respondents) and paid and expensive services (11–12% of respondents). In 2012, services of family physicians were used by 61% of the population and those of medical specialists – by 38% of the population, which is less than earlier. Dentist attendance reached its low in 2004 and now dropped to the same level (**35% of the inhabitants used dental services both in 2004 and 2012**), following a short rise (in 2008, 49% of the population).

Although the funding of medical care decreased in general, **households' expenditures on health care as a percentage of total expenditures has consistently decreased.** Patients' contribution to total health care expenditures reached the all times high in 2006, totalling to 25.1% of total health care expenditures. In absolute figures, patients' expenditures were the biggest in 2009, amounting to 19.7% of total health care expenditures. In 2011, patients spent 17.6% of total health care expenditures on health care. The target level for the indicator was met.

Spending on medicinal products amount to more than a half to patients' own contribution: in 2011, expenditures on prescription medicinal products totalled 41% and on over the counter medicinal products - 14% of patients' total health care expenditures. The Ministry of Social Affairs and the Estonian Health Insurance Fund have done lots of co-operation to decrease the prices of medicinal products distributed at a discount, directing patients to use generic medicinal products more often and establishing price limits for medicinal products distributed at a 50% discount, and removing the upper compensation limit for prescriptions of medicinal products distributed at a 50% discount. In 2009, a patient had to pay, in average, 8.02 euros for one prescribed medicinal products distributed at a discount, and 6.56 euros in 2012.

Another large proportion of patients' expenditures – 23% - is made up by dental care. In 2009, dental care expenditures totalled to 13% of patients' total health care expenditures. In 2011, patients paid less than in 2010, in total, for medical care, yet considerably more than in 2009. However, the number of visits to dentist has somewhat increased among the grown-ups in 2011, compared to 2010 (1%), still remaining lower than in 2009 ((-4%) and earlier (-13%). Dental care is characterised by price increase. From 2008, number of visits to denture specialists shows a decline (ca 5% per annum). From 2008, the number of adults, using dental services, has dropped as for people with lower income, dental care is financially no longer available. The payment of dental care compensation to adults was finished in 2009.

Dental care for children (up to 19 years of age) is free and fully paid for by the Estonian Health Insurance Fund. There have been no major changes here.

Ensuring sustainability of health care funding is a key for improving the accessibility of medical care and avoid negative changes in the health of the population and further deterioration of other NHP indicators.

Conclusion

Overview of achievement of indicators, established for the first period (2009-2012) of the National Health Plan 2009–2020 is given in the table below:

Sphere	Number of indicators	2012 target level achieved	Percentage of achieved 2012 target level	Indicator shows positive dynamics, compared to baseline	Percentage of indicators with positive dynamics
Goals	4	2	50%	4	100%
I	5	1	20%	3	60%
II	5	4	80%	4	80%
III	8	5	63%	7	88%
IV	8	3	38%	5	63%
V	5	3	60%	3	60%
In total	35	18	51%	26	74%

In general, we can highlight the following **positive trends** for the achievement of goals and sub-goals of the 1st NHP implementation period:

- life expectancy grows;
- social stratification indicators are not increasing;
- majority child health indicators show a positive trend;
- working environment health risks are decreasing;
- health risks from external environment are decreasing;
- the number of new HIV cases decreases;
- injury death rate, except poisonings, is decreasing;
- satisfaction with quality of medical care is increasing ;
- patient's own contribution has not increased.

Main challenges to be met during the 2nd NHP implementation period:

- restoring the number of years of healthy life;
- major gender, regional and socio-economic disparities in health indicators;
- the influence of unemployment and, above all, long-term unemployment ;
- suicidal trends among the elderly;
- prevention of food-related infectious diseases;
- overweight and obesity (sets on during childhood!);
- alcoholism, drug addition, smoking, poisoning death rate;
- growing percentage of HIV-positive pregnant women;
- patients with multiple problems;
- recourses of health care stuff (above all, nursing stuff);
- accessibility of medical care, incl. dental services;
- long-term sustainable funding of health care system.