WORLD HEALTH ORGANIZATION
EUROPE

Highlights on health in Estonia

2005

Highlights on health

Highlights on health give an overview of a country's health status, describing recent data on mortality, morbidity and exposure to key risk factors along with trends over time. The reports link country findings to public health policy considerations developed by the WHO Regional Office for Europe and by other relevant agencies. *Highlights on health* are developed in collaboration with Member States and do not constitute a formal statistical publication.

Each report also compares a country, when possible, to a reference group. This report uses the 25 countries with low child mortality and low or high adult mortality, designated Eur-B+C by WHO, as the reference group. Eur-B+C comprises Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Poland, Republic of Moldova, Romania, Russian Federation, Serbia and Montenegro, Slovakia, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine and Uzbekistan.

To make the comparisons as valid as possible, data, as a rule, are taken from one source to ensure that they have been harmonized in a reasonably consistent way. Unless otherwise noted, the source of data in the reports is the European health for all database of the WHO Regional Office for Europe. Other data and information are referenced accordingly.

Keywords

HEALTH STATUS
BURDEN OF DISEASE
COMPARATIVE STUDY
ESTONIA

EUR/05/5046415F
http://www.euro.who.int/highlights

Address requests about publications of the WHO Regional Office for Europe to:
Publications
WHO Regional Office for Europe
Scherfigsvej 8
DK-2100 Copenhagen Ø, Denmark
Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the WHO/Europe web site at http://www.euro.who.int/pubrequest.

Contents

Summary: findings and policy considerations

Life expectancy

WHO estimates that a person born in Estonia in 2002 can expect to live 71.1 years on average: 77.1 years if female and 65.3 years if male. Life expectancy (LE) in Estonia is higher than Eur-B+C averages: 1.1 years for males and 3.6 years for females. However, compared to Eur-A averages, it is lower for males by more than ten years and by slightly less than five years for females. Since 1981, Estonian people have gained about two years in LE, with a greater gain for women (3.1 years) than men (1.3 years).

People in Estonia spend 90% of their lives in good health but women have 9.8 more years of healthy life than men, due to their longer LE. This is the largest gender difference in healthy years of life in the WHO European Region after the Russian Federation's 11.5 years difference.

As the length of life increases, older people can respond with lifestyle changes that can increase healthy years of life. Correspondingly, health care systems need to shift towards more geriatric care, the prevention and management of chronic diseases and more formal long-term care. Since people are living longer, measures to improve health and prevent disease need to focus on people of working age.

Ageing and employment policies (OECD, 2004)

What are the main risk factors for disability in old age and how can disability be prevented? (Health Evidence Network, 2003a)

Infant mortality

Both infant and neonatal mortality rates in Estonia remain below the Eur-B+C averages, and are approaching the low Eur-A averages. The latest WHO/UNICEF estimate for infant mortality in Estonia (9 per 1000 live births) is close to the official national figure (7 per 1000) in 2003.

Antenatal care is one of the most important services in health care. Nevertheless, it can be expensive, and interventions may be excessive, unneeded and unproven. A simplified model of antenatal care, based on evidence of benefit, is available.

Managing newborn problems: a guide for doctors, nurses and midwives (WHO, 2003a)

The WHO reproductive health library, version 6 (WHO, 2003b)

What is the efficacy/effectiveness of antenatal care? (Health Evidence Network, 2003b)

Main causes of death

Estonian mortality rates are lower than the Eur-B+C averages by 13% for males and 22% for females. However Estonian rates are 90% higher for males and 50% higher for females than the Eur-A averages.

In 2002, selected main non-communicable diseases accounted for about 79% of all deaths in Estonia. External causes accounted for about 13% and communicable diseases for less than 1%. Cardiovascular diseases cause 51% of all deaths in Estonia, despite the mortality rate from these diseases having fallen by almost one third since the mid-1990s.

The death rates from cardiovascular diseases and from external causes and poisoning are now below the Eur-B+C average, but still significantly higher than the Eur-A average. The death rate from cancer in Estonia is higher than the Eur-B+C and Eur-A averages.

Preventive care, delivered through a country's primary care system, can reduce all-cause mortality and premature mortality, particularly from CVD.

A strategy to prevent chronic disease in Europe: a focus on public health action: the CINDI vision (WHO Regional Office for Europe, 2004a)

Towards a European strategy on noncommunicable diseases (WHO Regional Office for Europe, 2004b)

What are the advantages and disadvantages of restructuring a health care system to be more focused on primary health care services? (Health Evidence Network, 2004)

Selected demographic and socioeconomic information

Population profile

In mid 2003, Estonia had approximately 1.35 million people, almost 70% in urban areas – slightly higher than the Eur-B+C average. About 28% of the population lives in the capital, Tallinn.

Since 1989, the population in Estonia has been dropping, by 13% between 1990 and 2003, due to emigration and negative natural growth (WHO Regional Office for Europe, unpublished data, May 2005). Estonia's birth rate has been below Eur-B+C averages for the past 30 years. It was fairly steady between 1980 and 1989, at which point it began to fall to a low of 8.8 per 1000 population in 1998. From then it rose steadily to reach 9.6 per 1000 population in 2002, still 25% lower than the Eur-B+C rate for that year.

Selected demographic indicators in Estonia and Eur-B+C, 2002 or latest available year

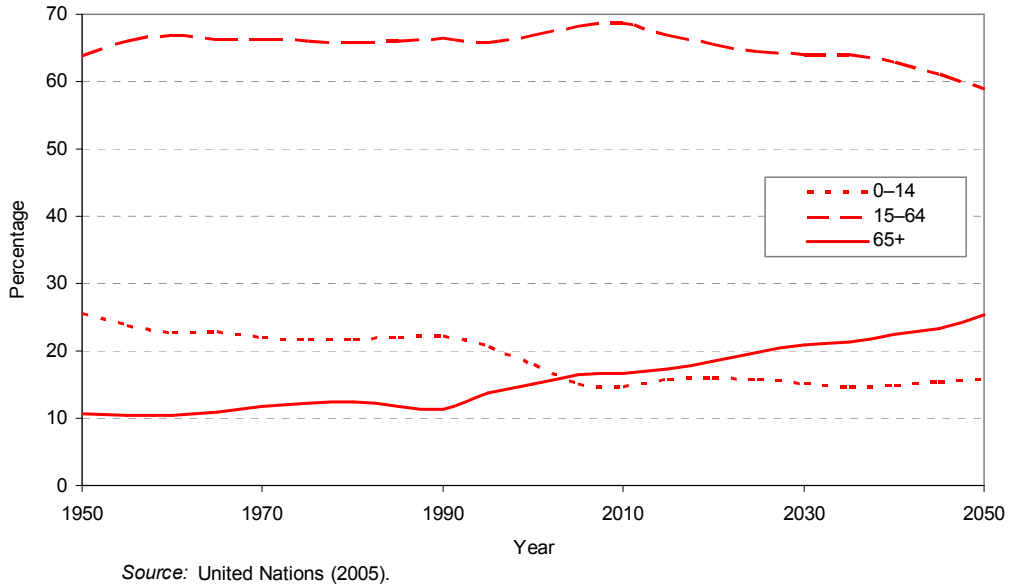
Indicators	Estonia	Eur-B+C		
	Value	Average	Minimum	Maximum
Population (in 1000s)[a]	1353.5	–	–	–
0–14 years (%)	16.9	–	–	–
15–64 years (%)	67.5	–	–	–
65+ years (%)	15.7	–	–	–
Urban population (%)	69.4	63.7	25.0	73.3
Live births (per 1000)	9.6	12.8	8.6	27.1
Natural population growth (per 1000)	–3.9	0.8	–7.5	23.0
Net migration (per 1000)[b]	0.1	1.8	–6.6	2.1

[a] 2003; [b]2002.

Sources: Council of Europe (2005), WHO Regional Office for Europe (2005).

The proportion of the population 0–14 years old was relatively steady during the 1980s but fell by about 24% between 1990 and 2004, to 16%. The proportion has been consistently below Eur-B+C averages over the years. Conversely, the percentage of Estonia's population aged 65 years and older has been consistently higher than Eur-B+C averages, a solid 40% higher than the Eur-B+C average in 2002. By 2030, an estimated 21% of Estonia's population will be 65+ years old (Annex. Age pyramid).

Percentage of the population aged 0–14, 15–64 and 65+ years, Estonia, 1950 to 2050 (projected)



Source: United Nations (2005).

Socioeconomic indicators

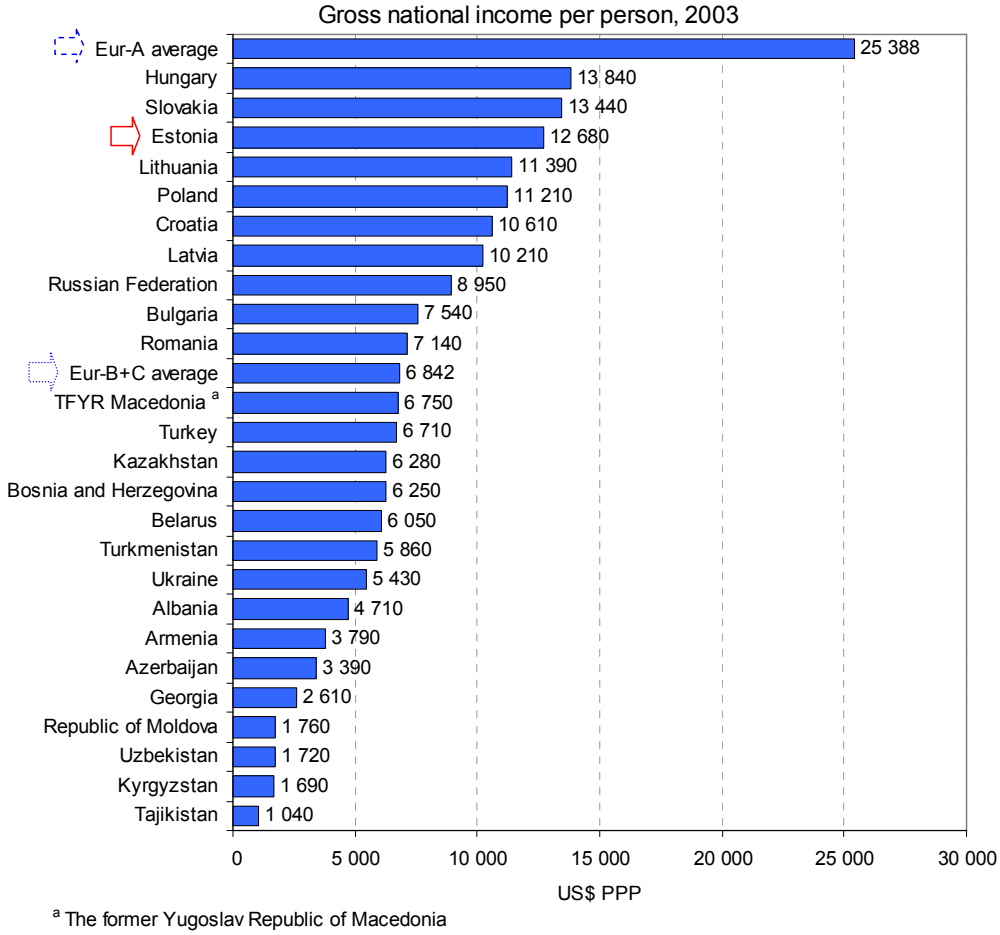
Health outcomes are influenced by various factors that operate at individual, household and community levels. Obvious factors are, for example, diet, health behaviour, access to clean water, sanitation and health services. However, underlying health determinants of a socioeconomic nature also play a role in causing vulnerability to health risks. Here, the key factors are income, education and employment. Though moderately correlated and interdependent, each of these three determinants captures distinctive aspects of the socioeconomic background of a population and they are not interchangeable. Various indicators represent the key socioeconomic determinants of health.

Income: absolute poverty, relative poverty and income distribution

There is an income gradient affecting health: the poor generally suffer worse health and die younger than people with higher incomes. For instance, the latter are better able to afford the goods and services that contribute to health, for example, better food and living conditions.

People are considered to be in absolute poverty if their incomes are not sufficient to purchase very minimal goods and services. The World Bank currently uses an absolute poverty line of US$ 2.15 and US$ 4.30 income per capita per day to measure poverty in low- and middle-income countries of the WHO European Region (using 1993 international prices adjusted for purchasing power parity). While there is no certainty that the poverty lines measure the same degree of need across countries, the World Bank uses them as a constant to permit comparison. Many countries in the Region calculate their national poverty lines on the basis of a minimum consumption basket selected and priced according to the specific circumstances of the country.

In 2003, Estonia had the third highest per capita gross national income in the Eur-B+C group, at US $12 680, adjusted for PPP, compared to the Eur-B+C average of $6842.



[a] The former Yugoslav Republic of Macedonia

Source: World Bank (2005).

Eurostat reports that in 2003, 18% of the population in Estonia lived in relative poverty, that is, below the risk-of-poverty threshold set at 60% of the national median disposable income (after social transfers). In 2002, across the nine Eur-B+C countries with data, 16% of the populations on average lived in relative poverty. By contrast, in 2001, across the 17 Eur-A countries with comparable data, an average of 14% of people lived in relative poverty (Eurostat, 2005).

Relative poverty is an indicator of income level below a given proportion (typically 50%) of the average national income. In high-income countries, there are far more pockets of relative poverty than of absolute poverty.

Using the World Bank's recommended benchmarks to measure absolute poverty in Europe, annual household surveys from 1988 to 1998 in Estonia found that 2.6% of people were living on US $4.30 per day in 1988, 38.6% in 1995 and 32.8% in 1998 (World Bank, 2005).

Another measure of relative poverty in terms of income is the Gini index. This presents the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

In 2000, the GINI index for Estonia was 37.2. The GINI indices for 15 Eur-B+C countries for 2000 to 2002 range from 26.1 for Bosnia and Herzegovina (2001) to 45.6 for the Russian Federation (2000) (World Bank, 2005).

Education

Education tends to enhance an individual's job opportunities. In so doing, it can improve income, which in turn affects health positively. Education can also give more access to knowledge about healthy behaviour and increase the tendency to seek treatment when needed. A lower level of education – independent of individual income – is correlated with the inability to cope with stress, with depression and hostility and with adverse effects on health.

School enrolment is an indicator of access to education. The secondary school net enrolment represents the percentage of the total population of official school age (defined nationally) that is enrolled in secondary schools.

Net secondary school enrolment in Estonia was 84.7% in 2000, compared to an 81.2% average for Eur-B+C countries. The average secondary school net enrolment in Eur-A in 2000 was 88.5% (UNESCO, 2005).

Employment

Being employed tends to be better for health than being unemployed, except in circumstances where employment exposes the individual to physical injury or psychological stress. National unemployment rates and rates for particular sub-populations are monitored to assess the extent to which people have or lack access to opportunities that would enable them to earn an income and feel secure. Vulnerability to health risk is increased by long-term unemployment, that is, continuous periods without work, usually for a year or longer; the socioeconomic status of an individual and of his/her dependents can slide as the period of unemployment increases.

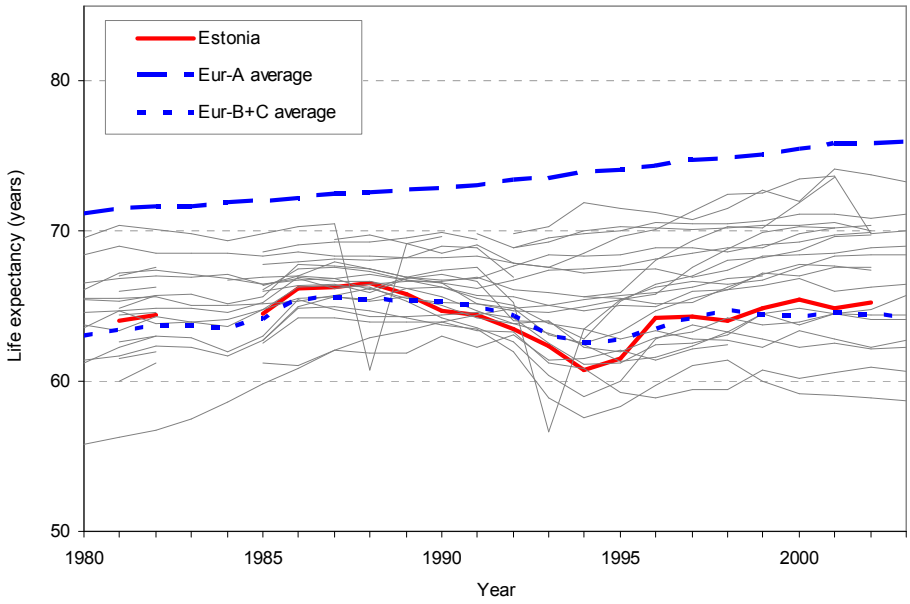
The total unemployment rate in Estonia in 2001 was 12.6% (national data 9.7% in 2004; 10.0% in 2003), similar to the Eur-B+C country average of 12.9%, keeping in mind that national rates are based on estimates of people available and seeking employment, and that countries have different definitions of labour force and unemployment. The proportion of young Estonians, 15–24 years of age, without work but available for and seeking employment was 22.2% in 2001 (21.7% in 2004). The Eur-B+C average youth unemployment rate for 2001 was 25.2% (ILO, 2005).

Life expectancy (LE) and healthy life expectancy (HALE)

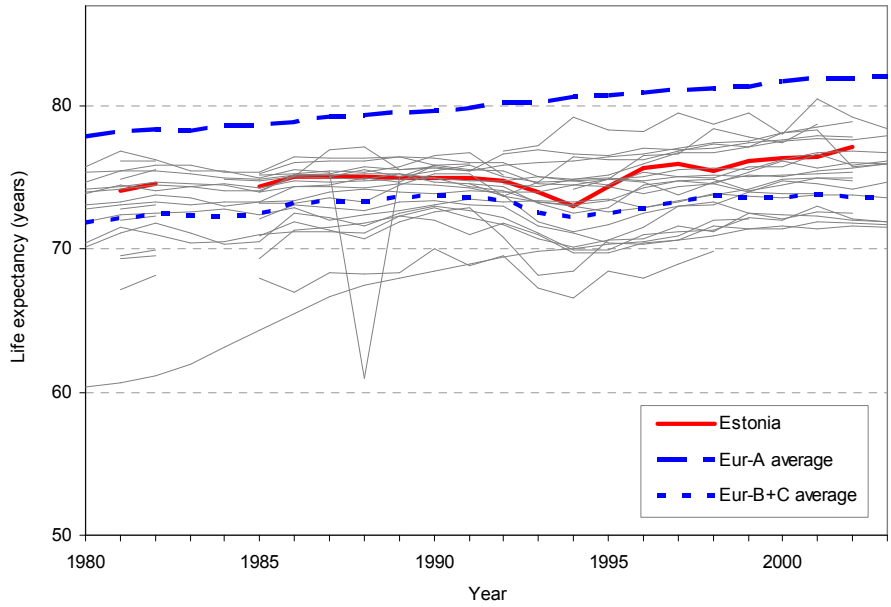
Note: Three-year averages have partly been used for Estonian age and cause-specific mortality rates to diminish random variation.

According to WHO (2003c) estimates, a person born in Estonia in 2002 can expect to live 71.1 years on average: 77.1 years if female and 65.3 years if male (national data for 2003: average 71.6, males 66.4, females 76.9). LE in Estonia is more than ten years lower than the Eur-A average for males, and slightly below five years lower for females. The Estonian LE remains higher than the Eur-B+C average, 1.1 years for males and 3.6 years for females.

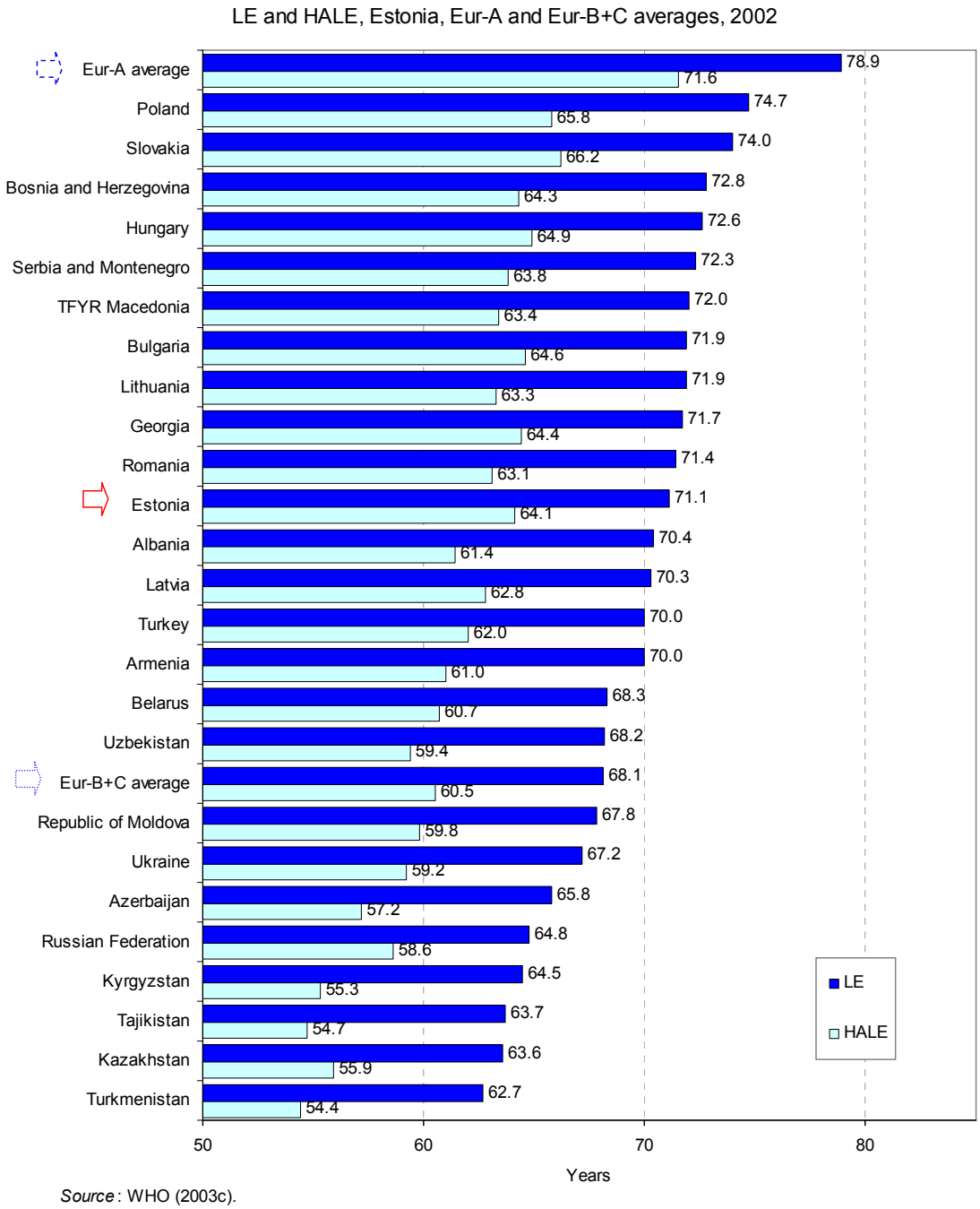
Life expectancy at birth for males, Estonia, Eur-A and Eur-B+C averages, 1980 to latest available year



Life expectancy at birth for females, Estonia, Eur-A and Eur-B+C averages, 1980 to latest available year



Since 1981, Estonians have gained about two years in LE, with a greater gain for women (3.1 years) than men (1.3 years). These gains are significantly less than those in Eur-A (4–5 years), but progress for men has been the same and for women even greater than in the Eur-B+C countries on average (1–2 years). In addition, WHO (2003c) estimates that Estonians can expect to be healthy for about 90% of their lives. They lose an average of 7.0 years to illness – the difference between LE and HALE. This loss is somewhat smaller than the Eur-A average (7.3 years) or the Eur-B+C average (7.6 years).



Source: WHO (2003c).

Since women live longer and since the possibility of deteriorating health increases with age, women lose more healthy years of life (8.1 years) than men (5.9 years). Nevertheless, the longer LE for Estonian women gives them 9.8 more years of healthy life. This is the largest gender difference observed in the WHO European Region after the Russian Federation (11.5 years). Also among 60 year olds, female HALE – 16.5 years – is longer than that of males – 11.9 years – even though the gender difference is much smaller here according to the WHO estimates.

Burden of disease

The burden of disease in a population can be viewed as the gap between current health status and an ideal situation in which everyone lives into old age, free of disease and disability. Causing the gap are premature mortality, disability and certain risk factors that contribute to illness. The analysis that follows elaborates on the burden of disease in the population. The disability-adjusted life-year (DALY) is a summary measure that combines the impact of illness, disability and mortality on population health.

Main conditions

The table below shows the top 10 conditions, in descending order, that account for approximately 90% of the burden of disease among males and females in Estonia. Cardiovascular diseases account for the most DALYs among both males and females in the country. Unintentional injuries account for the second highest burden of disease among males. Neuropsychiatric disorders rank third among males and second among females. Because mortality from neuropsychiatric conditions is minor, disability in daily living comprises the bulk of their burden on the population's health.

Ten leading disability groups as percentages of total DALYs for both sexes in Estonia (2002)

Rank	Males		Females	
	Disability groups	Total DALYs (%)	Disability groups	Total DALYs (%)
1	Cardiovascular diseases	23.5	Cardiovascular diseases	25.5
2	Unintentional injuries	20.0	Neuropsychiatric conditions	20.1
3	Neuropsychiatric conditions	13.6	Malignant neoplasms	12.2
4	Malignant neoplasms	10.2	Unintentional injuries	7.6
5	Intentional injuries	7.6	Sense organ diseases	6.7
6	Digestive diseases	4.9	Musculoskeletal diseases	6.4
7	Infectious and parasitic diseases	4.3	Digestive diseases	5.7
8	Sense organ diseases	3.5	Infectious and parasitic diseases	2.9
9	Musculoskeletal diseases	2.5	Intentional injuries	2.4
10	Respiratory infections	2.5	Respiratory diseases	2.0

Source: Background data from WHO (2003c).

According to a national burden of disease study in Estonia cardiovascular diseases also account for the most DALYs among both males and females. Injuries and other external causes account for the second highest burden of disease among males. Cancer ranks third among males and second among females. Musculoskeletal diseases rank third among females (EV Sotsiaalministeerium, 2004).

The picture is quite different if we look at the leading causes for years lost due to mortality (YLL) and years lost due to disability (YLD) separately from the Estonian study. Among males the five main causes of YLL were cardiovascular diseases (38.6%), external causes (24.4%), cancer (18.2%), respiratory diseases (4.8%) and digestive diseases (4.7%). The five main causes of YLD were cardiovascular diseases (17.5%), cancer (16.3%), musculoskeletal diseases (12.6%), respiratory diseases (10.3%) and mental disorders (9.1%). Among females the five main causes for YLL were cardiovascular diseases (52.6%), cancer (22.2%), external causes (9.0%), digestive diseases (4.3%) and respiratory diseases (2.1%). The leading causes for years lost due to disability (YLD) were cancer (21.8%), musculoskeletal diseases (17.1%), cardiovascular diseases (16.2%), mental disorders (8.3%) and respiratory diseases (8.0%).

The burden of disease for females is equally distributed between mortality and morbidity, but males lose twice as many years to mortality as they do to morbidity.

Main risk factors

The table below shows the top 10 risk factors with their relative contributions, in descending order, to burden of disease in the male and female populations of Estonia. According to DALYs, alcohol use places the greatest burden of disease on the Estonian male population and high blood pressure on females.

Ten leading risk factors as causes of disease burden measured in DALYs in Estonia (2002)

Rank	Males		Females	
	Risk factors	**Total DALYs (%)**	**Risk factors**	**Total DALYs (%)**
1	Alcohol	22.1	High blood pressure	11.9
2	Tobacco	18.0	High cholesterol	10.7
3	High blood pressure	13.0	High BMI	9.3
4	High cholesterol	9.7	Alcohol	6.1
5	High BMI	6.2	Low fruit and vegetable intake	5.7
6	Low fruit and vegetable intake	6.0	Physical inactivity	4.5
7	Physical inactivity	3.8	Tobacco	3.4
8	Illicit drugs	1.5	Unsafe sex	2.2
9	Occupational risk factors for injuries	1.3	Illicit drugs	1.0
10	Lead	1.0	Childhood sexual abuse	0.9

Source: Background data from WHO (2003c).

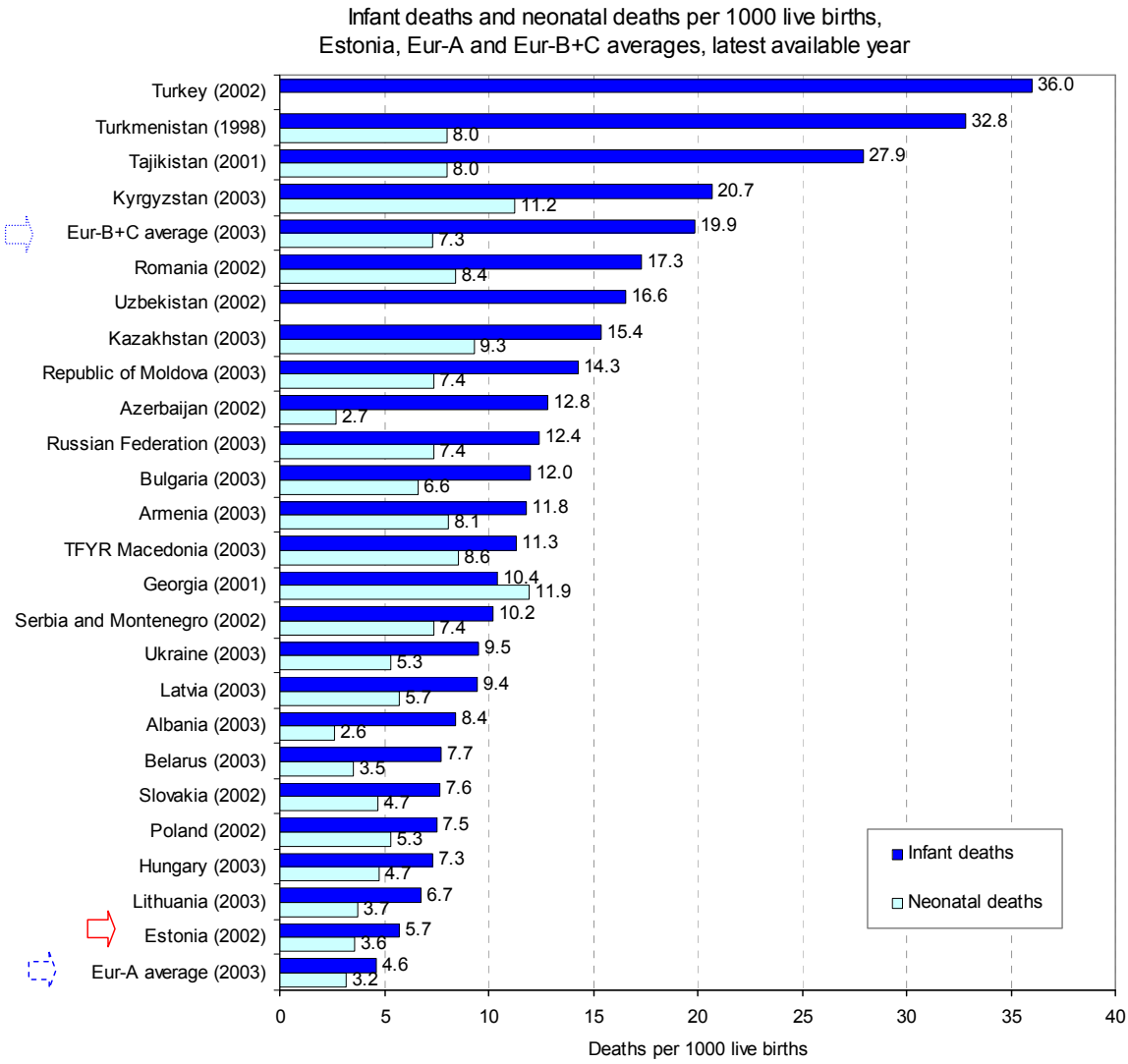
Estonia's own national burden of disease study confirms these risk factors to be among the most common causes. For males the main factors were tobacco, 12.7% of total DALYs; alcohol, 12.1%; physical inactivity, 7.1%; low fruit and vegetable intake, 4.5%; high BMI, 4.4%; illicit drugs, 1.9% and unsafe sex, 0.4%. For females the leading risk factors were high BMI, 6.0% of total DALYs; physical inactivity, 4.8%; tobacco, 3.9%; illicit drugs, 3.3%; low fruit and vegetable intake, 3.0; alcohol, 1.0% and unsafe sex, 0.9% (EV Sotsiaalministeerium, 2004).

Mortality

Infant, neonatal and child mortality

Both infant and neonatal mortality in Estonia remain below the Eur-B+C average, and are close to the low Eur-A average. The risks of dying from either perinatal causes or congenital anomalies have decreased. The WHO/UNICEF estimate for infant mortality in Estonia (9 per 1000 live births) confirms the improved situation, since it is near the national figure (7 per 1000 in 2003).

National data and WHO estimates for 2003 both confirm that out of every 1000 live births in Estonia, there is a probability that about 8–9 children will die before age five, well under the Millennium Development Goal of 15 under-five deaths per 1000 live births. In neighbouring Latvia, the WHO estimated probability is between 12 and 14 deaths of under-fives per 1000 live births. Estonia and Slovakia have the lowest WHO estimated rates among the Eur-B+C countries.



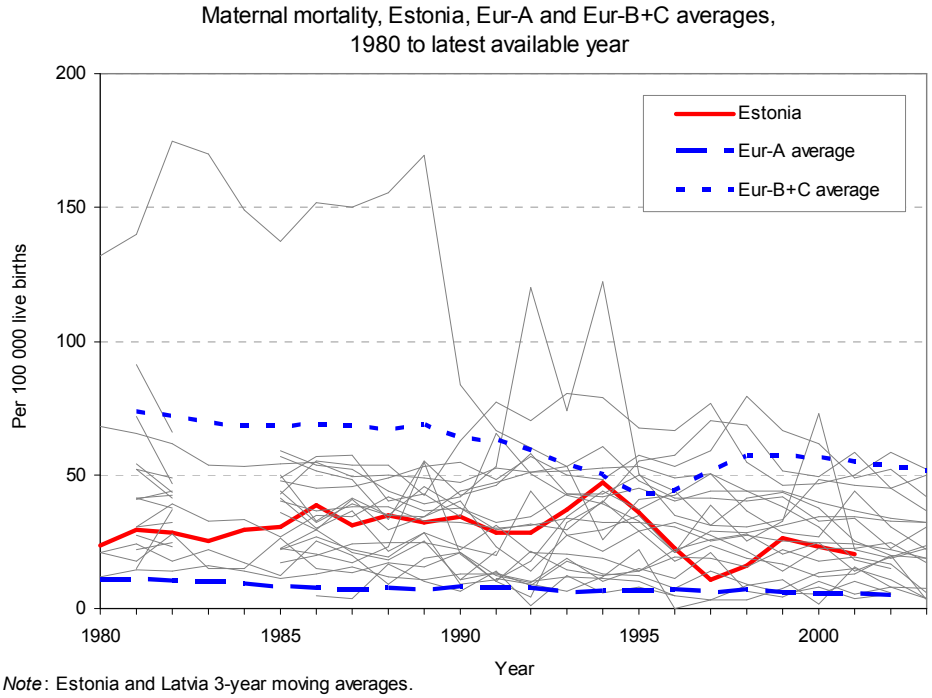
Maternal mortality

Maternal mortality rates (MMR) and the Millennium Development Goal (MDG)

Despite the difficulties in accurately measuring MMR, nationally reported figures are accepted at face value relative to the MDG to improve maternal health – to reduce the MMR by 75% between 1990 and 2015. In some countries, the 2015 target may be equal to or lower than the average current MMR for high income countries in the European Region (the Eur-A 2001 average of five maternal deaths per 100 000 live births). Countries with 2015 targets lower than the current Eur-A average can be judged as having achieved or being likely to achieve the MDG (World Bank, 2004).

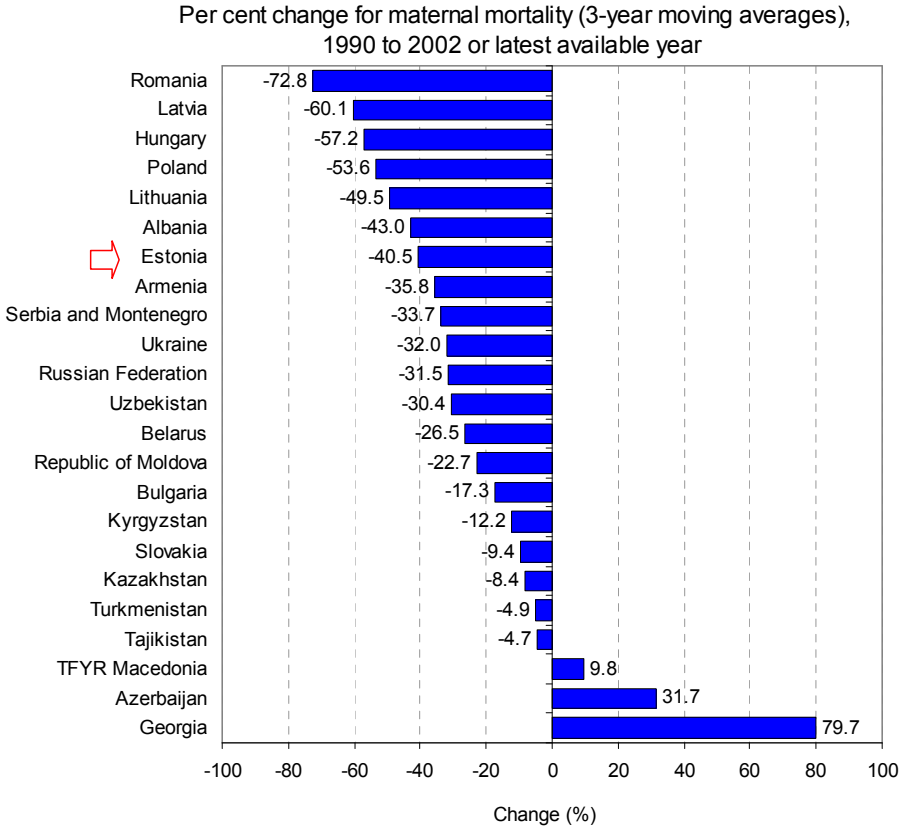
However, in some countries, MMR were higher in 2002 than they had been in 1990. Applying the 75% reduction to the 1990 baseline in these countries creates, in some cases, a 2015 MDG target that requires dramatic reductions in MMR before 2015. In these cases, more important than reaching maternal mortality targets is taking concrete action to provide women with access to adequate care during pregnancy and childbirth, initiatives that have proven to bring down MMR.

The maternal mortality ratio stagnated in the 1980s, and even increased in the early 1990s. Despite the positive development after the mid-1990s – the Estonian figure more than halved – the most recent maternal mortality ratio is more than double the Eur-A average. However, this remains well below the Eur-B+C average. To reach the MDG target, the rate would have to fall another 58% by 2015.



Note: Estonia and Latvia 3-year moving averages.

From 1998 to 2002, five out of 12 maternal deaths were due to induced or spontaneous abortion (including ectopic pregnancies). The Estonian share (42%) was the highest in the WHO European Region. Improved health care practices in abortion procedures and better follow-up may prevent such deaths.

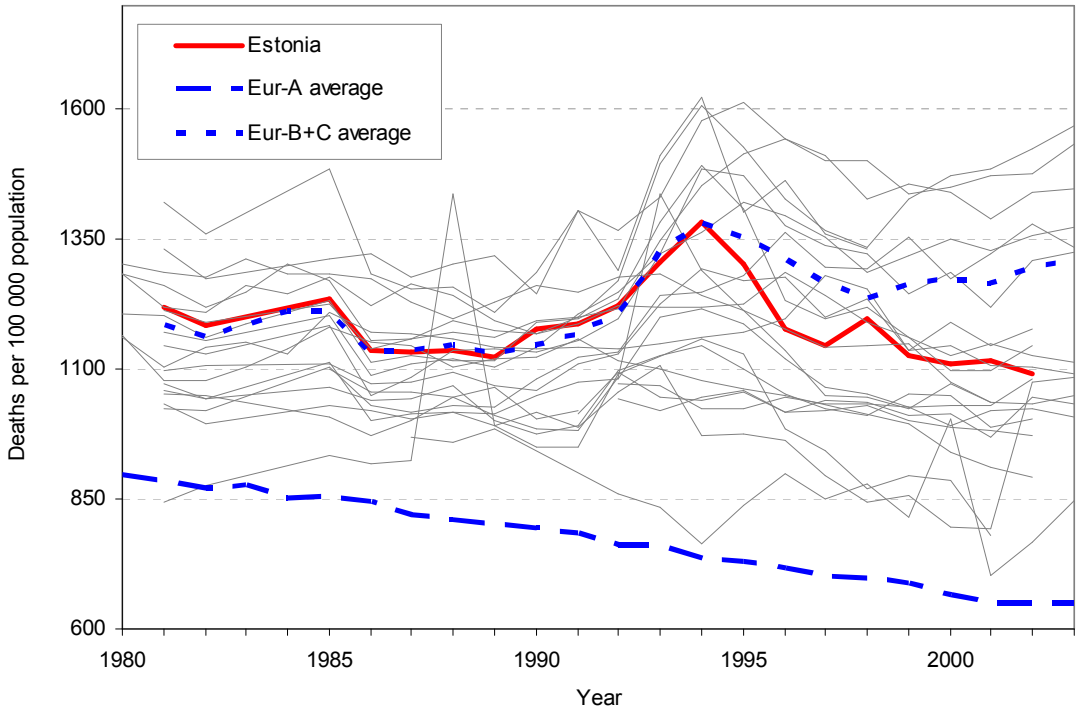


Excess mortality

The mortality pattern in all three Baltic countries follows a specific pattern related to alcohol policy.

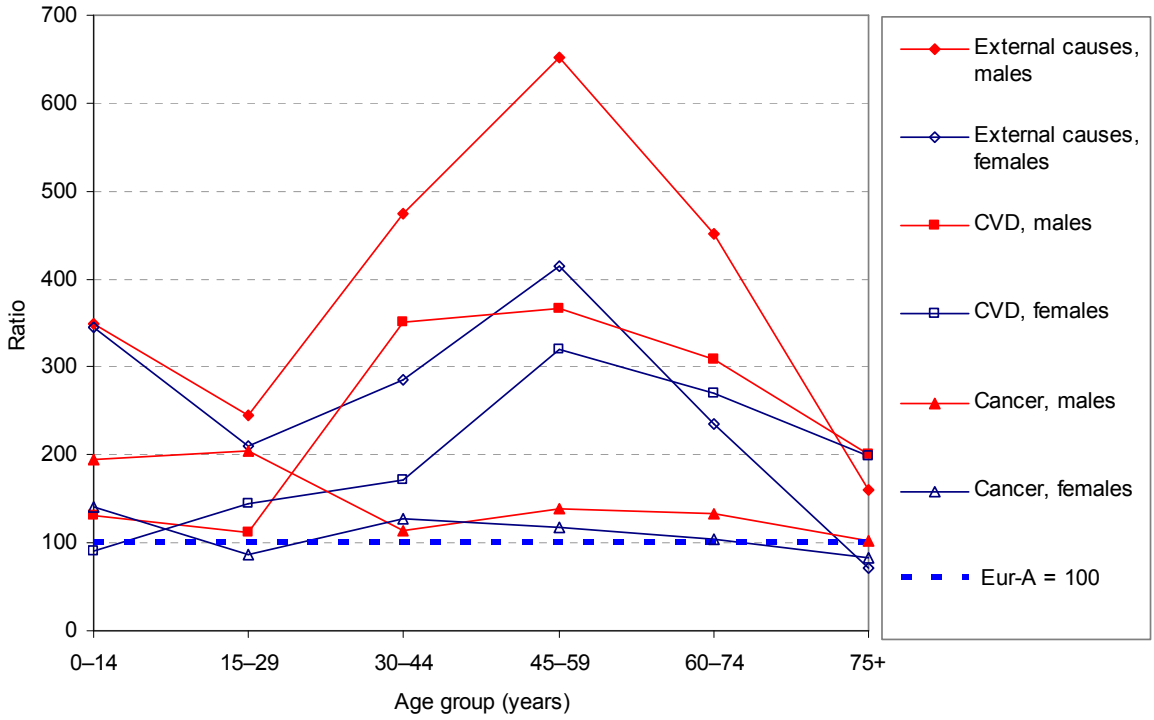
In 1986, Estonia shared a fall in the death rate from all causes with the other Baltic countries, reflecting a reduction in deaths from cardiovascular disease and external causes. This followed the introduction in June 1985 of a vigorous campaign to restrict alcohol consumption (the so-called Gorbachev anti-alcohol campaign). Mortality rates reached a low point in 1989. Following economic liberalization in 1991, alcohol became more widely available and cheaper than before 1985. This is believed to have contributed to the 12% increase in mortality between 1992 and 1994, especially among men. These trends, and the evidence supporting the causal role of alcohol, are covered in more detail in *Health in Europe*, *1997* (WHO Regional Office for Europe, 1998). Since the mid-1990s, the total death rate in Estonia has decreased by one fifth and is now substantially below the Eur-B+C average.

Standardized death rate for all causes in people of all ages,
Estonia, Eur-A and Eur-B+C averages, 1980 to latest available year

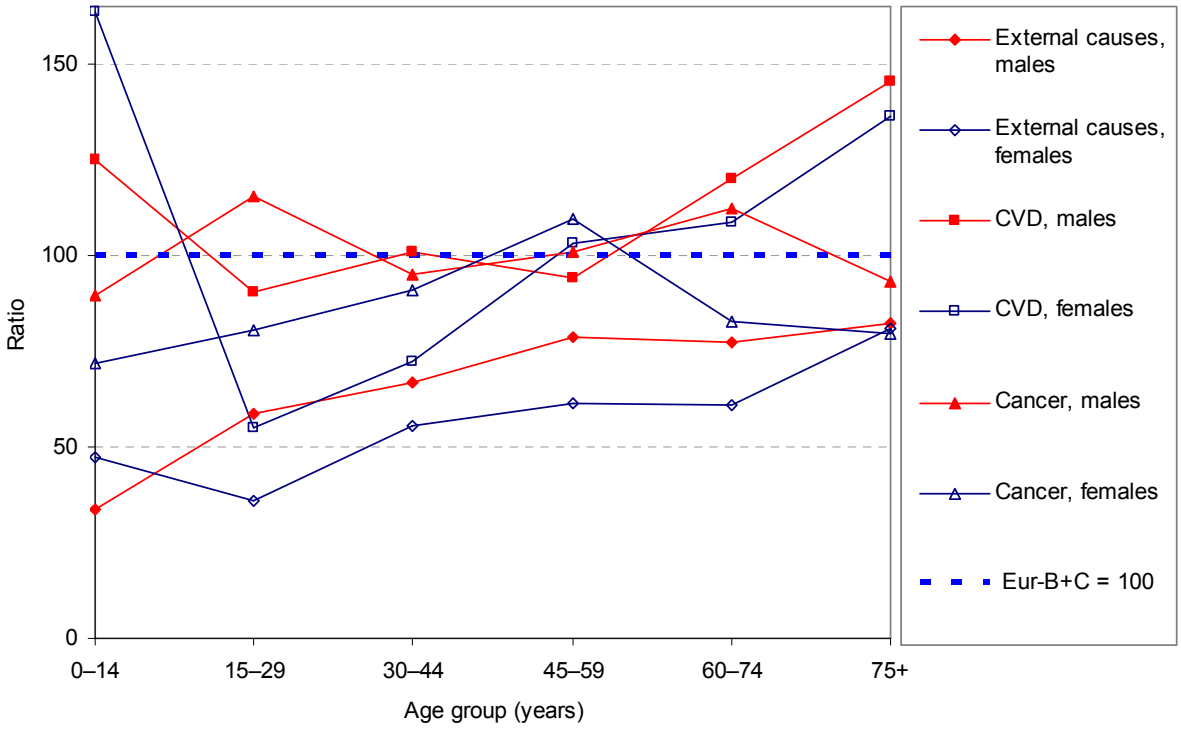


According to the latest figures, the Estonian mortality rate for males is 90% higher than the Eur-A average and the rate for females is 50% higher. The highest excess mortality occurs for men 15–59 years old, for whom the death risk is at least three times that in Eur-A countries. The excess risks are lower for females, but observed in all age groups. Estonian women 30–59 years old have risk of dying that is double the Eur-A average. The Estonian rates are, however, lower than the Eur-B+C average (13% and 22%, respectively), also by age groups.

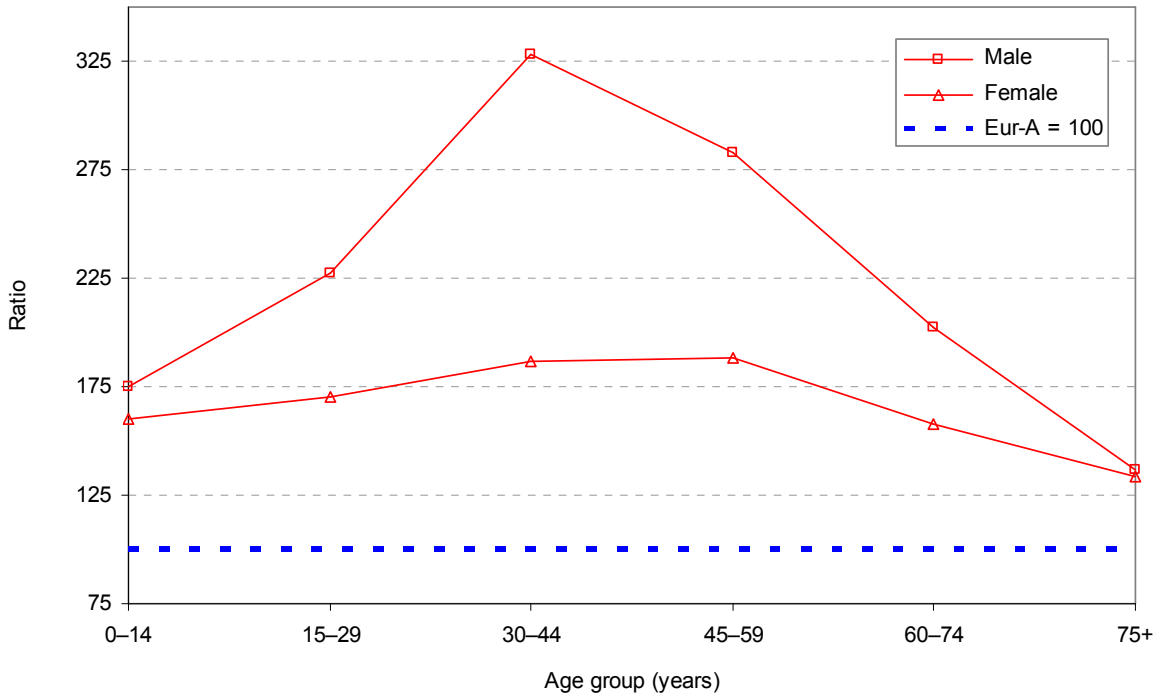
Main causes of mortality by sex and age group in Estonia
in comparison with Eur-A (Eur-A = 100), 2003



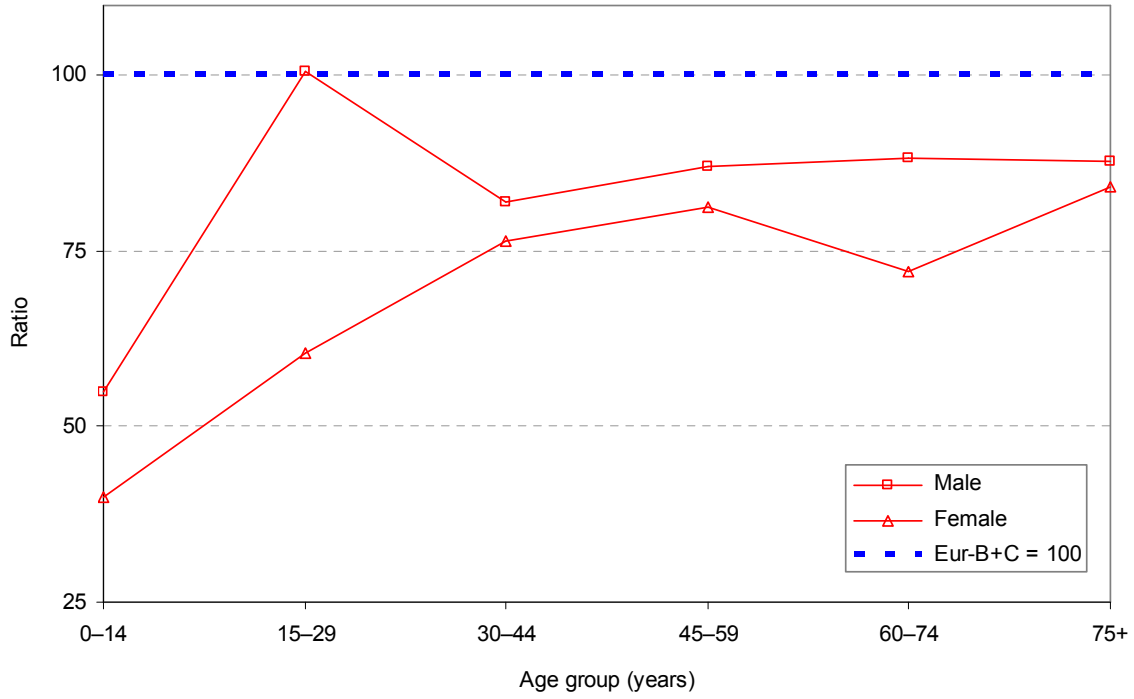
Main causes of mortality by sex and age group in Estonia
in comparison with Eur-B+C (Eur-B+C = 100), 2003



Total mortality by sex and age group in Estonia
in comparison with Eur-A (Eur-A = 100), 2003



Total mortality by sex and age group in Estonia
in comparison with Eur-B+C (Eur-B+C = 100), 2003



Main causes of death

In 2002, selected main non-communicable diseases accounted for about 79% of all deaths in Estonia, external causes for about 13% and communicable diseases for less than 1%. In total, 51% of all deaths were caused by diseases of the circulatory system and 18% by cancer (Annex. Selected mortality; Annex. Mortality data).

Estonians have an increased risk of dying of CVDs compared to the Eur-A average, excluding males under 15 years. This excess risk is at its highest in age 30–74 age group (three times greater for males, at least two-and-a-half times greater for females). Similarly, the risk of cancer death is greater for all Estonians under 75 years old. Proportionally, the excess risk is at its highest for the 0–14 year-old group. Excluding elderly Estonians, the risk of dying of external causes and poisoning is between four and seven times higher than the Eur-A average for males 0–14 and 30–74 years old. Females face a similarly increased risk, at least three times the Eur-A average in the 0–14 years and 30–59 years age groups.

The Estonian death rates are lower than or comparable to the Eur-B+C averages by sex and age group. The most significant exception is the risk of cancer death, for which Estonians have an elevated risk in the 0–14 yeas (approximately 30% higher) and 75 years and older (approximately 35% higher) age groups.

CVD

More than half of all deaths in Estonia are caused by cardiovascular diseases, though CVD mortality has decreased almost by one third since the mid-1990s This improvement has been most substantial for men 30 and older and women 45 and older, whose rates have gone below the Eur-B+C average. An exception is women in the 30–44 years age range, whose death rate has stagnated and even increased since the mid-1990s.

Ischemic heart disease is the single biggest killer in Estonia, causing almost 30% of all deaths in 2002. For men aged 30 years and older and for women aged 45 years and older, the mortality rate has declined substantially. For all other age groups, excluding males aged 75 years and older, the Estonian rate is currently below the Eur-B+C average, but well above the Eur-A average. The trend is similar for deaths from cerebrovascular diseases for both sexes and all age groups.

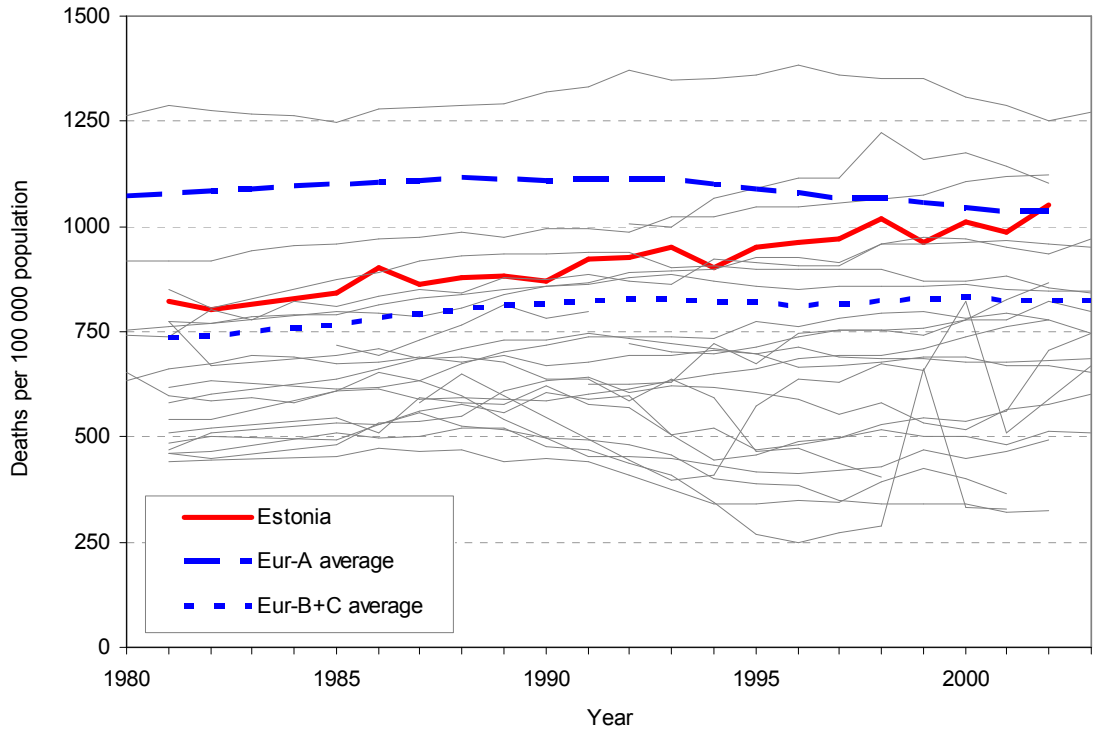
Cancer

Cancer causes almost every fifth death in Estonia. Cancer mortality has been decreasing in all age groups under 75 years, but it remains above the Eur-B+C average for males aged 60–74 years and females aged 45–74 years. Among elderly Estonians, both men and women, cancer death rates have constantly increased since the 1980s.

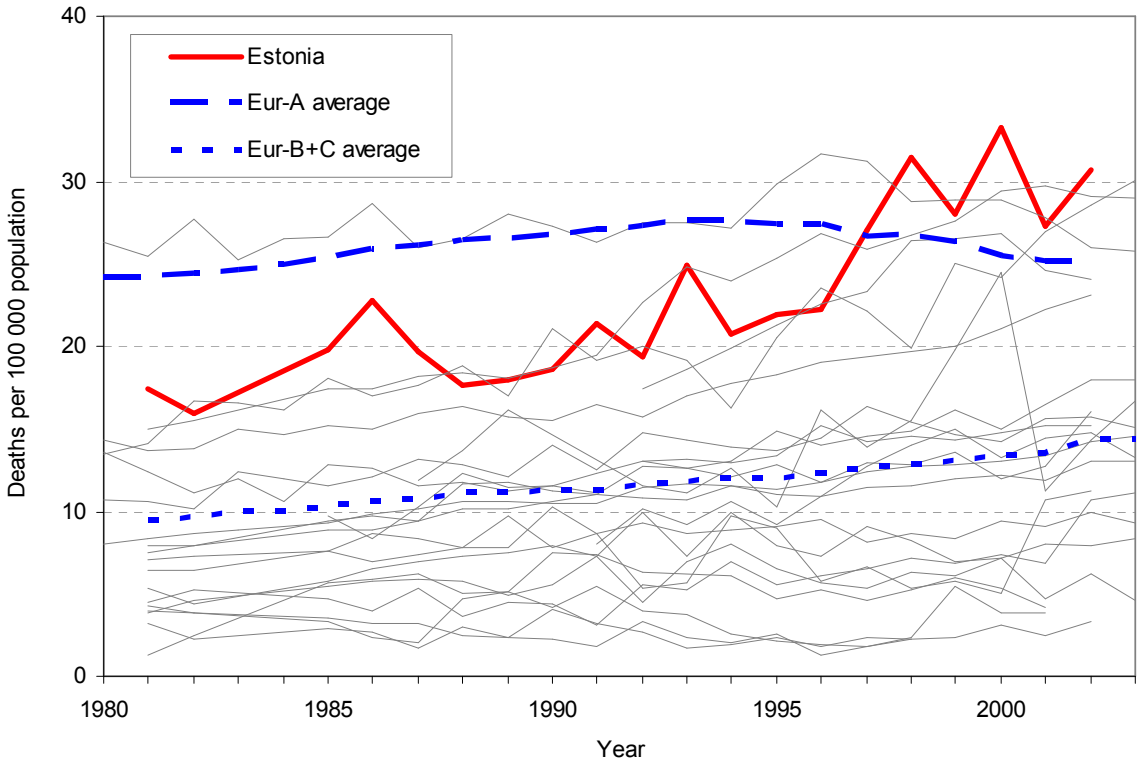
The risk of dying of cancer of the oesophagus or cancer of the bladder is declining in Estonia, and the current rates are below the Eur-A and Eur-B+C averages. Mortality is also decreasing for stomach cancer, cancer of lymphoid and hematopoietic tissue, cervical cancer and cancer of the uterus, but the Estonian rates are similar to the Eur-B+C averages, and higher than the Eur-A averages. Mortality rates for larynx, trachea, bronchus, lung and ovarian cancers are also declining, but are above the Eur-A and Eur-B+C averages.

The death rates for lip, oral cavity, pharynx, colorectal, pancreas, skin, breast and prostate cancers are increasing and the current Estonian rates are above the Eur-A and the Eur-B+C averages. Deaths from liver cancer have also become more frequent, but are still under the Eur-A and Eur-B+C averages.

SDR for cancer in people aged 65+ years,
Estonia, Eur-A and Eur-B+C averages, 1980 to latest available year



SDR for cancer of prostate in males, all ages,
Estonia, Eur-A and Eur-B+C averages, 1980 to latest available year

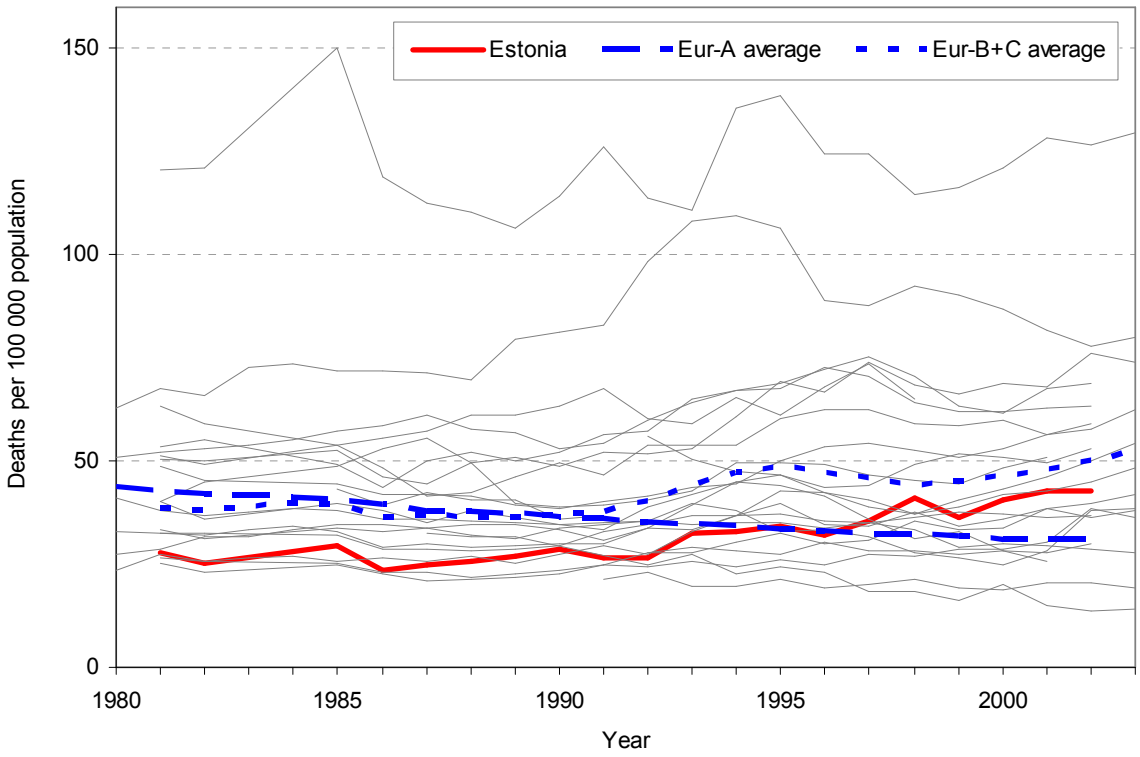


Other causes of death (diseases and medical conditions)

The death rate from diseases of the digestive system is increasing in Estonia, due to chronic liver diseases and cirrhosis. The increase is similar for both sexes and all age groups, even though the risk is twice as

high for males. In general, Estonia follows the Eur-B+C average, while a constantly increasing trend can be seen in Eur-A.

SDR for diseases of the digestive system in people of all ages,
Estonia, Eur-A and Eur-B+C averages, 1980 to latest available year

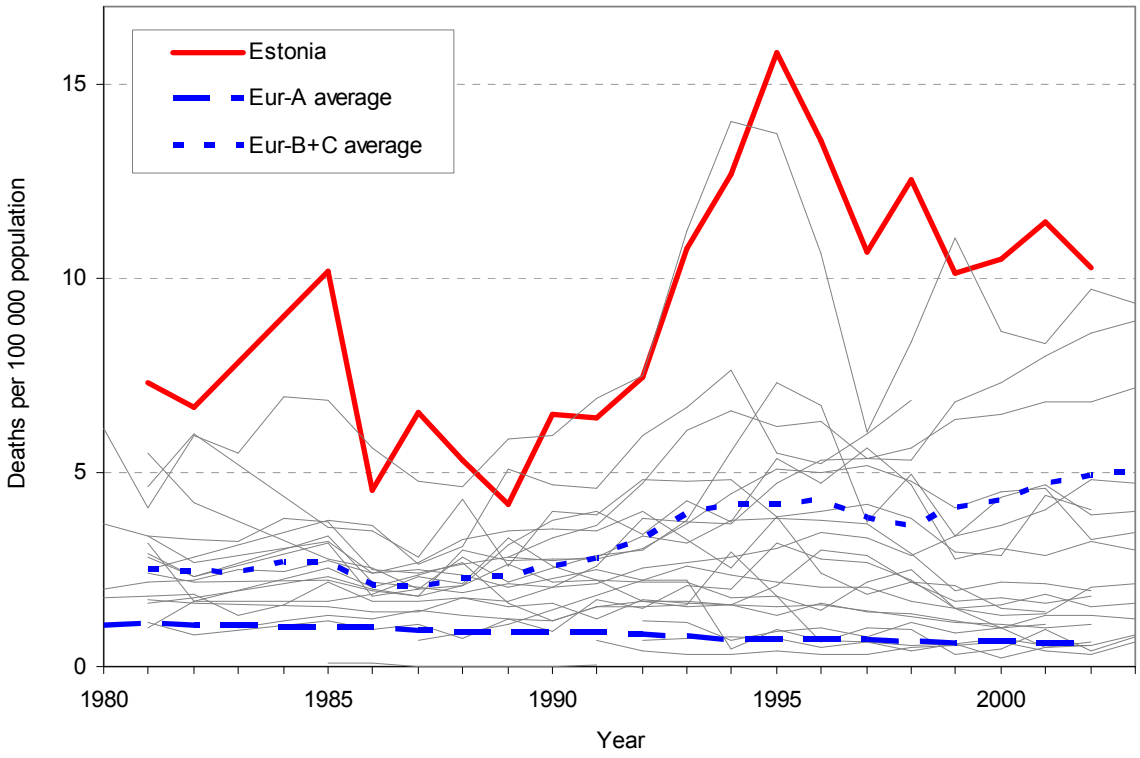


External causes

Mortality as a result of external causes increased 2.5 times between the end of 1980s and 1994 (the year when the ferry *Estonia* sank in the Baltic Sea), but has decreased by 40% since then. Even though the decline has been slow in the recent years, the Estonian mortality rate has reached the increasing Eur-B+C average. Despite falling mortality, the Estonian death rates are high for all causes, especially for deaths from accidents, accidental falls and exposure to smoke, fire and flames. For the latter, Estonia has the highest mortality rate in the whole WHO European Region, double the Eur-B+C average and more than fifteen times the Eur-A average. Especially men aged 60 years and above have a high and increasing risk of dying from exposure to smoke, fire and flames.

Suicides and homicides have become more rare in Estonia, and the death rates have decreased since the mid-1990s by 40% and 60%, respectively. The trends are similar for both sexes and all age groups, excluding young men aged 15–29 years, whose suicide rate was at the same level in 1992 and 2002.

SDR for exposure to smoke, fire and flames in people of all ages,
Estonia, Eur-A and Eur-B+C averages, 1980 to latest available year



References

Council of Europe (2005). *Recent demographic developments in Europe 2004*. Strasbourg, Council of Europe.

Eurostat (2005). *Eurostat's reference database*. Luxembourg, Statistical Office of the European Communities (http://europa.eu.int/comm/eurostat, accessed 3 May 2005).

EV Sotsiaalministeerium (2004). *Haiguskoormuse tõttu kaotatud eluaastad Eestis: seosed riskifaktoritega ja riskide vähendamise kulutõhusus* [*Years of life lost due to burden of disease in Estonia: connections with risk factors and cost-effectiveness of risk reduction*]. Tallin, Tartu Ülikool, Tervishoiu Instituut (http://www.sm.ee/est/HtmlPages/RiskiKoormus2004/$file/RiskiKoormus2004.pdf, accessed 10 January 2006).

Health Evidence Network (2003a). *What are the main risk factors for disability in old age and how can disability be prevented?* Copenhagen, WHO Regional Office for Europe (http://www.euro.who.int/HEN/Syntheses/20030820_1, accessed 11 October 2005).

Health Evidence Network (2003b). *What is the efficacy/effectiveness of antenatal care?* Copenhagen, WHO Regional Office for Europe (http://www.euro.who.int/HEN/Syntheses/20030820_1, accessed 11 October 2005).

Health Evidence Network (2004). *What are the advantages and disadvantages of restructuring a health care system to be more focused on primary health care services?* Copenhagen, WHO Regional Office for Europe (http://www.euro.who.int/HEN/Syntheses/20030820_1, accessed 11 October 2005).

ILO (2005). Key indicators of the labour market database [web site]. Geneva, International Labour Organization (http://www.ilo.org/public/english/employment/strat/kilm/index.htm, accessed 29 November 2005).

OECD (2004). *Ageing and employment policies*. Paris, Organisation for Economic Co-operation and Development (http://www.oecd.org/document/37/0,2340,en_2649_201185_32019685_1_1_1_1,00.html, accessed 14 November 2005).

UNESCO Institute for Statistics (2005). Country/Regional profiles [web site]. Montreal, UNESCO Institute for Statistics (http://www.uis.unesco.org/profiles/selectCountry_en.aspx, accessed 2 December 2005).

UNICEF (2005). Monitoring the Situation of Children and Women [web site]. New York, United Nations Children's Fund (http://www.childinfo.org, accessed 1 December 2005).

United Nations (2005). World population prospects: the 2004 revision population database [database online]. New York, United Nations (http://esa.un.org/unpp/index.asp?panel=1, accessed 28 September 2005).

WHO (2003a). *Managing newborn problems: a guide for doctors, nurses and midwives*. Geneva, World Health Organization (http://www.who.int/reproductive-health/publications/mnp/mnp.pdf, accessed 13 October 2005).

WHO (2003b). *The WHO reproductive health library, version 6*. Geneva, World Health Organization (http://www.who.int/reproductive-health/rhl/index.html, accessed 11 October 2005).

WHO (2003c). *The world health report 2003 – Shaping the future.* Geneva, World Health Organization (http://www.who.int/whr/2003/en, accessed 11 October 2005).

WHO (2004). *The world health report 2004 – Changing history*. Geneva, World Health Organization (http://www.who.int/whr/2004/en, accessed 11 October 2005).

WHO (2005). *World health statistics 2005*. Geneva, World Health Organization (http://www.who.int/healthinfo/statistics/en, 30 November 2005).

WHO Regional Office for Europe (1998). *Health in Europe 1997. Report on the third evaluation of progress towards health for all in the European Region of WHO (1996–1997)*. Copenhagen, WHO Regional Office for Europe (WHO Regional Publications, European Series, No. 83).

WHO Regional Office for Europe (2002). *The European health report 2002*. Copenhagen, WHO Regional Office for Europe: 156 (http://www.euro.who.int/europeanhealthreport, accessed 11 October 2005).

WHO Regional Office for Europe (2004a). *A strategy to prevent chronic disease in Europe: a focus on public health action: the CINDI vision*. Copenhagen, WHO Regional Office for Europe (http://www.euro.who.int/document/e83057.pdf, accessed 11 October 2005).

WHO Regional Office for Europe (2004b). *Towards a European strategy on noncommunicable diseases*. Copenhagen, WHO Regional Office for Europe (http://www.euro.who.int/document/rc54/edoc08.pdf, accessed 11 October 2005).

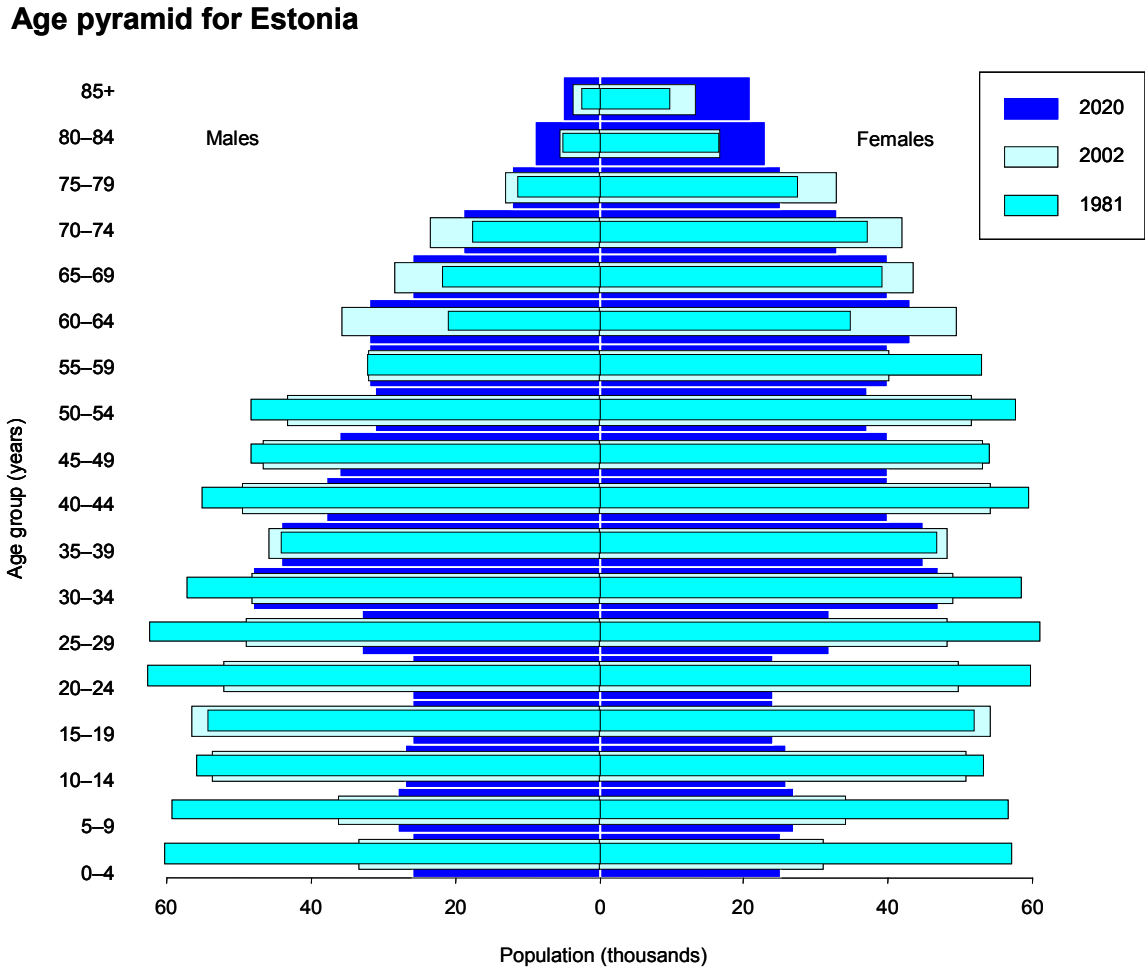
WHO Regional Office for Europe (2005). European health for all database (HFA-DB) [online database]. Copenhagen, WHO Regional Office for Europe (http://www.euro.who.int/hfadb, accessed 20 January 2005).

World Bank (2004). *The Millennium Development Goals in Europe and Central Asia*. Washington, DC, World Bank.

World Bank (2005). *World development indicators 2005*. Washington, DC, World Bank (http://devdata.worldbank.org/wdi2005/home.htm, accessed 28 September 2005).

Annexes

Annex. Age Pyramid



Sources: WHO Regional Office for Europe (2005) and United Nations (2005).

Annex. Selected mortality

Selected mortality in Estonia compared with B+C averages

Condition	SDR per 100 000		Excess mortality in Estonia (%)	Total deaths in Estonia (%)	Total deaths in Eur-B+C (%)	Eur-A average	Excess Estonia to Eur-A (%)	Total deaths in Eur-A (%)
	Estonia (2002)	Eur- B+C average (2003)						
Selected non–communicable conditions	859.6	1044.9	–17.7	78.8	79.6	533.8	61.0	82.4
Cardiovascular diseases	560.4	741.8	–24.5	51.4	56.5	243.4	130.2	37.6
Ischaemic heart disease	323.0	362.7	–10.9	29.6	27.6	95.9	236.8	14.8
Cerebrovascular diseases	154.1	221.7	–30.5	14.1	16.9	61.1	152.2	9.4
Diseases of pulmonary circulation and other heart disease	36.8	68.9	–46.6	3.4	5.3	56.6	–35.0	8.7
Malignant neoplasms	200.6	172.0	16.6	18.4	13.1	181.5	10.5	28.0
Trachea/bronchus/lung cancer	40.4	33.9	19.2	3.7	2.6	37.1	8.9	5.7
Female breast cancer	25.6	22.1	15.8	2.3	1.7	27.0	–5.2	4.2
Colon/rectal/anal cancer	22.5	19.0	18.4	2.1	1.4	20.7	8.7	3.2
Prostate	30.7	14.3	114.7	2.8	1.1	25.1	22.3	3.9
Respiratory diseases	36.3	63.1	–42.5	3.3	4.8	47.8	–24.1	7.4
Chronic lower respiratory diseases	11.4	31.2	–63.5	1.0	2.4	20.2	–43.6	3.1
Pneumonia	20.4	23.6	–13.6	1.9	1.8	16.2	25.9	2.5
Digestive diseases	42.8	52.3	–18.2	3.9	4.0	30.8	39.0	4.8
Chronic liver disease and cirrhosis	21.5	32.0	–32.8	2.0	2.4	12.6	70.6	1.9
Neuropsychiatric disorders	19.6	15.7	24.8	1.8	1.2	30.3	–35.3	4.7
Communicable conditions	8.4	20.8	–59.6	0.8	1.6	8.4	0.0	1.3
AIDS/HIV	0.2	0.8	–75.0	0.0	0.1	1.1	–81.8	0.2
External causes	142.2	139.6	1.9	13.0	10.6	40.3	252.9	6.2
Unintentional	104.7	102.2	2.4	9.6	7.8	28.7	264.8	4.4
Road traffic injuries	15.2	14.7	3.4	1.4	1.1	9.9	53.5	1.5
Falls	9.3	7.5	24.0	0.9	0.6	6.1	52.5	0.9
Intentional	37.5	37.4	0.3	3.4	2.9	11.6	223.3	1.8
Self–inflicted (suicide)	26.0	23.2	12.1	2.4	1.8	10.6	145.3	1.6
Violence (homicide)	11.5	14.2	–19.0	1.1	1.1	1.0	1050.0	0.2
Ill–defined conditions	46.5	64.0	–27.3	4.3	4.9	20.9	122.5	3.2
All causes	1090.6	1312.2	–16.9	100.0	100.0	647.8	68.4	100.0

Annex. Mortality data

Table 1. Selected mortality for the group 0–14 years by sex in Estonia and Eur-B+C: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Estonia (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	73.8	–8.0	49.4	–2.4	151.7	–3.8
	M	93.7	–7.6	55.3	–2.5	170.5	–3.9
	F	52.8	–8.6	43.3	–2.4	131.9	–3.8
Infectious and parasitic diseases	M	1.1	–11.6	1.4	–1.1	10.9	–7.0
	F	1.2	–11.2	1.1	–3.0	9.5	–6.6
Intestinal infectious diseases	M	0.0		0.2	–0.7	5.1	–8.2
	F	0.0	–14.3	0.1	–7.3	4.7	–7.9
Malignant neoplasms	M	6.4	0.3	3.3	–1.8	5.1	–1.9
	F	6.9	0.6	2.6	–1.8	4.2	–1.9
Cardiovascular diseases	M	1.1	–8.9	1.4	–3.1	3.3	1.1
	F	1.2		1.3	–2.5	2.6	0.1
Respiratory diseases	M	6.6	0.1	1.4	–4.3	35.9	–5.0
	F	1.2	–12.7	1.0	–4.2	30.7	–5.0
Pneumonia	M	3.1	6.9	0.5	–6.0	20.9	–4.9
	F	0.0	–14.3	0.4	–5.1	17.9	–4.7
Certain conditions originating in perinatal period	M	321.5	–9.6	255.3	–2.1	607.6	–2.7
	F	145.0	–11.3	202.3	–1.6	427.5	–2.7
Congenital malformations & chromosomal abnormalities	M	25.0	–2.0	11.6	–2.9	24.2	–2.8
	F	11.5	–5.1	10.0	–3.3	21.0	–2.6
Ill–defined causes	M	0.0	–14.3	5.0	–3.9	5.6	–0.6
	F	0.0	–14.3	3.4	–4.2	4.6	–1.0
External causes of injury & poisoning	M	26.0	–8.0	7.0	–4.0	29.0	–3.4
	F	13.0	–9.0	4.6	–3.2	18.1	–3.1
Road traffic injuries	M	5.8	–5.7	2.5	–4.5	4.7	–2.6
	F	5.7	9.0	1.7	–4.8	3.0	–1.6

Table 2. Selected mortality for the group 15–29 years by sex in Estonia and Eur-B+C: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Estonia (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	146.6	–2.8	56.0	–2.3	161.0	–0.9
	M	242.9	–2.5	82.0	–2.3	241.7	–1.0
	F	47.7	–4.6	29.3	–2.2	79.0	–0.6
Infectious and parasitic diseases	M	3.4	3.3	1.2	1.5	12.3	3.0
	F	0.7	–9.3	0.8	1.9	5.1	2.5
Malignant neoplasms	M	7.9	–6.3	6.2	–1.0	8.8	–1.9
	F	4.2	–5.6	4.7	–1.4	7.7	–1.9
Cardiovascular diseases	M	10.3	–2.2	4.1	–2.4	17.6	0.0
	F	2.6	–8.9	2.3	–2.0	7.3	–0.9
Respiratory diseases	M	8.2	28.4	1.4	–3.6	6.9	0.2
	F	2.0	–3.8	0.9	–2.7	3.8	–1.1
Digestive diseases	M	4.2	–2.1	0.9	–3.5	8.0	3.0
	F	0.7	0.4	0.5	–3.8	3.7	3.1
Ill–defined causes	M	12.2	6.4	4.0	–3.1	11.6	7.1
	F	1.4	15.1	1.4	–1.3	3.3	5.8
External causes	M	187.2	–2.6	58.3	–1.4	162.4	–1.6
	F	29.7	–3.5	14.4	–1.6	36.9	–0.2
Road traffic injuries	M	38.2	–5.0	28.5	–1.3	27.8	–1.5
	F	7.6	–6.5	7.3	–1.4	8.0	0.3
Accidental drowning	M	7.9	–8.7	1.3	–2.2	10.8	–3.9
	F	2.7	–3.1	0.2	–2.1	1.9	–2.2
Accidental poisoning	M	49.9	34.9	2.8	0.0	19.1	3.3
	F	5.6	99.1	0.7	0.8	4.4	2.5
Self–inflicted (suicide)	M	39.9	0.1	12.7	–1.8	36.8	0.0
	F	4.2	–6.5	3.1	–2.2	5.8	–1.3

Table 3. Selected mortality for the group 30–44 years by sex in Estonia and Eur-B+C: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Estonia (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	363.1	–4.1	120.3	–2.5	453.8	–0.7
	M	574.7	–4.3	161.6	–2.6	700.0	–0.8
	F	164.9	–3.3	78.5	–2.1	215.6	–0.2
Malignant neoplasms	M	40.6	–1.5	27.6	–2.3	40.2	–2.8
	F	31.6	–5.0	31.3	–2.0	43.8	–1.4
Trachea/bronchus/lung cancer	M	5.7	–3.3	5.0	–3.4	7.3	–4.2
	F	1.9	30.1	2.8	–0.6	2.2	–1.0
Female breast cancer							
	F	5.1	–9.8	10.0	–2.6	10.0	–2.3
Cardiovascular diseases	M	106.1	–4.8	26.1	–2.5	158.6	–0.4
	F	25.2	0.9	10.4	–2.1	45.3	0.0
Ischaemic heart disease	M	41.0	–7.1	11.8	–3.1	73.7	–2.2
	F	6.1	–4.3	2.4	–2.7	14.4	–1.3
Cerebrovascular diseases	M	12.9	–5.4	4.4	–3.2	24.6	–0.4
	F	5.8	–2.1	3.6	–2.5	10.6	–1.3
Respiratory diseases	M	21.7	–4.0	3.9	–3.5	34.3	0.9
	F	7.4	–3.2	2.2	–2.0	9.8	0.8
Digestive diseases	M	43.3	6.7	12.6	–2.4	50.2	1.4
	F	20.4	9.1	5.4	–1.7	19.4	4.1
External causes	M	284.3	–5.9	58.8	–1.2	299.5	–1.9
	F	53.7	–5.7	15.1	–1.8	58.9	–1.0
Road traffic injuries	M	31.3	–7.1	16.0	–0.5	31.4	–1.7
	F	6.9	–5.7	3.9	–2.0	7.1	–0.5
Self–inflicted (suicide)	M	63.6	–5.2	21.2	–1.5	54.9	–2.4
	F	6.8	–8.3	5.8	–2.2	7.9	–2.5

Table 4. Selected mortality for the group 45–59 years by sex in Estonia and Eur-B+C: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Estonia (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	1092.9	–2.7	435.6	–1.3	1294.9	–0.6
	M	1727.0	–3.0	580.1	–1.4	1981.7	–0.6
	F	568.3	–1.9	293.3	–1.0	698.9	–0.5
Malignant neoplasms	M	304.3	–2.7	218.2	–1.2	323.2	–1.9
	F	191.9	1.5	155.0	–1.0	186.1	–0.5
Trachea/bronchus/lung cancer	M	105.2	–2.7	65.9	–1.5	101.4	–2.9
	F	15.4	10.1	21.8	3.4	15.4	1.0
Female breast cancer							
	F	48.6	0.0	44.0	–2.2	45.3	0.1
Cardiovascular diseases	M	622.3	–3.5	156.4	–2.6	793.1	–0.1
	F	166.8	–4.1	50.9	–2.5	271.7	–0.6
Ischaemic heart disease	M	329.7	–4.5	86.2	–3.3	435.3	–0.7
	F	65.0	–5.4	17.8	–3.4	111.1	–0.6
Cerebrovascular diseases	M	111.3	–3.7	23.7	–2.6	168.6	–0.9
	F	46.9	–5.9	14.5	–2.1	88.4	–1.4
Respiratory diseases	M	104.6	–1.1	20.3	–1.7	108.7	–1.4
	F	18.4	–2.4	10.2	–1.3	24.5	–0.7
Digestive diseases	M	113.0	6.1	49.6	–0.8	129.7	0.7
	F	39.9	3.1	20.3	–0.7	57.3	1.9
External causes	M	413.4	–4.4	62.8	–1.0	409.2	–0.9
	F	97.8	–2.4	20.9	–0.9	89.1	–1.1
Road traffic injuries	M	25.1	–6.5	13.0	–1.3	28.5	–1.8
	F	7.2	–5.1	4.1	–2.1	7.5	–1.4
Self–inflicted (suicide)	M	70.1	–7.3	23.1	–1.1	68.1	–2.4
	F	19.3	–4.0	8.5	–1.2	10.2	–3.4

Table 5. Selected mortality for the group 60–74 years by sex in Estonia and Eur-B+C: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Estonia (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	2750.3	–2.0	1570.9	–1.9	3411.7	–0.1
	M	4412.6	–1.6	2156.9	–2.1	4996.4	0.1
	F	1687.1	–2.9	1069.2	–1.9	2339.0	–0.6
Malignant neoplasms	M	1202.0	–0.8	851.3	–1.4	1002.5	–0.8
	F	477.5	–0.7	439.8	–1.1	438.9	–0.7
Trachea/bronchus/lung cancer	M	399.6	–3.0	261.8	–1.9	321.7	–1.5
	F	42.1	–2.5	59.0	0.2	37.1	–1.4
Female breast cancer							
	F	85.3	1.5	79.7	–1.6	68.7	1.3
Cardiovascular diseases	M	2237.1	–2.6	744.9	–3.6	2903.0	0.6
	F	921.5	–3.9	335.7	–3.9	1507.8	–0.3
Ischaemic heart disease	M	1353.5	–3.0	381.3	–4.2	1582.2	1.2
	F	481.7	–4.1	133.5	–4.6	731.4	0.5
Cerebrovascular diseases	M	536.4	–4.3	143.3	–3.7	833.7	0.2
	F	309.8	–4.9	86.7	–4.1	528.9	–0.8
Respiratory diseases	M	207.1	–1.6	144.0	–3.5	303.0	–2.4
	F	34.0	–4.8	62.5	–2.4	68.6	–3.6
Digestive diseases	M	168.9	6.9	111.6	–1.6	193.0	0.1
	F	63.8	–1.3	54.1	–1.7	94.2	0.2
External causes	M	359.3	–1.4	79.3	–1.4	320.0	1.0
	F	73.4	–2.8	32.1	–2.1	88.7	–0.5
Road traffic injuries	M	28.9	–5.1	14.8	–3.0	24.3	–1.5
	F	4.0	4.5	5.9	–3.4	9.5	–1.0
Self–inflicted (suicide)	M	61.0	–3.1	24.5	–1.6	60.5	–0.8
	F	10.8	–8.3	8.7	–2.6	12.7	–3.1

Table 6. Selected mortality for the group 75+ years by sex in Estonia and Eur-B+C: SDR per 100 000 population and percentage changes from 1995 to latest available year

Causes of death	Sex	Estonia (2002)		Eur-A (2002)		Eur-B+C (2003)	
		Rate	Change (%)	Average	Change (%)	Average	Change (%)
All causes	Both	10466.5	–1.4	8059.6	–1.0	12338.8	0.0
	M	13028.0	–1.6	9832.0	–1.1	14838.0	0.1
	F	9601.7	–1.3	7112.5	–0.9	11421.7	0.0
Malignant neoplasms	M	2164.4	3.5	2231.1	–0.4	1489.3	1.2
	F	983.6	2.4	1136.2	–0.4	721.7	0.8
Trachea/bronchus/lung cancer	M	459.0	7.0	457.1	–0.7	323.5	1.0
	F	70.9	9.9	102.7	1.5	55.6	0.5
Female breast cancer							
	F	114.7	3.2	159.6	–0.4	92.0	3.1
Cardiovascular diseases	M	8393.3	–2.3	4356.2	–2.1	10221.2	0.4
	F	7112.9	–1.7	3577.9	–1.9	8805.6	0.4
Ischaemic heart disease	M	5559.4	–2.7	1708.0	–2.2	4925.6	1.4
	F	4207.3	–2.5	1150.0	–2.2	4028.6	1.2
Cerebrovascular diseases	M	2112.4	–3.2	1119.8	–2.5	3004.4	0.7
	F	2240.4	–2.5	1026.9	–2.4	2967.6	0.5
Respiratory diseases	M	470.0	2.3	1156.5	–2.4	824.1	–2.1
	F	103.5	–1.4	591.9	–2.1	302.3	–3.2
Digestive diseases	M	251.5	0.8	340.3	–1.1	270.4	0.3
	F	198.9	1.6	279.8	–0.4	175.0	1.1
External causes	M	562.3	–3.1	275.0	–0.6	604.2	0.1
	F	137.1	–2.5	187.8	–1.2	172.4	–1.2
Road traffic injuries	M	39.2	–1.7	28.1	–2.2	34.6	–3.1
	F	1.5	–12.7	10.0	–3.1	14.7	–1.7
Self–inflicted (suicide)	M	87.3	–3.5	49.5	–1.6	86.6	–1.1
	F	24.1	–3.7	11.8	–3.2	22.4	–1.9

Technical notes

Calculation of averages

Averages for the reference group, when based on data in the European health for all database of the WHO Regional Office for Europe, are weighted by population. Some countries with insufficient data may be excluded from the calculation of averages. Otherwise, for data from other sources, simple averages have been calculated where required.

To smooth out fluctuations in annual rates caused by small numbers, three-year averages have been used, as appropriate. For example, maternal mortality, usually a small number, has three-year moving averages calculated for all countries. When extreme fluctuations are known to be due to population anomalies, data have been deleted, as appropriate.

Data sources

To make the comparisons as valid as possible, data for each indicator have, as a rule, been taken from one source to ensure that they have been harmonized in a reasonably consistent way. Unless otherwise noted, the source of data for figures and tables in this report is the January 2005 version of the European health for all database of the WHO Regional Office for Europe. The health for all database acknowledges the various primary sources of the data.

In cases where current census data for national population are unavailable, coupled with ongoing migrations of people in and out of countries, UN estimates or provisional figures supplied by the country are used to approximate national population. Such population figures create uncertainty in standardized death rates.

Disease coding

Case ascertainment, recording and classification practices (using the ninth and tenth revisions of the International Statistical Classification of Diseases and Related Health Problems: ICD-9 and ICD-10, respectively), along with culture and language, can influence data and therefore comparability across countries.

Healthy life expectancy (HALE) and disability-adjusted-life-years (DALYs)

HALE and DALYs are summary measures of population health that combine information on mortality and non-fatal health outcomes to represent population health in a single number. They complement mortality indicators by estimating the relative contributions of different causes to overall loss of health in populations.

DALYs are based on cause-of-death information for each WHO region and on regional assessments of the epidemiology of major disabling conditions. The regional estimates have been disaggregated to Member State level for the highlights reports.

National estimates of HALE are based on the life tables for each Member State, population representative sample surveys assessing physical and cognitive disability and general health status, and on detailed information on the epidemiology of major disabling conditions in each country.

More explanation is provided in the statistical annex and explanatory notes of *The world health report 2003*[1].

Limitations of national-level data

National-level averages, particularly when they indicate relatively good positions or trends in health status, as is the case in most developed countries, hide pockets of problems. Unless the health status of a small population is so dramatically different from the norm that it influences a national indicator, health risks and poorer health outcomes for small groups will only become evident through subnational data.

[1] WHO (2003). *The world health report 2003 – Shaping the future.* Geneva, World Health Organization (http://www.who.int/whr/2003/en, accessed 10 June 2005).

Reference groups for comparison

When possible, international comparisons are used as one means of assessing a country's comparative strengths and weaknesses and to provide a summary assessment of what has been achieved so far and what could be improved in the future. Differences between countries and average values allow the formulation of hypotheses of causation or imply links or remedies that encourage further investigation.

The country groups[1] used for comparison are called reference groups and comprise:

- countries with similar health and socioeconomic trends or development; and/or
- geopolitical groups.

The 27 countries with very low child mortality and very low adult mortality are designated Eur-A by WHO. Eur-A comprises Andorra, Austria, Belgium, Croatia, Cyprus, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, the Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. However, data for most indicators are unavailable for two of the 27 countries: Andorra and Monaco. Therefore, unless otherwise indicated, Eur-A and averages for Eur-A refer to the 25 countries for which data are available.

The 25 countries with low child mortality and low or high adult mortality are designated Eur-B+C by WHO. Eur-B+C comprises Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Poland, Republic of Moldova, Romania, Russian Federation, Serbia and Montenegro, Slovakia, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, and Uzbekistan. Unless otherwise indicated, Eur-B+C and averages for Eur-B+C refer to these countries.

Comparisons should preferably refer to the same point in time, but the countries' latest available data are not all for the same year. This should be kept in mind as a country's position may change when more up-to-date data become available.

Graphs have usually been used to show time trends from 1980 onwards. These graphs present the trends for all the reference countries as appropriate. Only the country in focus and the group average are highlighted and identified in the legend. This enables the country's trends to be followed in relation to those of all the reference countries, and performance in relation to observable clusters and/or the main trend or average to be recognized more easily.

[1] WHO (2004). *The world health report 2004 – Changing history.* Geneva, World Health Organization (http://www.who.int/whr/2004/en, accessed 26 August 2004.

Glossary

Causes of death	*ICD-10 code*
Cerebrovascular diseases	I60–I69
Chronic liver disease and cirrhosis	K70, K73, K74, K76
Chronic obstructive pulmonary disease	J40–J47
Colon/rectal/anal cancer	C18–C21
Diseases of pulmonary circulation and other heart disease	I26–I51
Falls	W00–W19
Female breast cancer	C50
Ischaemic heart disease	I20–I25
Pneumonia	J12–J18
Prostate cancer	C61
Neuropsychiatric disorders	F00–99, G00–99, H00–95
Road traffic injuries	V02–V04, V09, V12–V14, V19–V79, V82–V87, V89
Self-inflicted (suicide)	X60–X84
Trachea/bronchus/lung cancer	C33–C34
Violence	X85–Y09

Technical terminology

Disability-adjusted life-year (DALY)	The DALY combines in one measure the time lived with disability and the time lost owing to premature mortality. One DALY can be thought of as one lost year of healthy life.
GINI index	The GINI index measures inequality over the entire distribution of income or consumption. A value of 0 represents perfect equality; a value of 100, perfect inequality. Low levels in the WHO European Region range from 23 to 25; high levels range from 35 to 36[1].
Healthy life expectancy (HALE)	HALE summarizes total life expectancy into equivalent years of full health by taking account of years lived in less than full health due to diseases and injuries.
Income poverty line (50% of median income)	The percentage of the population living below a specified poverty line: in this case, with less than 50% of median income.
Life expectancy at birth	The average number of years a newborn infant would live if prevailing patterns of mortality at the time of birth were to continue throughout the child's life.
Natural population growth	The birth rate less the death rate.
Neuropsychiatric conditions	Mental, neurological and substance-use disorders.
Population growth	(The birth rate less the death rate) + (immigration less emigration).
Standardized death rate (SDR)	The age-standardized death rate calculated using the direct method: that is, it represents what the crude rate would have been if the population had the same age distribution as the standard European population.

[1] WHO Regional Office for Europe (2002). *The European health report 2002*. Copenhagen, WHO Regional Office for Europe:156 (http://www.euro.who.int/europeanhealthreport, accessed 28 May 2004).