

# State of Health in the EU Estonia

Country Health Profile 2017

## The Country Health Profile series

The *State of Health in the EU* profiles provide a concise and policy-relevant overview of health and health systems in the EU Member States, emphasising the particular characteristics and challenges in each country. They are designed to support the efforts of Member States in their evidence-based policy making.

The Country Health Profiles are the joint work of the OECD and the European Observatory on Health Systems and Policies, in cooperation with the European Commission. The team is grateful for the valuable comments and suggestions provided by Member States and the Health Systems and Policy Monitor network.

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## Data and information sources

The data and information in these Country Health Profiles are based mainly on national official statistics provided to Eurostat and the OECD, which were validated in June 2017 to ensure the highest standards of data comparability. The sources and methods underlying these data are available in the Eurostat Database and the OECD health database. Some additional data also come from the Institute for Health Metrics and Evaluation (IHME), the European Centre for Disease Prevention and Control (ECDC), the Health Behaviour in School-Aged Children (HBSC) surveys and the World Health Organization (WHO), as well as other national sources.

The calculated EU averages are weighted averages of the 28 Member States unless otherwise noted.

To download the Excel spreadsheet matching all the tables and graphs in this profile, just type the following StatLinks into your Internet browser:

<http://dx.doi.org/10.1787/888933593494>

## Demographic and socioeconomic context in Estonia, 2015

	Estonia	EU
Demographic factors	Population size (thousands)	1 315
	Share of population over age 65 (%)	18.8
	Fertility rate <sup>1</sup>	1.6
Socioeconomic factors	GDP per capita (EUR PPP <sup>2</sup> )	21 666
	Relative poverty rate <sup>3</sup> (%)	12.5
	Unemployment rate (%)	9.4

1. Number of children born per woman aged 15–49.

2. Purchasing power parity (PPP) is defined as the rate of currency conversion that equalises the purchasing power of different currencies by eliminating the differences in price levels between countries.

3. Percentage of persons living with less than 50 % of median equivalised disposable income.

Source: Eurostat Database.

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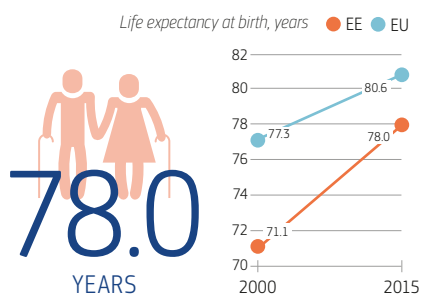
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# 1 Highlights

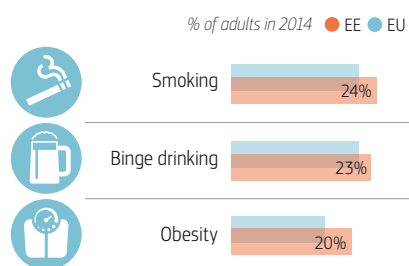
The health status of Estonian people has improved and is rapidly closing the gap with EU averages. Yet large socioeconomic disparities persist and gains in life expectancy are spent in less good health than in other countries. Deregulation in the 1990s did not achieve the hoped for efficient and accessible health services, so there has been a gradual return to centralised planning and regulation.

## Health status



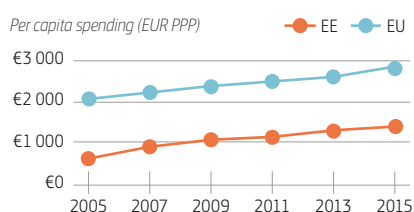
Life expectancy at birth was 78.0 years in 2015, compared with 71.1 years in 2000 and is rapidly catching up with the EU average. These gains are mainly the result of a strong reduction in premature deaths from cardiovascular diseases, although these remain relatively high. Despite improvements, HIV infections and tuberculosis are still challenges for Estonia.

## Risk factors



In 2014, 24% of Estonian adults smoked tobacco daily, only slightly above the EU average but with men smoking much more heavily than women. Alcohol consumption per adult has also decreased but binge drinking among men is high. Adult obesity rates have grown by 40% overall since 2000 and are higher than the EU average whereas overweight and obesity among children pose a real public health concern.

## Health system

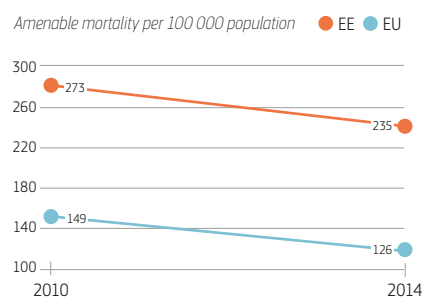


Health spending in Estonia, at EUR 1 407, is lower than in most other EU countries, and in 2015, was only about half the EU average per head. This was the equivalent of 6.5% of GDP, again well below the EU average (9.9%). There is a strong reliance on payroll contributions that makes the system vulnerable but still three quarters of health spending is publicly funded, which gives the population more protection than in neighbouring countries.

## Health system performance

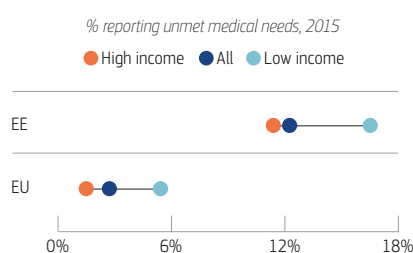
### Effectiveness

Amenable mortality in Estonia remains one of the highest in EU countries, which together with other indicators indicates substantial room to improve health services.



### Access

Access to health care shows little variation between income groups but could be improved considerably by addressing high unmet needs for medical care and by addressing waiting times for specialised care.



### Resilience

Financing is vulnerable to the impacts of ageing and economic downturn, while infrastructure and the health workforce remain a considerable challenge. Improvements are planned to broaden the revenue base and create long-term stability.



## 2 Health in Estonia

### Life expectancy has risen remarkably rapidly, but still lags behind for men

Life expectancy at birth in Estonia increased by over 7 years between 2000 and 2015, faster than in any other EU country. Nonetheless, it is some 2.5 years below the EU average (Figure 1). Men in particular lag behind, with life expectancy at birth (at 73.2) nearly 5 years below the EU average, whereas the gap is just over a year for women (82.2 years). More positively, the gender gap has been declining since 2011.

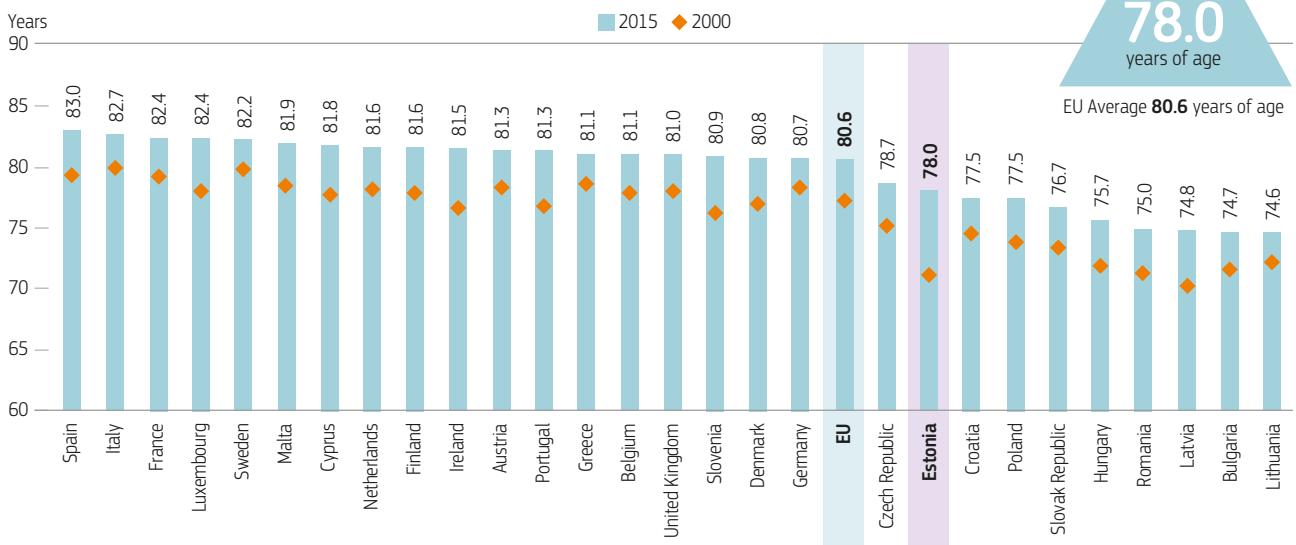
Socioeconomic disparity in life expectancy is particularly wide. Estonians who go on to university will live 14 years longer than

those who attain only lower secondary education.<sup>1</sup> This is the widest gap among EU countries with data available. A large part of the gain in life expectancy has been after age 65, so Estonian women at 65 have another 20 years to live and men more than 15 years (2015). However, a higher proportion of these additional years are lived with disability (three quarters for women and two thirds for men) than in much of the EU.<sup>2</sup>

1. Lower education levels refer to people with less than primary, primary or lower secondary education (ISCED levels 0–2) while higher education levels refer to people with tertiary education (ISCED levels 5–8).

2. These are based on the indicator of 'healthy life years' which measures the number of years that people can expect to live free of disability at different age

**Figure 1. Life expectancy in Estonia is increasing rapidly, but remains below other EU countries**

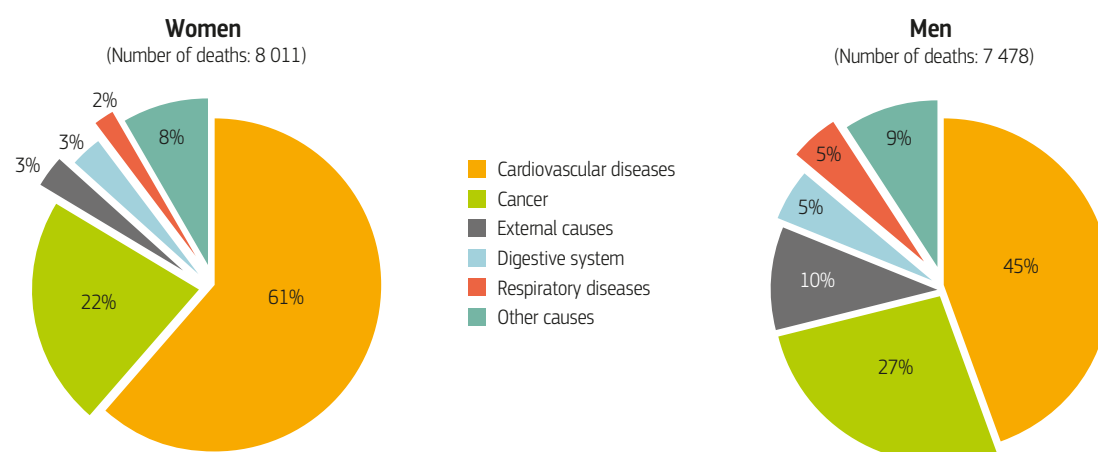


Source: Eurostat Database.

### Cardiovascular disease and cancer are leading causes of death but external causes also take a toll

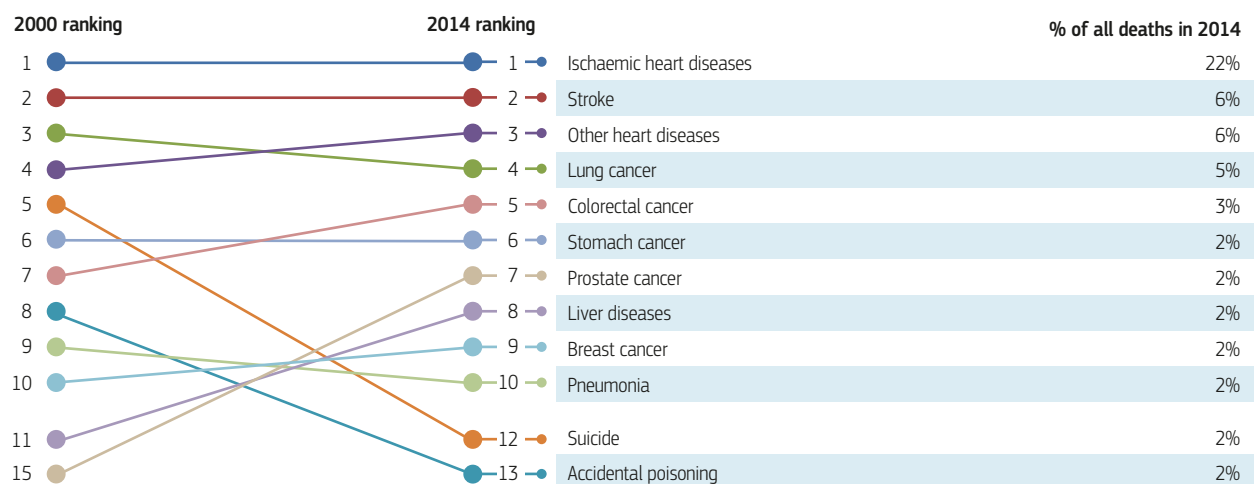
Cardiovascular diseases kill more than three in five women and nearly half of men (Figure 2) with a mortality rate nearly double the EU average. Mortality from cancer is the second leading cause of death (accounting for 22% of women and 27% of men). External causes come third for both and account for the death of about 10% of men.

Looking at trends over time in more detail, heart diseases and stroke remain the leading causes of mortality (Figure 3), though the standardised death rate from heart diseases and stroke fell substantially (about 34%) between 2000 and 2014. During the same period, however, mortality from cancer did not fall and remains well above the EU average. Despite policies to combat smoking (see Section 5.1), lung cancer remains the most common cause of cancer mortality.

**Figure 2. Most deaths in both women and men are caused by cardiovascular disease or cancer**

**Note:** The data are presented by broad ICD chapter. Dementia was added to the nervous system diseases' chapter to include it with Alzheimer's disease (the main form of dementia).

**Source:** Eurostat Database (data refer to 2014).

**Figure 3. Heart disease and stroke remain the main causes of death; suicide and poisoning have fallen**

**Source:** Eurostat Database.

## Back pain, alcohol and mental health contribute to high levels of healthy life lost

Cardiovascular disease, low back and neck pain, alcohol-related disorders and depression are leading causes of disability-adjusted life years (DALYs)<sup>3</sup> (IHME, 2016). Based on self-reported data from the European Health Interview Survey (EHIS), almost a quarter of Estonians have hypertension, more than one in thirty report living with asthma, and more than one in twenty have diabetes.

## HIV, tuberculosis and hepatitis C virus remain high despite improvements

Although the reported rate of new HIV cases in Estonia is declining steadily, it is still the highest in the EU. There were 20.6 notified cases per 100 000 in 2015, nearly four times the EU average.

3. DALY is an indicator used to estimate the total number of years lost due to specific diseases and risk factors. One DALY equals one year of healthy life lost (IHME).

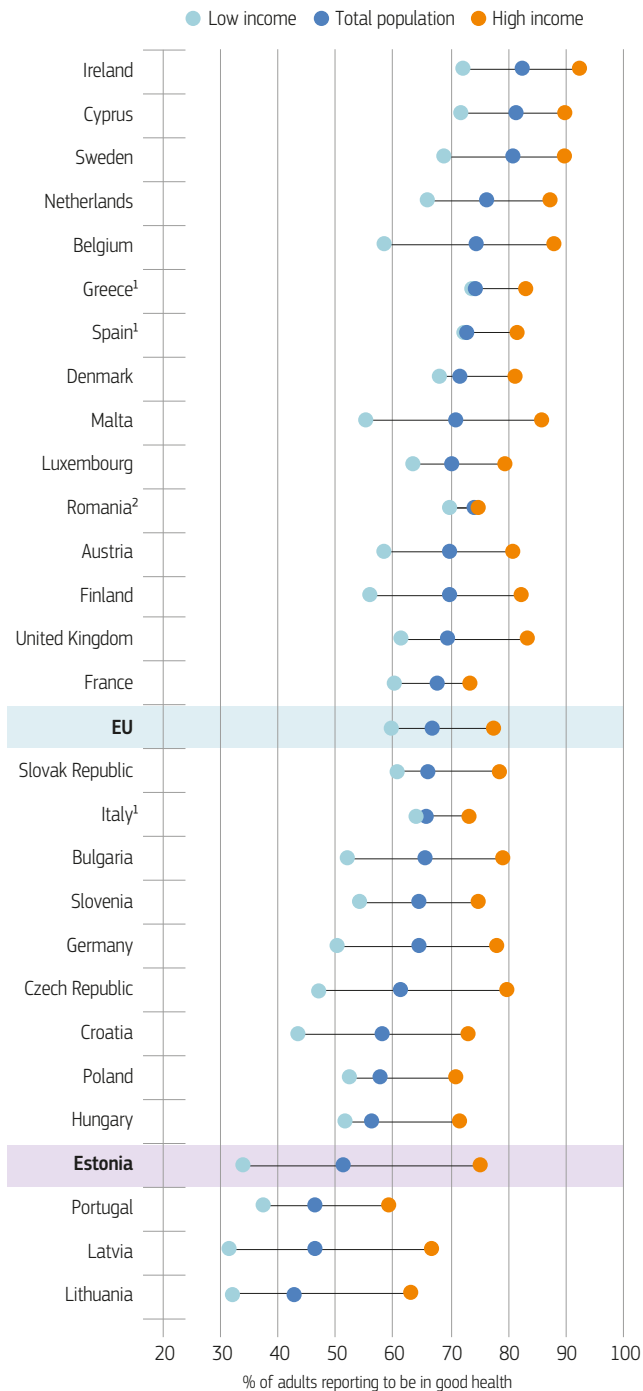
Despite a substantial decrease in tuberculosis since 2010, the notification rate (2015) was 40% higher than the EU average. The prevalence of multidrug-resistant tuberculosis is particularly worrying at 21.2% of all cases in 2015 (ECDC, 2017). Lastly, hepatitis C virus is underreported but as many as 1% of first-time blood donors have the virus.

## People do not feel they are in good health, especially lower income groups

Only half of Estonians report being in good health, a much lower proportion than is typical in the EU (with average levels nearer to two thirds). This is much more pronounced in low income groups where just 34% of people assess their health as good – compared with 75% of the highest income quintile (2015). This is the largest gap of any EU country (Figure 4). The disparity is borne out by marked inequalities in the prevalence of chronic conditions by education level, with people with the lowest level almost 50%

more likely to live with asthma or other chronic respiratory diseases, and 40% more likely to live with hypertension, than those with the highest level of education (2014).<sup>4</sup>

**Figure 4. Estonia has the EU's largest inequalities in self-reported health status by income**



1. The shares for the total population and the low income population are roughly the same.
2. The shares for the total population and the high income population are roughly the same.

**Source:** Eurostat Database, based on EU-SILC (data refer to 2015).

4. Inequalities by education may partially be attributed to the higher proportion of older people with lower educational levels; however, this alone does not account for all socioeconomic disparities.

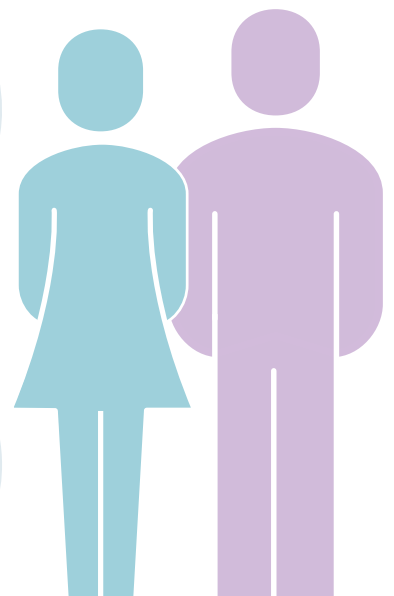
## 3 Risk factors

### Behavioural risk factors remain a major problem

The relatively poor health status of Estonians is linked to a range of health determinants, including working and living conditions, and behavioural risk factors. Data suggest that 37% of the overall burden of disease (in terms of DALYs) can be attributed to behavioural risks, including alcohol consumption and smoking, as well as diet and low physical activity (IHME, 2016).

### Smoking and drinking have declined but many men still smoke and drink heavily

Adult smoking rates have fallen sharply, dropping from 30% in 2000 to 24% in 2014, which is higher than the EU average (21%). The biggest improvement has been in women however, and one-third of men are still smoking daily (twice the rate for women).



Men are also overwhelmingly more likely to have alcohol issues, with 37% reporting heavy episodic drinking<sup>5</sup> compared with 9% of women. This accounts for the poor showing of Estonian adults in EU binge drinking comparisons (Figure 5). Despite this, alcohol consumption per adult (measured by sales), is declining – although it is still above the EU average (11.7 litres per adult against 10 litres) (see Section 5.1). Encouragingly, there has been a sharp decline in risky health behaviours among adolescents. The percentage of 15-year-olds who report having been drunk at least twice in their life has fallen substantially since 2001, particularly among boys, although it is still high for the EU. Smoking among adolescents (boys and girls) has also dropped sharply and is now lower than in most EU countries.

### Rapidly increasing obesity rates are a growing public health concern

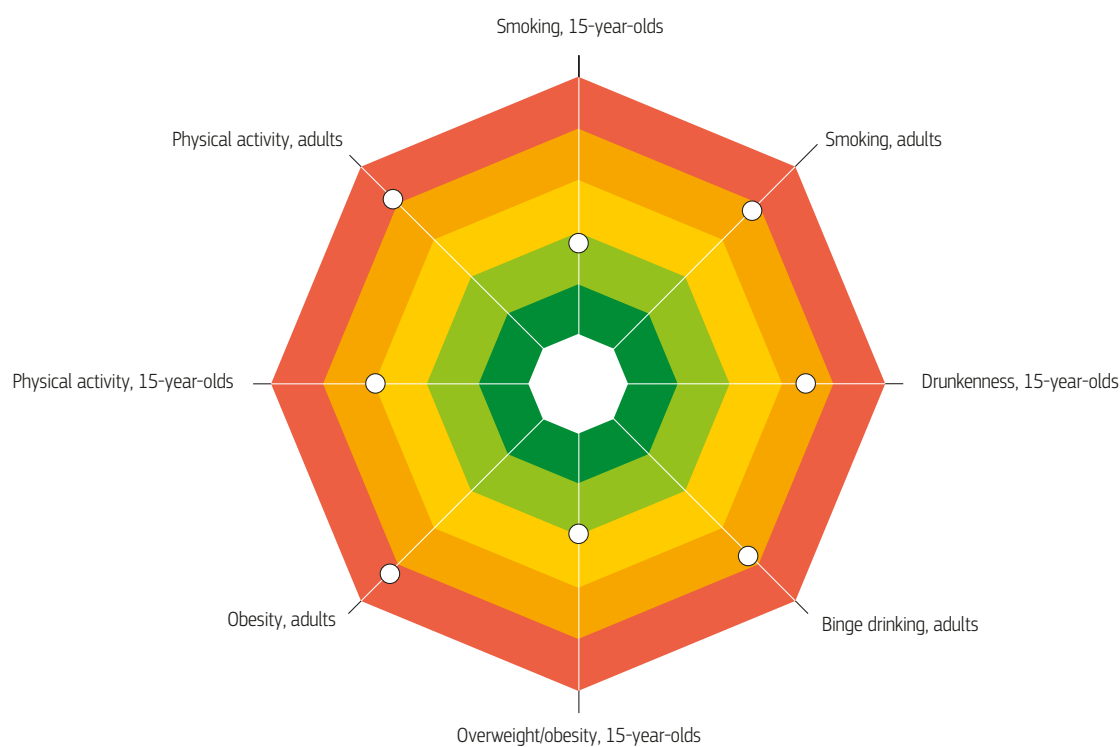
The prevalence of adult obesity increased by nearly 40% between 2000 and 2015 and nearly one in five Estonian adults is now obese, nearly five percentage points above the EU average. Although overweight and obesity rates among adolescents remain

slightly lower than the EU average, they more than doubled between 2001–02 and 2013–14 (rising from 7% to 16%). Some 26% of Estonian children start primary school already overweight or obese (unpublished childhood obesity survey – COSI), which is a worrying trend as being overweight in childhood is predictive of problems continuing into adulthood

### The poor and poorly educated take more behavioural health risks

Risky behaviours are more prevalent among populations with low levels of education or income. The difference in smoking rates among adults is particularly striking: twice as many of those with the lowest education levels smoke compared with the best educated (31% versus 14%). Binge drinking is also more common among the least educated, although the gap is smaller. Obesity is similar with rates nearly 30% higher for the less educated (22% versus 18%). A higher prevalence of risk factors among disadvantaged groups contributes to differences in health status between socioeconomic groups, though other inequalities also play a role (see Section 5.1).

**Figure 5. Compared to other EU countries, Estonia performs poorly on most behavioural risk factors**



**Note:** The closer the dot is to the centre the better the country performs compared to other EU countries. No country is in the white 'target area' as there is room for progress in all countries in all areas.

**Source:** OECD calculations based on Eurostat Database (EHIS in or around 2014), OECD Health Statistics and HBSC survey in 2013–14. (Chart design: Laboratorio MeS).

5. Binge drinking behaviour is defined as consuming six or more alcoholic drinks on a single occasion, at least once a month over the past year.

## 4 The health system

### There has been a gradual return to strong centralised planning and regulation

Experience with deregulation in the 1990s did not deliver the efficiency and accessibility expected so central planning powers and regulatory functions have been reasserted. The autonomous Estonian Health Insurance Fund (EHIF) remains the core purchaser (and even finances some disease prevention and health promotion programmes). The Ministry of Social Affairs is the steward of the health system and is supported by the National Institute for Health Development; the Health Board, which is responsible for public health (with the National Institute for Health Development) and ambulance services (until 2018 when they transfer to the EHIF) as well as licensing and oversight of providers; the State Agency of Medicines; and the Centre of Health and Welfare Information Systems.

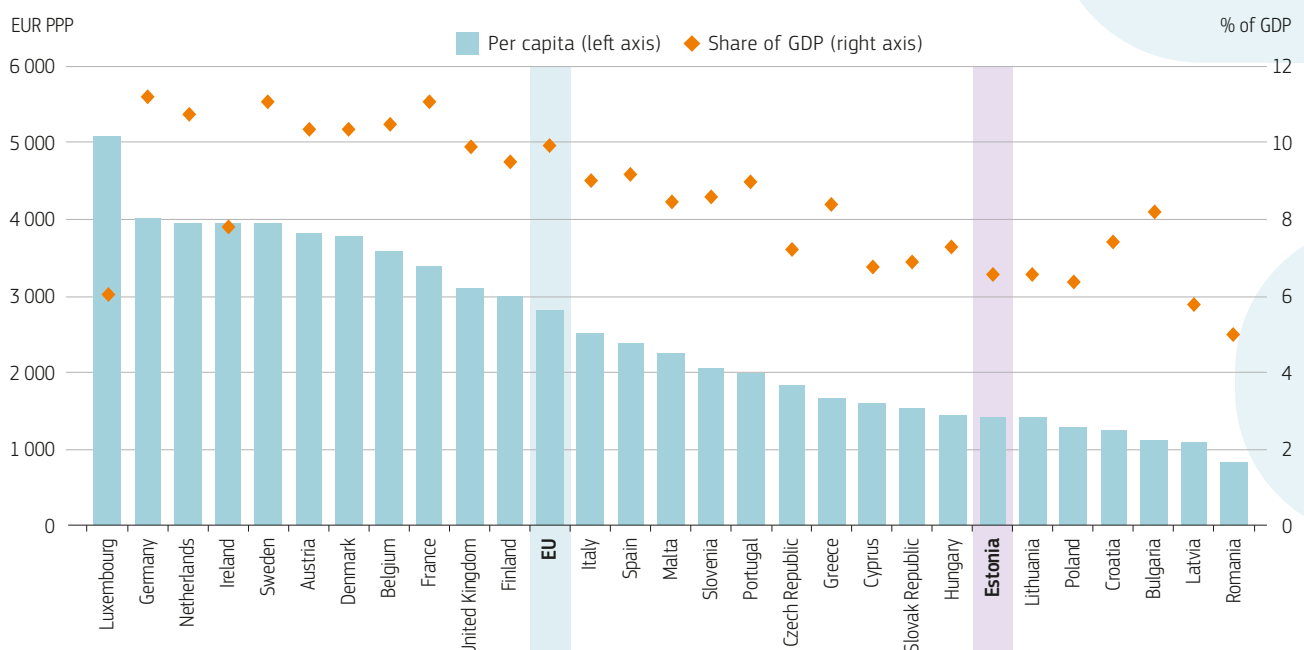
Hospitals are mostly publicly owned while primary care provision and pharmacies are in private hands. In particular, the primary care system is comparatively well established (Kringos et al., 2013), with independent family physicians acting as gatekeepers to secondary care. The 2012 National Health Plan (NHP) integrates all strategies, health and development plans and links the various health system stakeholders and other sectors (see Section 5.3).

### Health spending is low and financing is vulnerable to ageing and economic downturns

At EUR 1 407 per capita (adjusted for differences in purchasing power) health spending in Estonia is well below the EU average (EUR 2 797). This is the equivalent of 6.5% of GDP, again well below the EU average (9.9%) in 2015 (Figure 6). However, the share of public spending (76%) is relatively high compared to neighbouring countries.

The health system is mainly funded through earmarked social payroll tax paid by the employed. Non-contributing individuals (children, pensioners and registered unemployed) account for a high share of the insured population (around half). This threatens financial sustainability, not least because the population is ageing. It makes the system particularly vulnerable to economic downturns, as happened with dramatic impact during the economic crisis in 2008. Perhaps unsurprisingly, the EHIF has been in deficit since 2013, with debts mounting to EUR 25 million in 2016, forcing it to draw on reserves.

**Figure 6. Spending on health is very low compared to other Member States**



Source: OECD Health Statistics, Eurostat Database, WHO Global Health Expenditure Database (data refer to 2015).



## Pharmaceutical cost-sharing and dentistry make up the majority of out-of-pocket spending

The Health Insurance Act (2002) defines detailed cost-sharing requirements for a number of primary and specialist care services. It expects patients to make direct co-payments, setting maximum fees for specific services. There are caps of EUR 5 for home visits or specialist consultations; EUR 2.50 per day for a hospital stay (up to a 10-day maximum); and EUR 3.19 per prescription. There are extensive, additional co-payments for pharmaceuticals with only 50% of the remaining price reimbursed as standard, although higher reimbursement rates of up to 100% apply for some disease (e.g. cancers, syphilis, diabetes) and patient groups. Copayments for medicines and dental care account for 74% of out-of-pocket spending (also see Section 5.2). Out-of-pocket spending also includes payments for services that are not in the benefits package or are made to non-contracted providers.

## Contracts with providers are being used more strategically

Health services purchasing builds on a contractual relationship with providers and financial incentives. In primary care, age-adjusted capitation, fee-for-service payments and basic allowances have been complemented by a quality bonus system

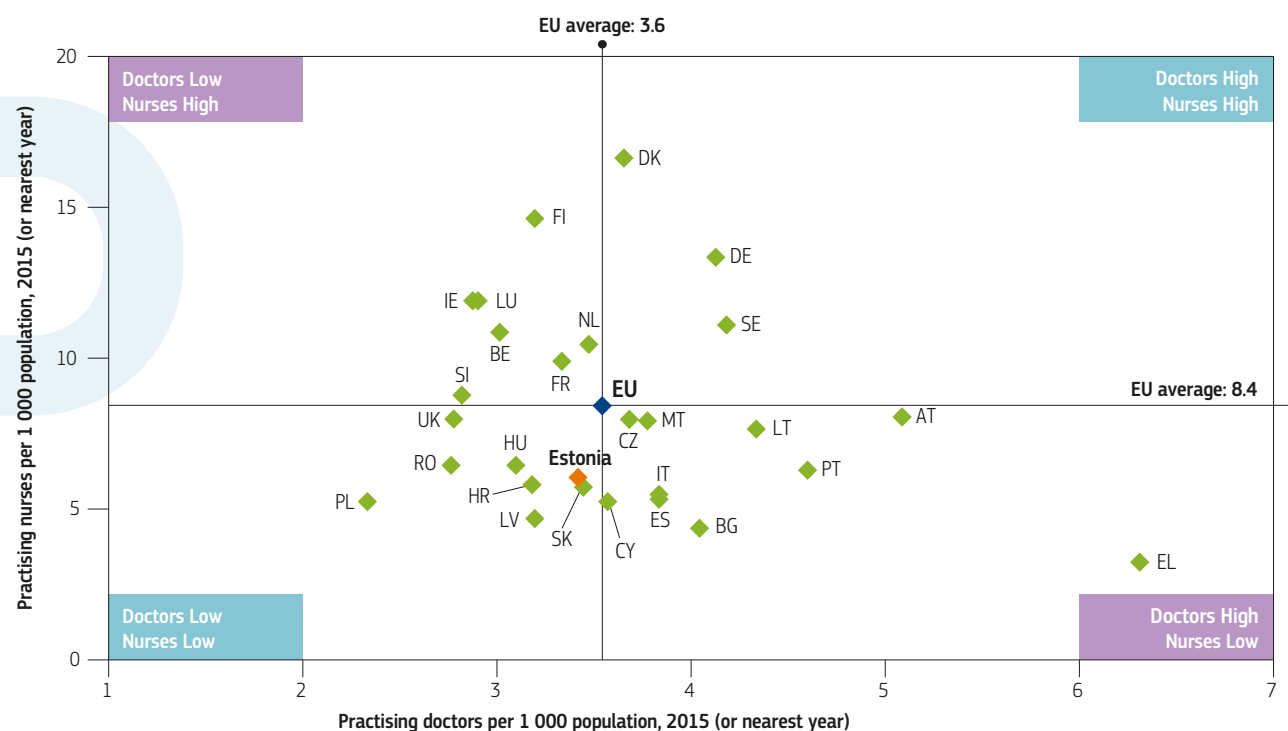
since 2006. This aims to expand the role of primary care and to foster better management of selected chronic conditions. It has been compulsory for family physicians since 2015.

In hospitals a diagnosis-related groups system was implemented in 2004, complementing fee-for-service payments. There has also been revision of specialist care contracting (2014). This resulted in fewer contracted private providers (compared to the previous cycle) delivering a similar volume of care (Habicht et al., 2016). Further roll out is currently on hold to allow evidence of the impact of reforms in primary care (health centres) and the networking of hospitals to be taken into consideration (see Box 1).

### BOX 1. ESTONIA IS SEEKING TO CONCENTRATE CARE BY NETWORKING HOSPITALS

Since 2014 regional-level hospitals have been encouraged to network with general hospitals to share skills and medical resources and to support access to specialist care in smaller hospitals. On the other hand, it is expected that as a result of networking, high technology specialist care will concentrate more in regional centres of excellence. By mid-2017 there were initial networks coordinated by the North Estonian Medical Centre and the Tartu University involving five general hospitals, but this number will increase.

Figure 7. Estonian physician and nurse ratios are increasingly falling behind the EU averages



**Note:** In Portugal and Greece, data refer to all doctors licensed to practice, resulting in a large over-estimation of the number of practising doctors (e.g. of around 30% in Portugal). In Austria and Greece, the number of nurses is under-estimated as it only includes those working in hospital.

**Source:** Eurostat Database.

## EU structural funds are relied on for health infrastructure and new primary care centre investment

Historically, care was hospital dominated so the development of family medicine-based primary care has been linked with a reduction in hospitals and hospital beds to rebalance the use of resources. Many small hospitals have merged or turned into ambulatory (or outpatient) clinics, nursing hospitals and social services providers. As a result, the number of acute hospital beds per 100 000 population has fallen dramatically and, in 2015, was slightly below the EU average (368 versus 418 beds). In parallel, the number of nursing care and rehabilitation beds has increased sharply.

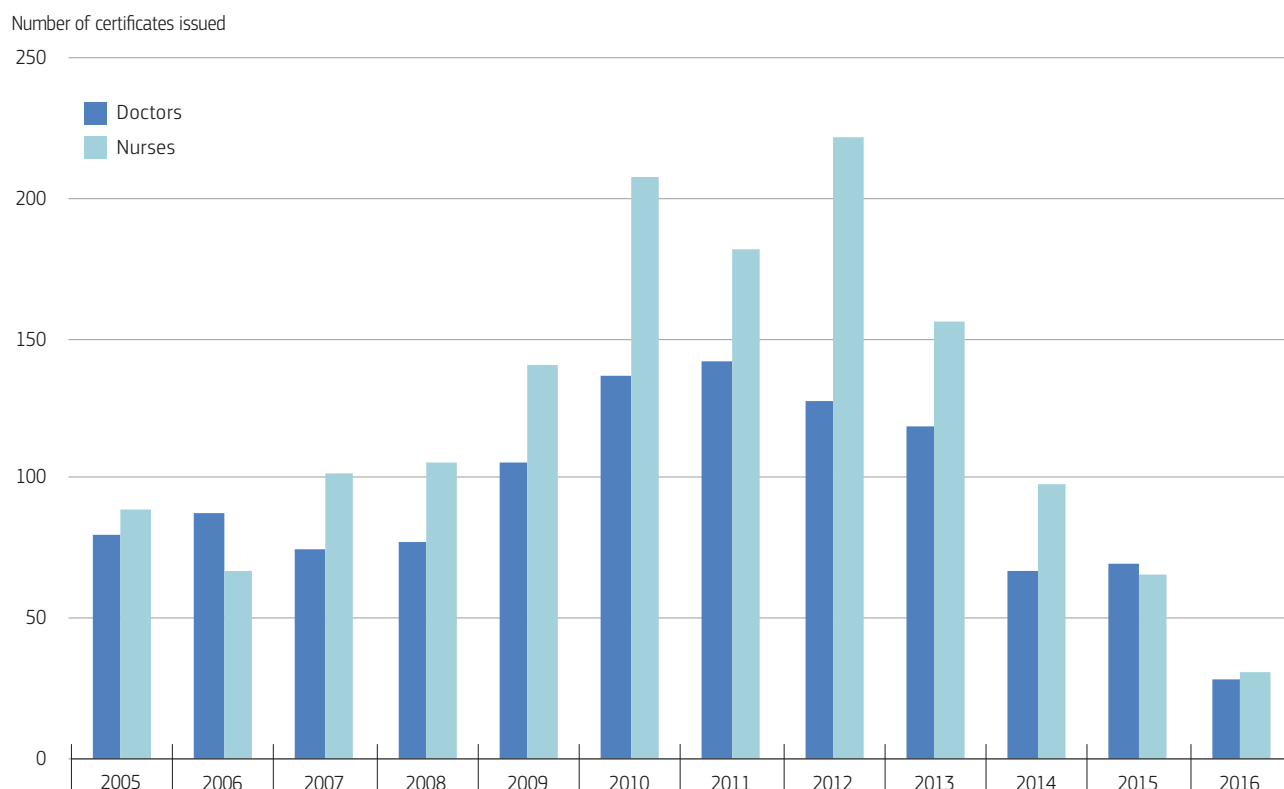
Health institutions are responsible for capital investment and from 2004, when Estonia joined the EU, have become quite reliant on support from EU structural funds (see Section 5.3). Hospitals are functional and well equipped, although there is still a legacy of older structures unsuitable for modern care delivery. Current investments are targeted at establishing new primary care centres with wider scope to replace solo practices.

## Deteriorating workforce ratios may challenge future care provision

Shortages in the health workforce in Estonia have been emerging as a result of professionals ageing, inadequate training volumes and migration. The number of working doctors per 1 000 population in Estonia started to fall behind the EU average from 2009 although it has picked up more recently. The shortage of nurses has been a more longstanding problem with a ratio consistently below the EU average (Figure 7). This is increasingly seen as hampering the provision of acute care.

Professional migration has become less of an explanation for these shortfalls and has actually started to decline, as reflected by a decrease in certificates issued to enable staff to work abroad (Figure 8). Although medical school admissions have increased, further training capacity is required, particularly to develop nursing care. In November 2016, after years of key stakeholder negotiations, plans were presented to boost nurse training places from 400 in 2016 to 517 in 2020. However, providers will also need additional finances to increase their workforce when graduates come on stream.

**Figure 8. Requests for certificates to work abroad spiked after the financial crisis but have since declined sharply**



**Note:** Certificates issued by the Health Board to Estonian physicians and nurses in order to verify professional qualifications for obtaining work abroad.

**Source:** Health Board, 2017.

# 5 Performance of the health system

## 5.1 EFFECTIVENESS

### High amenable mortality rates reveal substantial room for improving effectiveness and quality

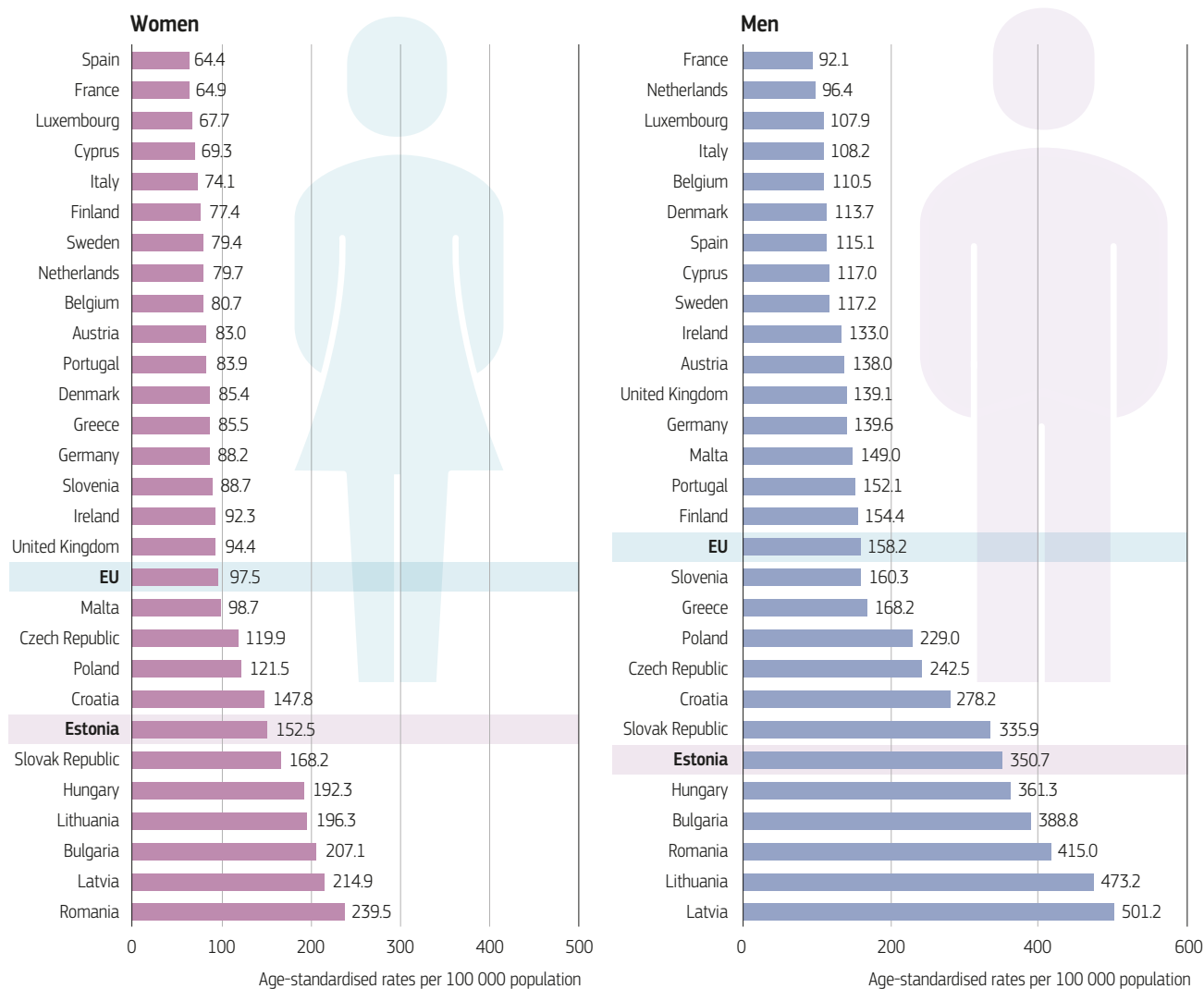
Amenable mortality rates<sup>6</sup> in Estonia for both men and women have fallen strongly since 2000 and are lower than in the Baltic neighbours Latvia and Lithuania. However, they are still well above the European average (Figure 9) due mainly to very high mortality from cardiovascular diseases and cancer. This is despite the significant fall in the numbers of deaths from ischaemic

heart diseases and cardiovascular diseases since 2000 and the introduction of screening programmes for breast and cervical cancer.

In the case of breast cancer, CONCORD Programme data show that survival rates are relatively low; this may be because of low coverage in preventive screening and the exclusion of uninsured individuals but the figures also suggest issues in delivering effective treatment. Five-year survival rates for cervical cancer have improved only marginally since 2005 despite a bigger jump in survival rates shortly after screening programmes were first introduced in the early 2000s. Colorectal cancer survival rates are among the bottom half of the 25 EU countries for which data are available, although a screening initiative introduced in 2016 may change things in the medium term.

6. Amenable mortality is defined as premature deaths that could have been avoided through timely and effective health care.

**Figure 9. Amenable mortality rates are above the European averages for women and men**



Source: Eurostat Database (data refer to 2014).

## Policies addressing risky behaviours do not do enough to promote healthy lifestyles

Important preventable causes of mortality such as lung cancer and liver diseases, but also external causes, are well above the EU average and point both to unhealthy lifestyles and to health system challenges around health promotion. There have been government efforts to tackle risk behaviours through increased excise taxes on alcohol and cigarettes (2006–17) and through the introduction of a smoking ban in public spaces, public transport and workplaces (2007) as well as the introduction of picture warnings on tobacco products (2016) and a ban on smoking areas in buildings (2017). Smoking rates have also started to decline, most strikingly among the young, but initiatives fail to reach the least advantaged (see Section 3).

The consumption of alcohol also has been declining since 2007, but stays above the EU average. In 2014 the 'sober and healthier' programme started its activities to raise awareness about alcohol-related harm. Currently, Parliament is discussing limiting alcohol advertising and having sales restrictions. Furthermore, Parliament is also discussing a tax on sugar-sweetened beverages. This could help to tackle obesity, which is growing sharply, especially among the young (see Section 3) although for the latter a programme exists (since 2016) to improve the physical activity of school children. But as with the other risks above, it seems likely that more needs to be done to reach certain vulnerable groups such as men with lower levels of education.

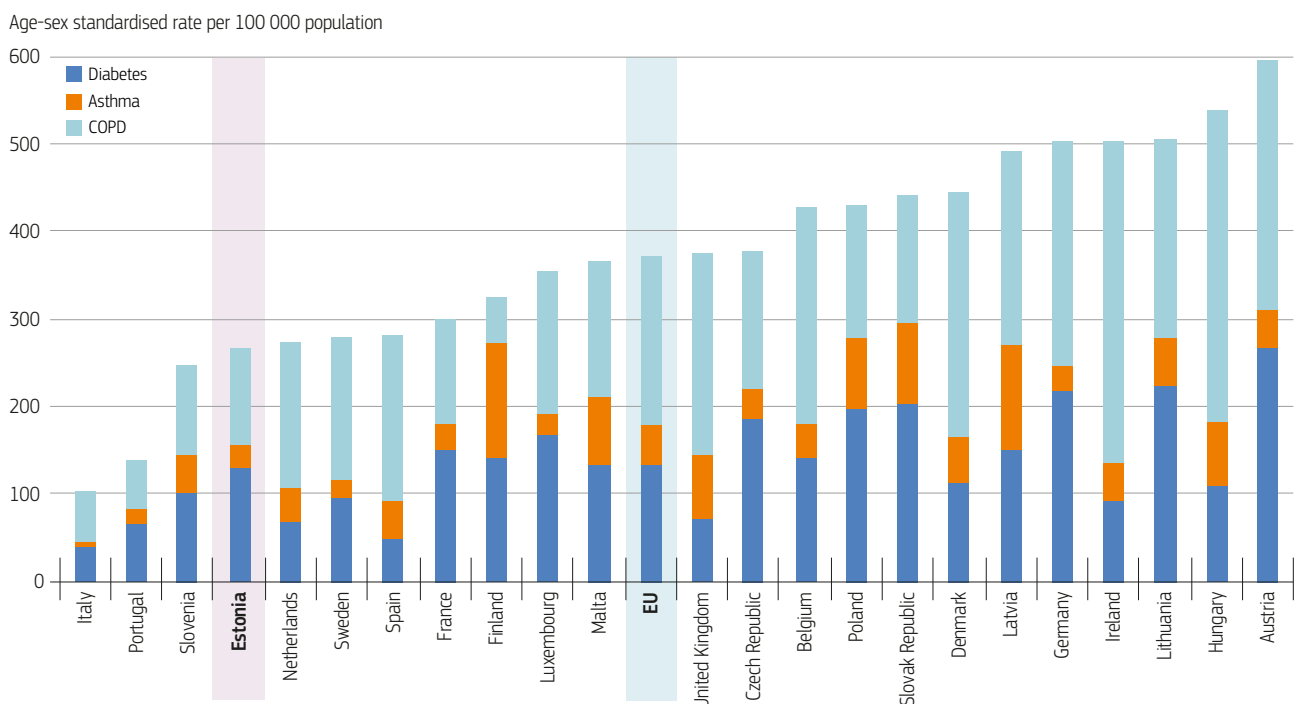
## There is scope to improve public health services

Public health has been moving from the centralised Soviet model to a more decentralised system focused on disease prevention and health promotion. However, there is still insufficient capacity to provide fully effective public health services. The NHP is seeking to address this through training, supervision and clearer definitions of responsibilities. Starting from 2018, municipalities will have to provide health and well-being profiles of the local population. These can then be used to plan measures that improve the health status of citizens.

## Care quality indicators show a mixed picture and signal room to improve services

There is recent research suggesting that primary care is effective in helping to prevent hospital admissions (Atun et al., 2016). Avoidable hospital admissions are among the best in Europe for asthma and chronic obstructive pulmonary disease (see Figure 10), about average for congestive heart failure and diabetes, but among the worst for hypertension. Moreover, the 30-day fatality rates for acute myocardial infarction and stroke are among the worst in the EU. There are structures in place to support quality health care but outcomes suggest substantial room to further improve service quality and the coordination between levels of care.

**Figure 10. Estonia has relatively low avoidable hospital admissions for chronic diseases**



**Note:** Rates are not adjusted by the prevalence of these conditions.

**Source:** OECD Health Statistics (data refer to 2015 or latest year).

## Quality initiatives have been implemented but need time (and perhaps incentives) to take effect

Various quality initiatives have been introduced at the provider level, including the quality bonus system (see Section 4). In addition, the EHIF has published a selection of service quality indicators for every hospital since 2012 and quality criteria are included in strategic contracts. In 2016, the first Advisory Board for Development of Quality Indicators report was published and established a system of publically monitoring quality indicators. The EHIF is also leading an on-going process to improve development of clinical guidelines and in 2012 published a manual on the development of treatment guidelines. Since 2002, five clinical audits have been carried out in collaboration with experts each year by EHIF.

## More needs to be done to meet the challenge of rising (multiple) non-communicable diseases

Even though Estonia has taken significant steps towards capturing and improving health care quality and is committed to care integration, the World Bank (2015) estimated that a large proportion of acute inpatient care could be shifted to more appropriate (and lower cost) settings. Examples from 2013 suggest that 67.5% of specialist visits for hypertension and 20% of specialist visits for diabetes could be deemed 'avoidable' and managed more appropriately in primary care. The report suggests that blocks to rolling out quality commitments and achieving better integration included insufficient financial incentives to ensure that providers adhered fully to clinical guidelines; the lack of multi-disciplinary teams; a culture of treatment over prevention; and weak overall patient management in primary care.

Estonia is using some of the tools the World Bank suggests. Current plans for health centres and hospital networks seek to create multi-disciplinary teams, to redefine the roles of family physicians vis-à-vis specialists and to improve training. There are also contracting mechanisms that may help to improve incentives and accountability for the provision of preventive services and outcomes. Nonetheless, there is still some way to go in achieving effectiveness and the challenges will not get any easier with the ageing of the population and the (associated) increase in (multiple) chronic diseases. Estonia may have to do still more and to consider strategies like the stratification of patients based on the complexity of their needs and establishing better patient pathways (World Bank, 2015).

## 5.2 ACCESSIBILITY

### Decreasing health coverage is a reason for concern

Entitlement is based on residence in Estonia and it is not possible to opt out of health insurance, at least in theory. The National Health Plan envisaged universal coverage by 2020 but the economic crisis halted improvements. In fact, the insurance rate has steadily decreased from 96% in 2009 to 94% in 2015. Who the 6% uninsured people are is not well understood. The Ministry is currently investigating this. It is suspected that they are mostly young men who are economically inactive or working abroad.

The uninsured are entitled to emergency care and some public health services (HIV/AIDS, tuberculosis, drug dependence) only. They are also eligible to take up voluntary coverage, as are residents with a pension from abroad and anyone who was enrolled for at least 12 months in the previous two years. However, the high monthly voluntary contribution of EUR 149 (2017), means that uptake is low.

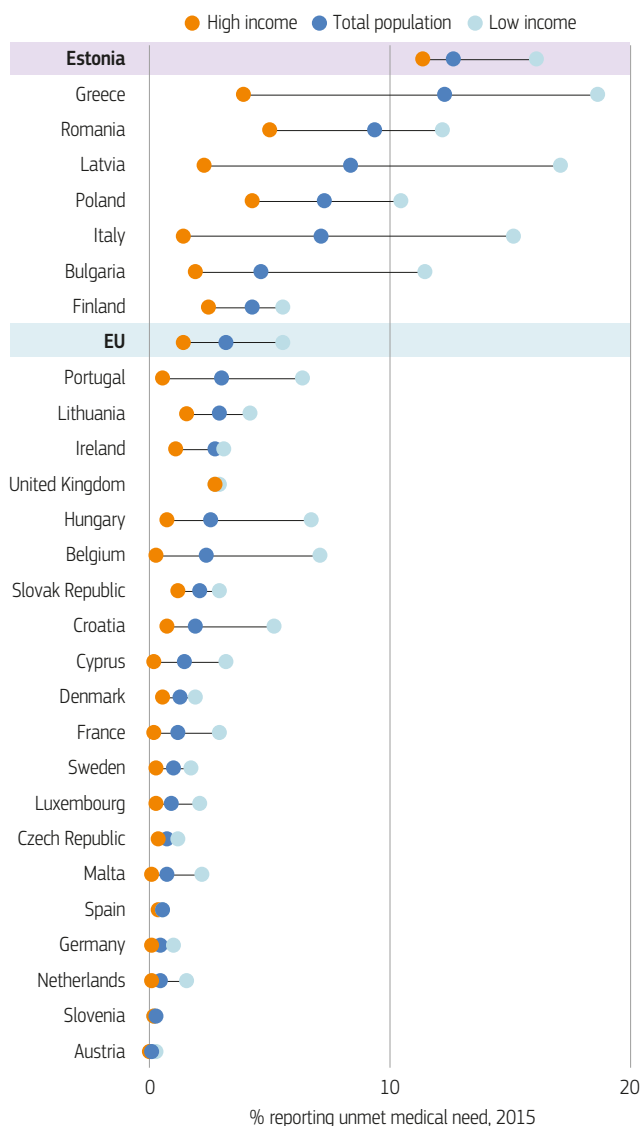
### Estonia has the highest level of unmet need in Europe

Estonians have reported increasing levels of unmet medical need since 2009, singling out especially dental and specialist care. In 2015, 12.7% of all Estonians reported unmet need for medical care (mainly because of waiting times, but also to a lesser extent because of cost or too long distance to travel), which was the highest in the EU. However, there is less variation across income quintiles than in other countries with high unmet need (Figure 11) because cost is not the main barrier to service use.

Only 0.7% of Estonians report costs as a barrier to access, and the same small proportion cite geographic reasons. In fact, waiting lists are the cause of unmet medical need (11.3%) and seem to impact on lower and poorer income groups. They were 'run up' in the aftermath of the financial crisis as a deliberate policy (also see Box 2) but also reflect on wider issues such as poor care coordination, misaligned incentives in primary care and poor linkages with social care.

### The erosion of dental coverage and cash benefits were reversed in 2017

The EHIF, the Ministry of Social Affairs and the Government define and agree on the benefits package and despite the financial crisis have been able to cover the provision of preventive and curative health services and medical devices. Although user charges were introduced or increased, they seem not to have led to barriers to access (see below). Pharmaceuticals, provided they are on the

**Figure 11. Estonians of all incomes face high levels of unmet need**

**Note:** The data refer to unmet needs for a medical examination or treatment due to costs, distance to travel or waiting times. Caution is required in comparing the data across countries as there are some variations in the survey instrument used.

**Source:** Eurostat Database, based on EU-SILC (data refer to 2015).

positive list, are reimbursed at a percentage of the cost less a flat rate prescription charge, although users do have to pay out-of-pocket expenses.

Cash benefits also compensate for the costs of adult dental care. Expenditure reduction measures reduced dental benefits and this is reflected in reports of unmet need. However, as of July 2017 these measures for dental care were reversed, and limited in-kind benefit for dental care was introduced for all population groups.

### Increased cost-sharing seems not to translate into higher unmet needs for financial reasons

The share of total health expenditure covered by out-of-pocket spending has been relatively stable in the last 10 years (around 22%, with a peak of 25% in 2006). In 2015 it was 23%, higher than the EU average (Figure 12) but consistent with the NHP, which stipulates that the share of out-of-pocket payments should remain below 25% of total health expenditure. Out-of-pocket payments as a share of household consumption, are slightly above the EU average – with Estonia at 2.7% compared to 2.3% in 2015. The largest share of out-of-pocket expense was for pharmaceuticals (42%), followed by dental care (31%).

Although co-payments were subject to various adjustments (mainly increases in 2012 and 2013), unmet need for medical care due to financial reasons reported in the lowest income quintile decreased by 6 percentage points between 2006 and 2015 and is now well below the EU average (2.1% vs 4.1%). Similarly, the proportion of all households reporting health-related catastrophic expenditure<sup>7</sup> more than halved in the same time. Nevertheless, the financial burden of out-of-pocket payments is still skewed towards lower-income households.

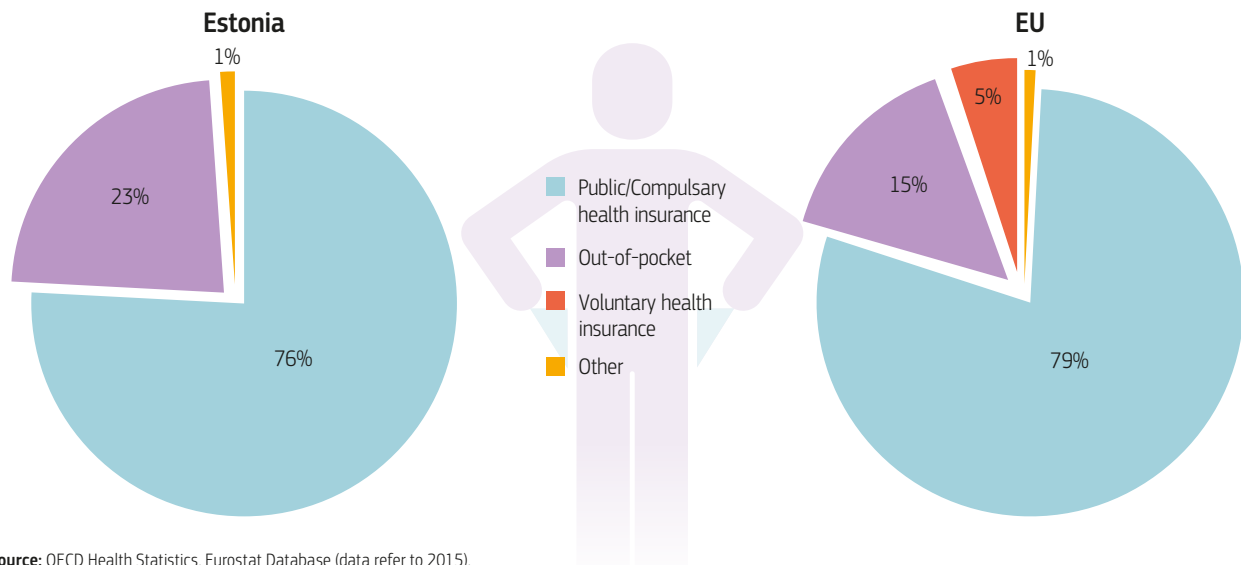
7. Catastrophic expenditure is defined as household out-of-pocket spending exceeding 40% of total household spending net of subsistence needs (i.e. food, housing and utilities).

#### BOX 2. THE ESTONIAN HEALTH SYSTEM SHOWED RESILIENCE DURING THE 2008 FINANCIAL CRISIS

In 2009, the Estonian economy contracted by 14.1%. Unemployment rose from only 3.9% in 2007 to 19.8% in early 2010. Revenue from payroll contributions as well as tax revenues dropped dramatically (Van Ginneken et al., 2012). An austerity package was rolled out quickly. It involved some cuts in benefits and prices; increased cost-sharing; extended waiting times; increased VAT on medications; more rational use of medicines; a focus on primary and outpatient (and ambulatory) care; and a reduction in specialised care. Salaries were not explicitly cut but had to fall because of a drop in available

funding. European Structural Funds were used to offset some of the falls in public health funding and capital investment. The EHIF had learned from earlier crises and used the financial reserves it had accrued over the growth years to counter the effects of the current economic shock but also reduced temporary employment sick leave benefits (currently still in place). Yet some of the long-term effects may not be felt yet and to this day, Estonians report elevated levels of unmet need due to waiting times although these cannot be attributed solely to the financial crisis.



**Figure 12. Out-of-pocket payments make up nearly one quarter of total health expenditure**

Source: OECD Health Statistics, Eurostat Database (data refer to 2015).

### 5.3 RESILIENCE

#### Long-term stability of financing is a considerable challenge, although improvements are planned

The sustainability of Estonia's health system financing has been a longstanding concern. Several reports (Võrk et al., 2005; Praxis, 2011; Thomson et al., 2010, 2011) have flagged the heavy dependence on earmarked payroll tax as source of revenue, which accounts for two thirds of total expenditure. This payroll tax, equal to 13% of wages, is raised from the (declining) working population and employers. It is vulnerable to economic shocks (see Box 2) and population ageing. The reports concluded that there is a need to broaden and diversify the public revenue base. Recently the government has agreed on a step-wise introduction of health insurance fund contributions on behalf of pensioners (rising to 13% of pensions in 2022).

#### Infrastructure is covered but without a long-term funding strategy

Significant investment funding continues to rely on EU Structural Funds and these are central to modernising the health infrastructure. This explains why capital costs are not reimbursed from the state budget, although the law mandates this. This is a potential resilience issue in that the system is not as self-sufficient as it should be, nor is it working as it should.

#### There is uncertainty about the health workforce long term

A growing challenge is guaranteeing a sufficient level of human resources. Recent changes have enabled more substitution by increasing the role of nurses and midwives in health system organisation. Yet no clear plan exists on how to pursue this direction in the coming years. Furthermore, the workforce is ageing and the nurse to population ratio is declining (see Section 4). Shortages are mostly felt for family physicians and nurses. It has also become increasingly difficult to attract health professionals to rural areas because of budgetary constraints, and also because increasing workloads are particularly onerous for rural staff.

Medical training could move away from narrow disease-oriented specialisation to give more general skills or do more to promote continuous education as a way of re-skilling the workforce. There is also a need to develop a cohort of auxiliary professionals such as nutritionists and dieticians who can help combat the growing obesity challenge. If the Estonian system is to become resilient in terms of staffing it needs to tackle supply and skill sets and redesign incentives schemes to support its objectives, most urgently for family physicians.

#### Potential efficiency savings offer some, but not much, of a cushion against shock

Although Estonia is more efficient on most metrics than its Baltic neighbours, there is clearly still room to improve. This is despite the fact that the Estonian system has long seen efficiency as a priority (probably because of its narrow revenue base and limited ability to bring in additional funds). Although it is a rather blunt indicator,

relating amenable mortality to health spending gives an initial insight into whether health care resources are generally used cost-effectively, but with the proviso that health behaviours as well as health system factors influence the level of amenable mortality. On this measure, Estonia performs better than its Baltic neighbours but the Croatian and Polish health systems achieve lower amenable mortality with similar spending levels (see Figure 13), so even under current budget pressures Estonia might do better.

Certainly, on various sources of inefficiency Estonia seems to be closing the gap with EU averages. The EHIF has been using the contracting system to set targets for greater use of outpatient care and day-care surgery with some real successes, like cataract surgery, 99% of which takes place in day care, making Estonia a top European performer. The average length of stay in hospital has decreased and now sits slightly below the European average (7.6 compared to 8 days) (2014), and hospital bed numbers have fallen (see Figure 14). There is still scope to make further efficiency gains if needed however, as some countries have markedly lower lengths of stay and acute bed numbers. Similarly, bed occupancy rates could improve as they are among the lowest in Europe at 67%. These indicators suggest that there is room to protect outputs by improving efficiency in the event of a further shock (although any bed cuts in rural areas ought not to compromise access to health services).

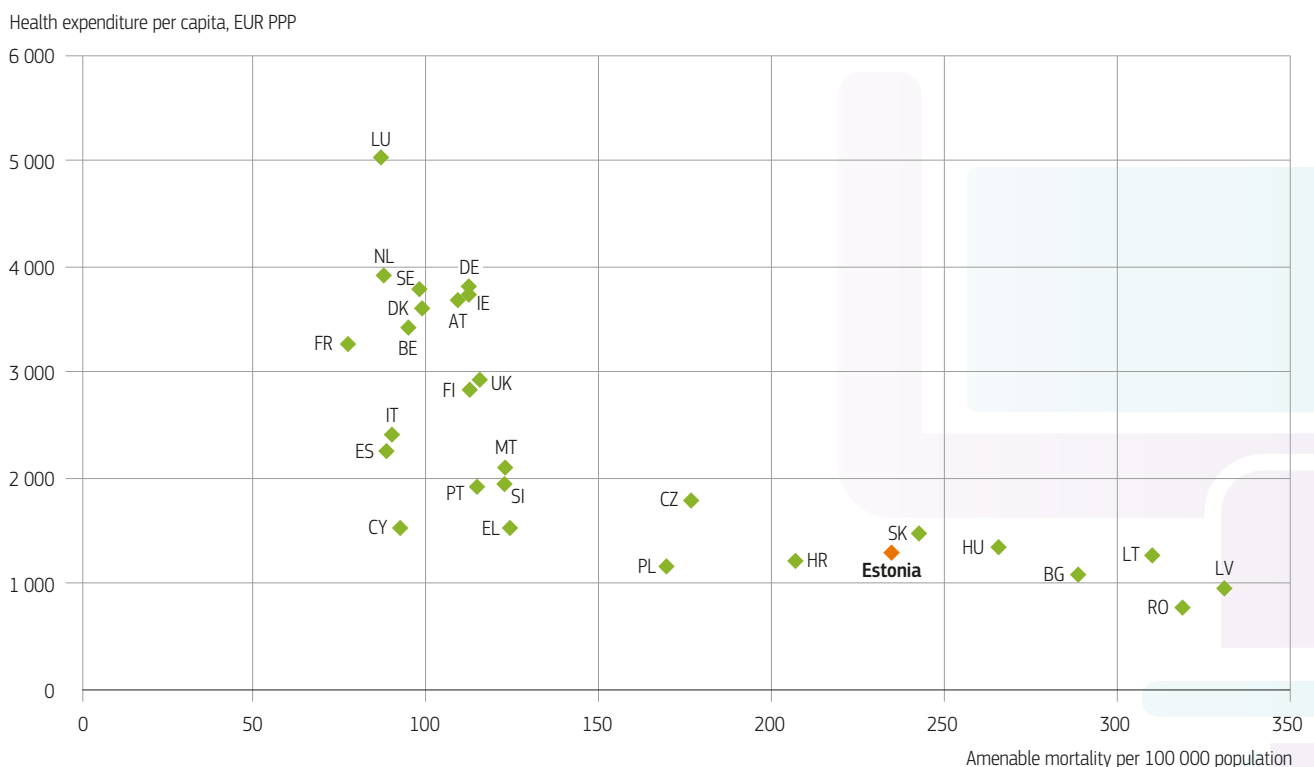
## Efforts have been made to increase the use of generics

In 2015, the volume of generics as a share of the total pharmaceutical market was 36%, which although well below top performers with the same indicator available (e.g. Slovak Republic (70%), Czech Republic (42%)) is a significant improvement on the past. Legislative changes in 2002 stimulated prescribing of generics and have improved value for money. Pharmaceuticals now account for 21.4% of total health expenditure, slightly above the EU average but well below the inflated burden of pharmaceutical spending (around 30%) that affects its Baltic neighbours (2014).

## Estonia is pioneering e-health services

Estonia has invested in e-health and is internationally recognised for its innovations. Most health care providers keep an electronic health record for patients and all health care providers are responsible for sending patient health and health care service provision information to the central health information system. This allows patients to access their health data and providers to access and exchange information with various, relevant databases. The system also allows e-consultations, digital referrals and e-prescriptions – virtually all prescriptions are electronic and pharmacists increasingly sell on-line. Several new applications are under development, including an electronic

**Figure 13. Estonia could perform better in amenable mortality even with current spending**



Source: OECD Health Statistics, Eurostat Database, WHO Global Health Expenditure Database (data refer to 2014).



immunisation passport, a central digital registration system for outpatient care and, since 2016, a facility to provide access to claims and costs. The use of the platform has increased rapidly with 4.5 million enquiries from the patient portal to the e-health system in the first 4 months of 2017 compared to 0.5 million in 2011. There is nonetheless scope for further improvement, particularly with regard to better use of the data for service integration, clinical decision-making and outcomes measurement.

## The National Health Plan could be improved and become a more effective strategic planning tool

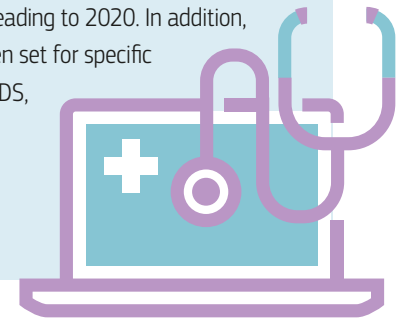
The main health strategy in Estonia is the 2012 NHP and ought to provide a springboard for responding to changed circumstances (Box 3). However, an evaluation in 2017 found that the NHP has not been an effective tool for overall strategic planning. As inconsistencies exist between the different sectoral strategies stronger sub-strategies are needed to provide further guidance in line with overall NHP goals. In fact, three 2014 multisectoral green papers on drugs, alcohol and tobacco, have been more effective in producing actual policies.

## Accountability mechanisms could be enhanced

Accountability is important to the strength of the health system and although there are mechanisms in place they are not used consistently or managing to achieve all that they might on quality

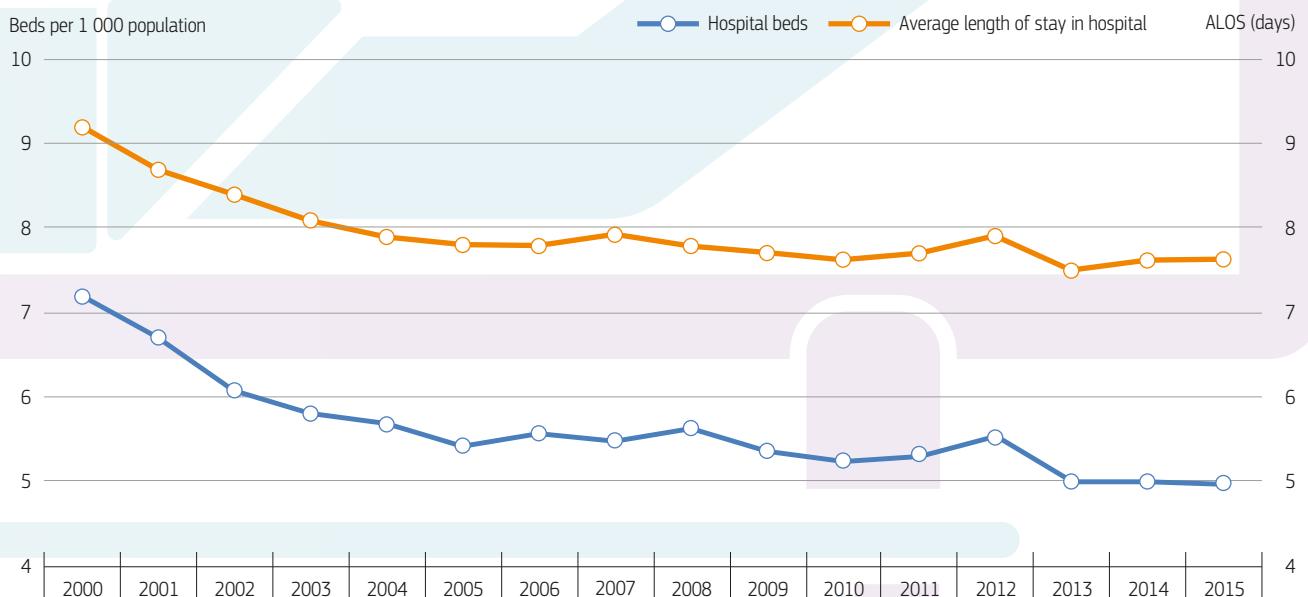
### BOX 3. THE NATIONAL HEALTH PLAN AS A TOOL FOR RESILIENCE

The general objective of the NHP is to increase the number of healthy years of life by reducing mortality and morbidity rates. It integrates values such as solidarity, equal opportunity and justice, access to high-quality health care services and empowering civil society. Performance indicators are in place to allow the monitoring of progress and measurable targets defined for four-year cycles leading to 2020. In addition, measurable targets have been set for specific health sectors such as HIV/AIDS, cancer and hospitals (the separate 2016 Hospital Master Plan).



and health outcomes. The first national health system performance assessment was published in 2010 (Lai, Veillard and Bevan, 2010) and although regular performance assessments were planned they have never materialised. They have not therefore contributed to NHP planning or to holding stakeholders accountable. There is also a need to enhance the evaluation of provider activity and to use monitoring tools across the health system to improve quality and health outcomes. Investments in the e-health system may play a critical role here by facilitating better exchange of information and increased accountability (Lai et al., 2015; World Bank, 2015).

**Figure 14. Average length of stay and beds have fallen but could improve further**



**Note:** There is a break in these two series in 2013.

**Source:** Eurostat Database.

## 6 Key findings

- Estonians have witnessed the strongest gains in life expectancy of all EU countries, particularly after age 65 but these years gained are spent in worse health than elsewhere in the EU. Deaths from cardiovascular diseases have fallen sharply, but along with cancer and external causes remain the leading causes of mortality. The proportion of people reporting that they are in good health is among the lowest in the EU, with the largest gap between rich and poor of any country.
- Unhealthy lifestyles persist in Estonia despite recent improvements and with large disparities between socioeconomic groups. Men are particularly exposed to risk factors. There are policies on smoking, drinking and more recently obesity (nutrition and physical activity green paper, sugar tax) but these may need more time to take effect and could be better targeted at vulnerable groups.
- Amenable mortality rates in Estonia for both men and women have fallen sharply since 2000 but remain above the European average, while 30-day fatality for acute myocardial infarction and stroke, are among the worst in Europe. Furthermore, a large proportion of acute inpatient care could be 'avoided' by moving it to more appropriate settings and by managing people with non-communicable diseases better (i.e. through more integrated care). There is clearly substantial room for improving health service effectiveness and quality although this is well recognised and recent Estonian reforms focus on establishing multi-disciplinary health centres in primary care and creating networks of hospitals.
- Access to health care could be improved substantially. Some 6% of the population have no insurance. It is unclear who these people are but an investigation is underway. Estonia also has the highest level of unmet need for medical care, albeit with little variation across income groups compared to other countries high with unmet need. This is mostly caused by waiting times, which may also reflect on poor coordination and integration. More positively, the erosion of dental coverage and cash benefits as part of fiscal consolidation were rolled back early in 2017.
- Health system resilience remains a considerable challenge. Estonia is a low spender on health and draws from a narrow revenue base (payroll contributions), making it vulnerable to economic shocks and population ageing. This should change with the gradual phasing in of government contributions on behalf of pensioners. Providers are also dependent on external (European) funding for capital investments, rather than seeking self-sufficiency. Furthermore, deteriorating health workforce ratios and regional shortages jeopardise resilience and require a long-term strategy that will train more family physicians but also shift the focus from a narrow disease orientation to more multidisciplinary skills, and revise incentive schemes.
- Even though the Estonian health system is comparatively efficient on a number of indicators, with relatively high generic penetration and great use of day care surgery, several indicators (average length of stay, occupancy rates, bed numbers) suggest that there is significant room to improve. To this end, the National Health Plan could be revised to become less of a budgetary tool and more a means for planning activities, defining measurable targets and holding stakeholders accountable.



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## Country abbreviations

Austria	AT	Denmark	DK	Hungary	HU	Malta	MT	Slovenia	SI
Belgium	BE	Estonia	EE	Ireland	IE	Netherlands	NL	Spain	ES
Bulgaria	BG	Finland	FI	Italy	IT	Poland	PL	Sweden	SE
Croatia	HR	France	FR	Latvia	LV	Portugal	PT	United Kingdom	UK
Cyprus	CY	Germany	DE	Lithuania	LT	Romania	RO		
Czech Republic	CZ	Greece	EL	Luxembourg	LU	Slovak Republic	SK		



# State of Health in the EU

## Country Health Profile 2017

The Country Health Profiles are an important step in the European Commission's two-year *State of Health in the EU* cycle and are the result of joint work between the Organisation for Economic Co-operation and Development (OECD) and the European Observatory on Health Systems and Policies. This series was co-ordinated by the Commission and produced with the financial assistance of the European Union.

The concise, policy relevant profiles are based on a transparent, consistent methodology, using both quantitative and qualitative data, yet flexibly adapted to the context of each EU Member State. The aim is to create a means for mutual learning and voluntary exchange that supports the efforts of Member States in their evidence-based policy making.

Each Country Health Profile provides a short synthesis of:

- health status
- the determinants of health, focussing on behavioural risk factors
- the organisation of the health system
- the effectiveness, accessibility and resilience of the health system

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