The impact of the financial crisis on the health system and health in Estonia

Triin Habicht
Tamás Evetovits
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The European Observatory on Health Systems and Policies supports and promotes evidence-based health policy-making through comprehensive and rigorous analysis of health systems in Europe. It brings together a wide range of policy-makers, academics and practitioners to analyse trends in health reform, drawing on experience from across Europe to illuminate policy issues.

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Tamás Evetovits
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EHIF  Estonian Health Insurance Fund
EU    European Union
GDP   Gross domestic product
VAT   Value added tax
WHO   World Health Organization
This report was produced as part of a series of six country case studies and forms part of a larger study on the impact of the financial crisis since 2008–2009 on health systems in the European Region. The countries studied in depth are Estonia, Greece, Ireland, Latvia, Lithuania and Portugal, which represent a selection of countries hit relatively hard by the global financial and economic crisis. In-depth analysis of individual countries, led by authors from the country concerned, adds to understanding of both the impact of a deteriorating fiscal position and the policy measures put in place as a result. These case studies complement a broader analysis which summarizes official data sources and the results of a survey of key informants in countries of the WHO European Region; they will also be published as part of a two volume study conducted jointly by the European Observatory on Health Systems and Policies and the WHO Regional Office for Europe.
Acknowledgements

The authors are grateful to Dr Maris Jesse from the National Institute for Health Development, Dr Liis Rooväli from the Ministry of Social Affairs and to Professor Raul Kiivet from the Department of Public Health at the University of Tartu for reviewing and commenting on the draft version of this case study. They are also grateful to Ms Annika Veimer from the National Institute for Health Development for a useful description on the impact of the crisis on public health programmes; and to Mr Tanel Ross from the Estonian Health Insurance Fund for valuable comments on the draft version.

Thanks are due to the Ministry of Health for information and comments, and also to participants at the author workshop held in Barcelona in January 2013, as well as those commenting via the web-based consultation following the World Health Organization (WHO) meeting “Health systems in times of global economic crisis: an update of the situation in the WHO European Region” held in Oslo on 17–18 April 2013.

Financial support

The WHO is grateful to the United Kingdom Department for International Development for providing financial support for the preparation of the series of six country case studies. Thanks are also extended to the Norwegian government for supporting the broader study on the impact of the economic crisis on health systems in the European Region.
The Estonian health care system was affected significantly by the financial shock of the economic crisis but it was relatively well prepared to deal with the impact because of its short duration and the considerable reserves that had been accumulated by the Estonian Health Insurance Fund (Eesti Haigekassa (EHIF)) in the years prior to 2008 (EHIF, 2008). However, since the government did not permit the EHIF to use all of its accumulated funds to cover temporary budget deficits and, in fact, borrowed some of these reserves (on paper) to balance budgets in other sectors, cost savings were sought mainly through a reduction in health system input costs.

The main measures included a cut to the central government’s contribution to the health budget, temporary reductions in the tariffs (prices) paid to health care providers by the EHIF, a significant reform of the temporary sickness benefits scheme, introduction of coverage restrictions to the previously universal adult dental benefit and measures to increase the use of active ingredient prescribing and use of generic drugs. Despite the country's swift economic recovery and sound economic management, the financial sustainability of the health care system remains a longer-term concern, particularly as financing relies almost exclusively on labour-related health insurance contributions.
1. The nature and magnitude of the financial and economic crisis

1.1 The origins and immediate effects of the crisis

Between 2001 and 2007 Estonia had one of the fastest growing economies in Europe, with annual gross domestic product (GDP) growth rates ranging from 6.3 to 10.1% (EE Table 1). The global financial crisis affected Estonia mostly through the significant contraction in export markets and deflation of its domestic housing bubble. Being a small open economy, Estonia experienced a rapid credit expansion up to 2007 as well as very high levels of private and public consumption. During the crisis, GDP decreased by 4.2% in 2008 and by 14.1% in 2009, making it the third-deepest decline in the European Union (EU). In the following years, GDP grew by 3.3% in 2010 and 8.3% in 2011, but this relatively quick recovery slowed to 3.2% in 2012.

In 2007, the unemployment rate was 4.8% – relatively low because of the increasing number of unsustainable jobs in construction and retail generated by the credit bubble. As a result of the crisis, the unemployment rate tripled to 16.9% in 2010, followed by a rapid improvement to 12.5% in 2011 and to 10.2% in 2012. However, it is a continuing challenge to lower unemployment further because of the mismatch between demand and the supply of workers with particular skills. The economic crisis also resulted in an increased risk of poverty or social exclusion, although the relative poverty rate decreased. These developments clearly indicate how vulnerable those at the lower end of the income distribution have been (Masso et al., 2012). According to a study by Kutsar & Trumm (2010), the increase in unemployment has been the main contributor to increasing poverty. However, official migration statistics show that emigration did not rise sharply during the main crisis years (by 6% between 2007 and 2009), indicating that the strains of the economic downturn did not motivate people to leave the country (Philips & Pavlov, 2010).
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EE Table 1 Demographic and economic indicators in Estonia, 2000–2012

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</tr>
</thead>
<tbody>
<tr>
<td>Total population (in thousands)(^a)</td>
<td>1,379.3</td>
<td>1,373.5</td>
<td>1,367.6</td>
<td>1,361.6</td>
<td>1,356.2</td>
<td>1,351.2</td>
<td>1,346.0</td>
<td>1,342.0</td>
<td>1,342.3</td>
<td>1,340.3</td>
<td>1,338.5</td>
<td>1,336.9</td>
<td>1,335.0</td>
</tr>
<tr>
<td>People aged 65 and over (% total population)(^a)</td>
<td>15.0</td>
<td>15.2</td>
<td>15.6</td>
<td>16.0</td>
<td>16.4</td>
<td>16.7</td>
<td>17.0</td>
<td>17.3</td>
<td>17.4</td>
<td>17.4</td>
<td>17.4</td>
<td>17.5</td>
<td>17.8</td>
</tr>
<tr>
<td>GDP per capita (€)(^a)</td>
<td>5,800</td>
<td>6,200</td>
<td>6,600</td>
<td>7,100</td>
<td>7,600</td>
<td>8,300</td>
<td>9,200</td>
<td>9,900</td>
<td>9,500</td>
<td>8,100</td>
<td>8,400</td>
<td>9,100</td>
<td>9,400</td>
</tr>
<tr>
<td>Real GDP growth (%)(^a)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>7.8</td>
<td>6.3</td>
<td>8.9</td>
<td>10.1</td>
<td>7.5</td>
<td>–4.2</td>
<td>–14.1</td>
<td>3.3</td>
<td>8.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Government deficit (% GDP)(^b)</td>
<td>–</td>
<td>–</td>
<td>0.3</td>
<td>1.7</td>
<td>1.6</td>
<td>1.6</td>
<td>2.5</td>
<td>2.4</td>
<td>–3.0</td>
<td>–2.0</td>
<td>0.2</td>
<td>1.1</td>
<td>–0.2</td>
</tr>
<tr>
<td>Government consolidated gross debt (% GDP)(^b)</td>
<td>5.1</td>
<td>4.8</td>
<td>5.7</td>
<td>5.6</td>
<td>5.0</td>
<td>4.6</td>
<td>4.4</td>
<td>3.7</td>
<td>4.5</td>
<td>7.1</td>
<td>6.7</td>
<td>6.1</td>
<td>9.8</td>
</tr>
<tr>
<td>Total unemployment (% total labour force)(^a)</td>
<td>13.6</td>
<td>12.6</td>
<td>10.3</td>
<td>10.0</td>
<td>9.7</td>
<td>7.9</td>
<td>5.9</td>
<td>4.8</td>
<td>5.5</td>
<td>13.8</td>
<td>16.9</td>
<td>12.5</td>
<td>10.2</td>
</tr>
<tr>
<td>Long-term unemployment (% active population)(^a)</td>
<td>6.2</td>
<td>6.1</td>
<td>5.4</td>
<td>4.6</td>
<td>5.1</td>
<td>4.2</td>
<td>2.8</td>
<td>2.3</td>
<td>1.7</td>
<td>3.8</td>
<td>7.7</td>
<td>7.1</td>
<td>–</td>
</tr>
</tbody>
</table>

Note: Population figures may differ slightly from national sources.
Sources: \(^a\)OECD, 2014; \(^b\)Eurostat, 2013.
1.2 Government responses to the crisis

The government’s main goal before and during the crisis was to ensure medium- to long-term fiscal sustainability to support growth and, as part of this strategy, to meet the Eurozone criteria to enable Estonia to adopt the euro in January 2011. To achieve this goal, Estonia went through fiscal consolidation that equalled (cumulatively) 16% of GDP from 2008 to 2010. In 2009 alone, fiscal tightening accounted for 9% of GDP. About two-thirds of fiscal consolidation measures were on the expenditure side. These included limiting pension increases; cutting operating expenditure, defence expenditure and farming subsidies; a ban on borrowing by municipalities; and a reduction in the health insurance budget of 8% (see below). Consolidation on the revenue side included increases in alcohol, fuel and tobacco excise taxes; an increase in value added tax (VAT) from 18% to 20%; a decrease in the list of goods and services with reduced VAT; a rise in unemployment insurance contributions to 4.2% of wages; suspension of the step-by-step lowering of the income tax rate; a reduction in the dividends paid out from state-owned companies; and increased land sales.

1.3 Broader consequences

As a result of these measures, Estonia was able to keep public sector debt at around 7% of GDP in 2009, which was one of the lowest rates in Europe. The overall public sector budget deficit was 2% of GDP in 2009 followed by a surplus of 0.2% in 2010 and 1.1% in 2011. The government reserves were 11.6% of GDP in 2009 and 12% of GDP in 2010.
Health system pressures prior to the crisis

The health system was relatively well prepared for an economic shock of this magnitude, which was a significant contraction but of short duration. The EHIF accumulated sufficient reserves during the previous years of rapid growth – in fact far more than was legally required – signalling its careful expansion policy. Because significant restructuring in service delivery and payment reforms took place long before the crisis, major inefficiencies in the health system had already been dealt with. Although EHIF spending increased during the years of growth, these increases were not as great as increases in other parts of the public sector and, in any case, were less than increases in revenue. The EHIF focused on enhancing cost–effectiveness in pricing, contracting and the benefits package. Financial protection has also improved since 2009 through policies to encourage rational prescribing, generic substitution and limitation of the financial burden of user charges on patients (see section 3.2). In addition, in the years immediately preceding the crisis, the health system had invested in analysing a range of key issues, including financial sustainability. As a result of all these measures, the health system was relatively well placed to manage a short-term crisis.
The main change affecting the health sector was the restructuring of health expenditure in line with reduced health budgets while simultaneously trying to have the least possible effect on the financing of core health care services. At the beginning of the economic crisis, the health sector, and the national health insurance system in particular, was in a better position compared with other parts of the public sector as the EHIF had accumulated substantial reserves through rapid revenue growth during the early 2000s. In addition, the health sector had more leeway in responding to the crisis as most of the high-impact changes introduced during the crisis (mainly measures to control expenditure growth) were already in the pipeline before the crisis.

3.1 Changes to public funding for the health system

One of the major fiscal responses to the economic crisis was to cut public expenditure to ensure a stable, medium-term fiscal position and to support sustainable recovery. The health budget was not cut drastically compared with other sectors. In fact, there was an increase in the health share of total public expenditure from 11.5% in 2007 to 12.3% in 2011 (EE Fig. 1). The reason for this increase was the reduction of expenditure on temporary sick leave cash benefits in the EHIF’s budget, leaving more funds to finance health care (see below).

Total health expenditure increased in 2008 by 18.6%, followed by decreases of 1.5% and 6.3% in the years that followed (EE Table 2). The decrease in public spending on health was a little smaller, leading to an increase in public spending on health as a share of total health expenditure compared with the pre-crisis period from 75.6% in 2007 to 79.3% in 2011 (see also EE Table 3).
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**EE Fig. 1** Public expenditure on health as a share of total public expenditure in Estonia, 2007–2011


**EE Table 2** Total and public expenditure on health in Estonia, 2006–2011

<table>
<thead>
<tr>
<th>Year</th>
<th>THE Public sector health expenditure</th>
<th>Public spending on health as a share of THE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>€ millions</td>
<td>Change (%)</td>
</tr>
<tr>
<td>2006</td>
<td>671.8</td>
<td>–</td>
</tr>
<tr>
<td>2007</td>
<td>829.1</td>
<td>23.4</td>
</tr>
<tr>
<td>2008</td>
<td>983.5</td>
<td>18.6</td>
</tr>
<tr>
<td>2009</td>
<td>968.7</td>
<td>–1.5</td>
</tr>
<tr>
<td>2010</td>
<td>908.0</td>
<td>–6.3</td>
</tr>
<tr>
<td>2011</td>
<td>944.6</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Note: THE: Total health expenditure.

The composition of total health expenditures by different financing agents did not change significantly during the crisis (EE Fig. 2). The biggest change was the increasing role of the EHIF in total health expenditures, rising from 64% in 2007 to 69% in 2011. The main reason for this trend was the reduction in temporary sick leave benefits paid out from the EHIF’s budget,\(^1\) enabling the Fund to spend relatively more on health care services. The second biggest

\(^1\) Expenses for sick leave benefits are not counted as health care expenditure in the National Health Accounts.
change was the decreasing role of out-of-pocket payments from 22% of total health expenditure in 2007 to 18% in 2011. One explanation for this reduction is methodological; for some years (including 2008 and 2009) out-of-pocket expenditure was estimated as the Household Expenditure Survey was not performed at that time. Some decrease in out-of-pocket payments also can be explained by the reduction in dental care expenditures as adult dental care is not financed by EHIF and the (dental care) cash benefit was abolished during the crisis. This may have led to postponing of the use of dental services by adults. Another reason is the increasingly rational utilization of medicines, which has reduced patient cost-sharing (see below).

**EE Fig. 2** Breakdown of total health expenditure by expenditure source in Estonia, 2007 and 2011

| Note: OOP: out-of-pocket expenditure. |

Central government spending on health accounts for about 10% of total health spending. Over 90% of central government health expenditure is financed through the Ministry of Social Affairs. In 2009, the central government health budget was cut by 26% (EE Table 4). This reduction was partially achieved through cutting administrative costs within the Ministry of Social Affairs, terminating the financing of capital costs from the state budget (capital costs accounted for about 7% of central government expenditure in 2008) and cutting the public health budget (see below). The European Social Fund was used to compensate for the reduction in the public health budget.
### EE Table 3 Health expenditure trends in Estonia, 2000–2010

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</thead>
<tbody>
<tr>
<td>THE per capita (US$ PPP)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>522.70</td>
<td>520.64</td>
<td>581.22</td>
<td>659.71</td>
<td>758.87</td>
<td>831.32</td>
<td>960.28</td>
<td>1,113.8</td>
<td>1,336.80</td>
<td>1,370.70</td>
<td>1,273.90</td>
<td>1,302.70</td>
</tr>
<tr>
<td>THE (% GDP)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.3</td>
<td>4.9</td>
<td>4.8</td>
<td>4.9</td>
<td>5.1</td>
<td>5.0</td>
<td>5.0</td>
<td>5.2</td>
<td>6.1</td>
<td>7.0</td>
<td>6.3</td>
<td>5.9</td>
</tr>
<tr>
<td>Public expenditure on health (% THE)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>77.2</td>
<td>78.6</td>
<td>77.1</td>
<td>76.7</td>
<td>75.5</td>
<td>76.7</td>
<td>73.3</td>
<td>75.6</td>
<td>77.8</td>
<td>75.3</td>
<td>78.9</td>
<td>79.3</td>
</tr>
<tr>
<td>Public expenditure on health (% all government spending)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>11.3</td>
<td>10.9</td>
<td>10.5</td>
<td>10.9</td>
<td>11.4</td>
<td>11.5</td>
<td>10.9</td>
<td>11.5</td>
<td>11.9</td>
<td>11.7</td>
<td>12.3</td>
<td>12.3</td>
</tr>
<tr>
<td>Voluntary health insurance (% THE)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>–</td>
</tr>
<tr>
<td>Out-of-pocket expenditure (% THE)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>19.9</td>
<td>19.0</td>
<td>20.1</td>
<td>20.4</td>
<td>21.3</td>
<td>20.4</td>
<td>25.1</td>
<td>21.9</td>
<td>19.7</td>
<td>20.3</td>
<td>18.6</td>
<td>17.6</td>
</tr>
</tbody>
</table>

*Notes:* PPP: Purchasing power parity; THE: Total health expenditure.

*Sources:* <sup>a</sup>OECD, 2014 (data for 2012 and later are not available); <sup>b</sup>WHO Regional Office for Europe, 2014.
EE Table 4 Central government health expenditure in Estonia, 2007–2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Central government health expenditure (€ millions)</th>
<th>Change (%)</th>
<th>Share of total health expenditure (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>80.6</td>
<td>9.7</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>112.9</td>
<td>39.9&lt;sup&gt;a&lt;/sup&gt;</td>
<td>11.5</td>
</tr>
<tr>
<td>2009</td>
<td>83.2</td>
<td>–26.3</td>
<td>8.6</td>
</tr>
<tr>
<td>2010</td>
<td>86.0</td>
<td>3.3</td>
<td>9.5</td>
</tr>
<tr>
<td>2011</td>
<td>88.3</td>
<td>2.7</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Note: <sup>a</sup> In 2008, a one-time capital cost transfer from the state budget was made to the EHIF, which explains the high increase in that year.


In terms of social health insurance contributions, the EHIF's revenues were down by 11% in 2009 and by 5% in 2010, mainly because of increased unemployment and lower salaries. In 2011 and 2012, revenue increased by 6% and was projected to reach 2008 levels in 2013 (EE Fig. 3).

EE Fig. 3 EHIF revenues, expenditures and reserves, 2001–2012

Source: EHIF data.
In 2009, the EHIF’s expenditure exceeded revenue by around 2%. This gap was eventually addressed by drawing on the EHIF’s accumulated reserves. The EHIF has mandatory legal and risk reserves to ensure solvency. The legal reserve, 6% of EHIF's budget, decreases the risk from macroeconomic changes and may be used only after government approval. The risk reserve, 2% of the budget, minimizes risks arising from health insurance obligations and can be used after a decision of the EHIF’s supervisory board. In addition to its reserves, by the end of 2011 the EHIF had retained about €150 million (almost a quarter of the annual budget), mostly as a result of previous years' higher actual revenues compared with those anticipated. In 2008, before the crisis hit, the EHIF had over four times more reserves than the required level (EE Fig. 3).

In September 2008 the government initiated legislative amendments to the EHIF and the Unemployment Fund Acts to channel the financial income (interests earned on the invested reserves) of these agencies directly to the state budget revenues. As a result, the EHIF revenues would have been decreased by 105 million Estonian kroons (about 1% of total revenues) in 2009. The Minister of Finance argued that the EHIF and the Unemployment Fund are fully financed by the state budget and taking away the financial income would motivate the funds to focus on their main activities. This plan was terminated because of resistance by the boards of the funds.

Initially, the government did not allow the EHIF to draw on its reserves to balance the decrease in revenues. The main reason for this was that, as part of the general state budget, the reserves enabled the government to formally balance the deficit in other sectors without effectively taking these funds away from the EHIF.

However, public opposition made the government reconsider these plans. As the crisis continued, these reserves were gradually used to partially compensate for reduced revenues. In total, the use of reserves formed about 5% of the 2009 budget. As EE Fig. 3 shows, a more pronounced run-down of reserves could have financed an even larger share of EHIF deficits in 2009 and 2010 without running below the legal requirement and could have allowed avoidance of any decline in EHIF expenditure. Maintaining the level of reserves above the legal requirement was one of the triggers of a health workers' strike in October 2012; the message of the strikers was that the strategy of containing costs in the health sector was not justified and if reserves cannot be used when needed this undermined the rationale for accumulating such reserves. Against this, adjustments in the EHIF budget in 2009 and 2010 facilitated further efficiency gains within the health care system, which, in turn, contributed to the longer-term financial viability of the EHIF.
The changes in EHIF expenditure by main cost categories are shown in EE Fig. 4. In 2008, all expenses increased and the biggest increases were in temporary sick leave benefits (24%) and in health services (21%). Although the crisis was already present it had no effect on the EHIF’s expenditure in 2008. In that year, the magnitude and duration of the crisis was not entirely clear and, therefore, the plans for 2009 were not as yet far reaching. According to the budget plan, EHIF expenditure was planned to continue to increase by 7% in 2009. However, at the end of August 2009, the EHIF’s supervisory board approved an amendment of the budget, which reduced expenditure by €70 million (about 9% of the 2008 budget). This was achieved through decisions to lower health service tariffs and to reduce temporary sick leave benefits (see below). Thus, in 2009, health services expenditure decreased by 2% and in 2010 by an additional 3%. By far the majority of the reduction affected expenditure for temporary sick leave benefits, which in 2010 decreased by 42% as a result of changes in the benefit scheme that already had been on the government’s agenda for years. Since 2011, total public spending by the EHIF has been increasing.

**EE Fig. 4 Changes in EHIF expenditure by category, 2008–2016**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health services</td>
<td>21%</td>
<td>-2%</td>
<td>-3%</td>
<td>4%</td>
<td>8%</td>
<td>7%</td>
<td>8%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Prescription drugs</td>
<td>14%</td>
<td>8%</td>
<td>3%</td>
<td>1%</td>
<td>8%</td>
<td>10%</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Temporary sick leave benefits</td>
<td>24%</td>
<td>-8%</td>
<td>-42%</td>
<td>-1%</td>
<td>4%</td>
<td>7%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Other expenditures</td>
<td>4%</td>
<td>7%</td>
<td>-2%</td>
<td>16%</td>
<td>9%</td>
<td>13%</td>
<td>14%</td>
<td>16%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Source: EHIF data.

Note: *Estimate.
The composition of EHIF expenditure has changed compared with the pre-crisis period. In 2007, health services expenses accounted for 67% of total health insurance expenditure while temporary sick leave benefits accounted for just 19% (EE Fig. 5). In 2011 the shares were 73% and 11%, respectively. It is important to highlight that if no changes had been made to reduce temporary sick leave benefits (and assuming that the health services share of total health insurance expenses would have remained at the pre-crisis level of 67%) the level of expenditure on health services would have been 8% lower in 2012. Therefore, reducing temporary sick leave benefits was crucial to maintaining expenditure on health care during and after the crisis and this allowed the EHIF to avoid making more radical decisions with regard to funding cuts for health services. It is also worth noting that this was a policy decision that had been on the agenda prior to the crisis and the government used the opportunity to implement it in the face of growing fiscal pressure.

**EE Fig. 5 Composition of EHIF expenditure by categories, 2007–2012**

During and after the crisis, the only change in health insurance revenue collection was related to the financing of capital costs. Since 2003, these had been included in the health service tariffs paid by the EHIF. In 2008, the legal basis for the capital costs financing scheme was changed and these costs
were financed from the state budget as allocations to the EHIF, but they were still included in health service tariffs. The idea was to release EHIF funds to finance other service provision costs. In 2008, a one-time allocation was made from the state budget to the EHIF, totalling approximately €8 million, which formed about 7% of total central government expenditure on health. Due to that transfer, the central government’s share in total health expenditure increased markedly (the central government share of total health expenditures was 9.7% in 2007 and 11.5% in 2008; EE Table 4). In 2009, the capital costs allocations from the state budget to the EHIF were abolished and the EHIF once again became responsible for covering these expenditures from regular health insurance revenues. This one-off transfer also partly explains the dramatic decrease in central government health expenditures by 26% in 2009. However, after 2009, the interruption of transfers from the state budget to the EHIF to cover capital costs in health care tariffs was partly compensated by grants from European Structural Funds directly to health care providers.

Public health programmes implemented by the National Institute for Health Development (Tervise Arengu Instituut) suffered significant budget cuts as a result of the financial and economic crisis over several years, starting from 2008. In 2009, national funding of public health programmes decreased by 28.3% compared with 2008 and an additional 5.5% in 2010 compared with 2009 (EE Fig. 6). Budget reductions prompted the Institute to review and reconsider public health-related priorities, including target groups and crucial health care and social services, as well as the availability of these services. The objective was to maintain all health care and social services in the areas of prevention and treatment for HIV and tuberculosis; drug addiction prevention, rehabilitation and treatment services; and cervical and breast cancer screening programmes. These services amount to 80% of the overall national budget allocated to implement the Institute's public health programmes.

The use of European Social Fund resources mitigated budget cuts by providing funding implemented through county-level governments for cardiovascular diseases prevention programmes (including smoking cessation and early detection of alcohol abuse, plus counselling services) and community-level health promotion. However, the National Institute for Health Development faces a challenge in 2014 when most of the public health programmes previously funded by the European Social Fund must continue with funding from national sources, increasing the Institute's funding needs through the national budget from €5.5 million in 2013 to €8.22 million in 2014.
3.2 Changes to coverage

Population coverage was only slightly affected by the crisis, but both the scope of services covered and cost coverage have seen reductions in response to the crisis. In addition, the reform of the temporary sick leave benefit system introduced employers’ risk sharing in the scheme but also reduced employees’ cash benefits. As mentioned in section 3.1, this reform reduced the EHIF’s expenditure on sick leave benefits and had a crucial role in protecting the provision of the EHIF’s reimbursed health services. Cash benefits were also reduced through the abolition of the adults’ dental care cash benefit.

Population entitlement

There were no major changes in the population’s coverage by health insurance. Before the crisis there were discussions on extending coverage to uninsured population groups but these policy debates ended when the crisis hit. The only exception was coverage for the long-term unemployed, for whom coverage was extended as long as they participated in active labour market programmes. As a result, a higher number of unemployed people are now covered by health insurance, but the total number of the insured population has slightly decreased (EHIF, 2012a, 2013) which may partially reflect a decrease in total population. According to 2011 census data (Statistics Estonia, 2013b), the share of insured people as a proportion of the total population at the end of 2011 was 96.2%.

The benefits package

The system for temporary sick leave benefits was reformed radically and responsibilities are now shared by both patients and employers. This idea had
been discussed for a long time but there was no support from employers as the reform directly increases their costs. However, the crisis situation and other ongoing labour market reforms (such as the new Employments Contracts Act) provided the opportunity for change. Starting in July 2009, no sickness benefit is paid during the first three days of sickness or injury (previously only the first day was excluded); the employer pays the benefit from the fourth to eighth day and the EHIF starts to pay the benefit from the ninth day. This is a new cost-sharing mechanism since the employer did not participate previously and the EHIF covered this cash benefit starting from the second day of sickness leave.

In addition, the sickness benefit rate was reduced from 80% to 70% of the insured person’s income. The sickness benefit rate in the case of caring for a sick child aged under 12 was reduced from 100% to 80%. In addition, the maximum length of maternity leave was reduced from 154 days to 140 days. As a result, temporary sick leave benefit expenditure decreased by 42% in 2010 compared with 2009 and its share of the total health insurance budget dropped from 20% in 2008 to 12% in 2010.

Before 2009, all insured people aged 19 and over could apply for the dental care benefit of €19.18 per year; however, from 2009, this right was retained only by insured people over 63 years of age, people eligible for a work incapacity pension, those with an old-age pension, pregnant women, mothers whose child is under 12 months old and those who have an increased need for dental care. However, the savings from these measures for the EHIF’s total budget was not very large, representing less than €4 million annually.

Services also have been subject to some rationing through increases in official waiting times: maximum waiting times for outpatient specialist visits increased in March 2009 from four to six weeks.

**User charges**

In response to the crisis, the government introduced a 15% co-insurance rate for nursing inpatient care in 2010. This plan was proposed before the financial crisis as a means of including patients and municipalities in the co-financing of long-term nursing care, but it was not possible to implement it until the crisis because it was so unpopular.

Although user charges for outpatient specialist visits and inpatient stays had not changed since 2002, the issue played an important role in the negotiations during the health care workers’ strike in October 2012. The Hospital Association was in favour of increasing user charges, but doctors were against it. As a compromise, the maximum fee for outpatient specialist visits increased from €3.20 to €5.00\(^2\)

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2 Children under 2 years of age and pregnant women (after week 12) are exempted.
and the bed day fee from €1.60 to €2.50. These changes will increase revenue by about €4.5 million per year (assuming no reduction in utilization).

### 3.3 Changes to health service planning, purchasing and delivery

**Reducing health service tariffs**

The main response to the economic crisis was a reduction in health service tariffs (prices) paid by the EHIF to health services providers. At the end of 2009, the EHIF reduced the tariffs of health services by 6%. The tariff reduction was general: it did not target any particular inputs (e.g. salaries), leaving the cost optimization decisions at provider level. The objective of the tariff reduction was to balance the health insurance budget and thus minimize the need to diminish access to care during the crisis period. Before the crisis, health service tariffs had increased very rapidly and, therefore, the 6% cut was not considered to be a big economic shock for providers. In 2011, the tariffs for health services were lower than the 2008 baseline but by a smaller rate of 5%, except for primary care where the rate was only 3%. These reductions were short lived: in 2012 health service tariffs increased to pre-crisis levels and in 2013 tariffs increased further as a result of agreements made during the physicians’ strike.

**Reductions in health sector salaries and changes to working conditions**

The tariff reduction policy resulted in a decrease in health workers’ salaries (EE Fig. 7), which were mainly achieved by cutting additional payments for overtime.

**EE Fig. 7** Health workers’ hourly salaries by categories in Estonia, 2008–2012


3 For up to 10 days per episode of illness. Children, pregnant women and patients in intensive care units are exempted.
Another, less explicit, tariff reduction became effective in mid-2009. This related to the new labour market regulation, which abolished most reduced working hours. Prior to 2009, several health professionals had reduced working hours (e.g. a radiologist had six hours per day compared with the general eight hours) and this was also taken into account when health service tariffs were calculated. Since mid-2009, all health professionals have common working hours of eight hours per day and 40 hours per week as the standard. The accompanying expenditure decrease had an overall effect on the health insurance budget by saving over €6 million per year (about 1% of EHIF’s budget) and the compromise was that these savings would be used to improve access to care, giving priority to outpatient care and making an effort to keep the number of financed treatment cases to pre-crisis levels. It is quite obvious that these kinds of tariff reduction would have not occurred in a non-crisis environment.

**Pharmaceutical sector reforms**

In April 2010, the Health Insurance Act was amended to extend the application of tariff agreements and reference pricing to medicines in the lowest (50%) reimbursement category (which contains many less cost-effective drugs). Tariff agreements previously only applied to drugs reimbursed at higher rates.

Using the crisis as an opportunity to implement policies that had already been planned, the Ministry of Social Affairs in March 2010 amended the ministerial decree on drug prescriptions to support active ingredient-based prescribing and dispensing. The amendment did not change prescribing rules but did require pharmacies to provide patients with the drug with the lowest level of cost-sharing and to note if patients refuse cheaper alternatives. In September 2010, the EHIF launched an annual generic drug promotion campaign on television and through billboards, in cooperation with the Ministry of Social Affairs, the State Medicines Agency and the Association of Family Physicians.

In another initiative in 2010, the EHIF and Ministry of Social Affairs launched a new e-prescription system, which currently operates alongside paper prescribing. The new system makes active ingredient-based prescribing the default option.

Finally, in 2012, the reimbursement cap per prescription of 50% for reimbursed pharmaceuticals was removed with the amendment of the Health Insurance Act. This, and the other measures in this sector, had a significant effect in reducing patients’ out-of-pocket payments, which fell from 38.6% of expenditure on EHIF-reimbursed medicines in 2007 to 33.0% in 2012 (EE Fig. 8). Utilization slightly decreased in 2009, but it rose again thereafter (EHIF, 2012a).
EE Fig. 8 Out-of-pocket share of spending on EHIF-reimbursed medications in Estonia, 2006–2012

Source: EHIF data.
4.1 Equity in financing and financial protection

The reduction in patient co-payments for prescribed medicines, achieved through better enforced generic prescription and tariff reductions in general, may have contributed to the continued improvement of financial protection in Estonia, but further research on utilization patterns is needed to confirm causality. Similarly, the small increase in co-payments for services, the abolition of the dental care cash benefit and the larger increase in co-insurance for inpatient nursing care are subjects for closer scrutiny in terms of their impact on care utilization and financial risk protection.

4.2 Access to services and quality of care

The impact of reduced coverage of sick leave benefits is one of the main areas that need to be monitored as patients may delay seeking care when needed and instead stay at work.

In addition, it is difficult to assess the impact of increases to waiting time limits. The number of EHIF-reimbursed cases decreased to some extent in 2009 (EE Table 5), particularly in inpatient care, where there was a reduction of about 3%. However, this reduction was small and by 2010 levels had been restored to those in the pre-crisis period. There was some reduction in outpatient visits, including primary care, of approximately 4% in 2009 (EHIF, 2009; National Institute for Health Development, 2013d). The number of emergency calls to the ambulance service did not increase in 2009 compared with 2008 but the number of patients arriving at hospital emergency departments increased by 8% (National Institute for Health Development, 2013b). The latter data also could be influenced by the fact that new emergency department premises were
opened that year, which may have increased patients’ preferences towards using emergency departments compared with family doctors.

**EE Table 5** Number of EHIF-reimbursed cases per 1000 insured in Estonia

<table>
<thead>
<tr>
<th>Type of specialist care</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatient</td>
<td>2,079</td>
<td>2,174</td>
<td>2,129</td>
<td>2,232</td>
<td>2,331</td>
</tr>
<tr>
<td>Day care</td>
<td>41</td>
<td>44</td>
<td>43</td>
<td>46</td>
<td>52</td>
</tr>
<tr>
<td>Inpatient</td>
<td>193</td>
<td>195</td>
<td>188</td>
<td>191</td>
<td>192</td>
</tr>
</tbody>
</table>

*Source: EHIF data.*

At the same time, a public survey showed a sharp decrease in satisfaction levels with regard to access to care, from 60% in 2007 to 53% in 2008 (EE Fig. 9). The results for 2008 probably reflect the public perception of general insecurity related to the crisis rather than actual negative experiences as changes to the health system had not yet taken place at the time of the survey. At the same time, the survey respondents’ assessment of the quality of care increased from 69% to 73%, which may reflect that people do not expect quality of care to be hampered even in situations of austerity.

**EE Fig. 9** Population satisfaction (satisfied or very satisfied) with access to and quality of care in Estonia, 2007–2012

*Source: Estonian Health Insurance Fund and Ministry of Social Affairs, 2014.*

Utilization of dental care by adults is expected to be sensitive to the crisis. The cash benefit for adult dental care was abolished in 2009 and, thus, the ability to pay for dental care out of pocket decreased. According to the public survey,
mentioned above, the share of the adult population not seeking dental care during the previous 12 months increased from 51% in 2008 to 60% in 2011 (EHIF and Ministry of Social Affairs, 2014).

The use of prescription medicines was affected by the crisis through both a decrease in patients’ incomes and an increase in VAT for medicines from 5% to 9% since 2009. The latter could be one of the explanations for the small decline in the number of prescriptions per insured and for the increase in cost per prescription in 2009 (EE Fig. 10).

**EE Fig. 10** Number of EHIF-reimbursed prescription drugs per insured and average cost per prescription to the EHIF and to the insured in Estonia, 2007–2012

![Average prescription cost for EHIF](#) ![Average prescription cost for insured](#) ![Number of EHIF reimbursed prescriptions per insured](#)

*Source: EHIF data.*

### 4.3 Impact on efficiency

The pressure to improve efficiency in the health sector led to a marginal shift in the balance of care between outpatient specialist services and inpatient hospital admission in favour of the former. In parallel, the rights of nurses and midwives to work independently were increased to enable a more efficient skill-mix to be employed. While hospital admissions decreased a little, outpatient specialist services continued to increase during the crisis. Nevertheless, there was no shift from inpatient care to day care as implementing this change would have required the reorganization of patient care pathways at the hospital level, for which there are still no strong incentives in the current system.
A more significant achievement was the increased use of generic medicines, which had the dual effect of containing public spending and reducing the financial burden on households (EE Fig. 8).

A potential impact of the crisis has been the overall positive attitude towards the importance of improving cost–effectiveness, and as a result, it has been easier to introduce measures such as the promotion of generic prescriptions, as well as taking into account cost–effectiveness when developing clinical guidelines. In addition, the medical profession’s acknowledgement of the need to develop capacity in health technology assessment supported the establishment of a special university unit for this purpose.

4.4 Transparency and accountability

The direct impact of the crisis in increasing transparency and accountability is difficult to assess. In Estonia, the need to increase providers’ public accountability has been an issue since the early 2000s. In 2012, for the first time, the EHIF published its hospital feedback report, which contained 19 indicators on access, care processes and efficiency (EHIF, 2012b). The report was published on the EHIF’s web page, representing an important step in changing attitudes towards providers’ public reporting and benchmarking.

Transparency and accountability in policy-making in Estonia, and by the EHIF in particular, have been recognized internationally as best practice (Kutzin, 2008). The government continued this tradition during the period when a decision had to be made on whether to continue with its conservative fiscal policy and to prioritize joining the Eurozone at the expense of maintaining spending levels on government programmes through deficit financing. Initially, there was no tangible public opposition against this explicit priority given to the objective of joining the Eurozone and cutting public spending, but later on, the health sector experienced strikes by health workers, prompted by the implementation of austerity measures. The subsequent negotiations led to an agreement between government and different stakeholders: and various working groups were set up to review strategic directions for health system reforms.

4.5 Impact on health

The fastest increase in life expectancy in Estonia since the early 2000s was seen during the years of the economic crisis 2008–2010, when it increased by approximately one year annually (EE Fig. 11). The increase in male and female life expectancy was similar, leaving a 10 year gap between genders (71.2 and 81.1 years, respectively, for men and women). Healthy life expectancy in
Estonia increased over the period, 2004–2009, by more than four years for both men and women, but starting in 2010 this measure began to decrease by almost two years reaching 53 years in males and 57 years in females in 2012.

**EE Fig. 11 Average life expectancy at birth in Estonia, 2001–2011**

The standardized death rate from external causes per 100 000 inhabitants decreased from 164.0 in 2008 to 140.2 in 2012 for males and from 34.4 to 28.3 for females. A similar pattern can be observed for cardiovascular diseases, where the standardized death rate decreased by 18% for both males and females during the same period.

HIV incidence came down from 108.1 diagnosed cases per 100 000 in 2001 to 47.2 in 2007, and continued to decrease during the crisis to 24 in 2012, while tuberculosis incidence also fell from its highest point of 59.4 cases per 100 000 in 1998 to 34.8 in 2007, and to 20.8 in 2012.

The crisis seems to have had a dampening effect on alcohol consumption. The high consumption of alcohol is a serious public health issue in Estonia. Consumption of pure alcohol per capita increased from 5.6 litres in 1995 to 12.6 litres in 2007 as the relative price of alcohol decreased as incomes grew faster than alcohol prices. Alcohol consumption did fall during 2008–2010 (9.7 litres of pure alcohol per capita in 2010) as incomes dropped during the economic crisis and as alcohol excise taxes were raised. During 2011 and 2012, consumption increased to 10.6 litres of pure alcohol per capita as incomes started to increase. Lower alcohol consumption rates explain the reduction in injuries and deaths from external causes in 2008–2010; and it is also partly
the reason for increasing life expectancies. In addition, lower fatality rates in road traffic accidents are probably also partly related to decreased alcohol consumption: the number of death caused by road traffic accidents decreased from 196 in 2007 to 132 in 2008 and to 100 in 2009 (Maanteeamet, 2013).
5.1 Drivers of change

The response of the health system to the crisis was part of a coordinated government policy guided by the aim of fulfilling Maastricht criteria in spite of the unfavourable economic environment. The fact that the objective of joining the Eurozone was publicly accepted made it easier for the government to justify crisis-related reforms and decisions.

It took over six months for the government to understand the seriousness of the crisis. The first signs were noticed in early 2008 but still most of the decisions were made according to pre-crisis forecasts. In September 2008, the Ministry of Finance’s forecast were still calculated on the basis of 10% growth for EHIF revenues in 2009, and in the following January the EHIF’s supervisory board approved an increase in health service tariffs. However, implementation of this decision was postponed because of the increasingly pessimistic economic outlook. By the end of February 2009, the parliament had approved an amendment of the government budget. This amendment included a package of decisions to contain and cut public sector expenditure, among which was the reform of temporary sick leave benefits, which came into force in mid-2009. This was a long-debated reform and a striking example of how the crisis created an opportunity to reach political agreement and implement the otherwise controversial cuts.

5.2 Content and process of change

At the end of October 2009, the scale of the crisis increased further, prompting the approval of an overall reduction in health service tariffs by 6%, which came into force in mid-November. With this exception, the health sector was able
to avoid serious cuts to services; some funds were released from the EHIF’s financial reserves, but more importantly, savings from the reform of temporary sick leave benefits freed up resources. The latter proved to be crucial to ensure the EHIF’s ability to sustain the level of financing for health care services without heavy reliance on reserves over multiple years.

By not allowing the EHIF to deplete its reserves, the government, in fact, used these accumulated funds to balance the general budget by covering deficits in other sectors. This did not mean the actual removal of the funds from the health insurance system, but it signalled a significant reduction in the autonomy of the EHIF and raised doubts about the rationale for accumulating reserves in the health insurance system when the EHIF does not have full decision rights over their use. Currently, most EHIF reserves have remained unused, enabling it to cope with potential future short-term relapses in the economy given the prolonged economic downturn across Europe. The future will tell if this experience has an adverse effect on the EHIF’s incentive to be conservative in planning expenditures and accumulate reserves.

The 6% cut in health service tariffs was also important in filling the gap in the EHIF’s budget. The tariff reduction followed several years of significant increases and, therefore, it did not have a major negative effect on providers’ ability to function; it also enabled the EHIF to cope with the rather short-lived crisis. This may also be the reason why further restructuring of the hospital network did not occur during the crisis even though this policy had been on the agenda for some time.

5.3 Implementation challenges

A marginal shift from inpatient to outpatient care was detected during the crisis, but it may be time for policy-makers to revisit the need for the full implementation of Estonia’s Hospital Master Plan or to consider a strategic revision of that plan in the context of current needs, new fiscal realities and achievements since the mid-2000s.

In contrast to the relative protection of funding for the rest of health services, the public health budget suffered significant cuts (reaching more than 30% in two consecutive years). The use of European Social Funds covered part of the gap, but the challenge will be for the government to sustain these programmes in 2014 and beyond. Clearly, the budget for public health programmes was less protected from spending cuts.

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4 The Hospital Master Plan 2015, prepared in 2000 and updated more recently, and the Hospital Network Development Plan, approved in 2003 for the next 15 years, are the key documents in this area. The latter defines the list of 19 strategic hospitals with whom EHIF is obliged to contract.
5.4 Resilience in response to the crisis

In the longer term, the sustainability of the current health system financing principles remains an important issue. Near exclusive reliance on labour-related contributions make the system vulnerable to fluctuation in economic growth and labour market dynamics. Most of the recommendations in a report on the sustainability of health financing in Estonia (Thomson et al., 2010) hold true in mid-2014 and, in particular, the revenue-side challenges will need to be addressed in the near future. The reform of temporary sick leave benefits released funds in the health insurance budget to cover medicines and health services expenditure in the short term. Nevertheless, Estonian health expenditure levels are relatively low by international comparison, which provides a strong basis for arguments in favour of higher spending and drives expectations among health system stakeholders.
Conclusions

The Estonian health care system was relatively well prepared for a financial shock of significant magnitude as the duration of the crisis was short and economic recovery was swift. From a fiscal policy perspective, the strong track record of balanced annual public budgets, the low level of government debt and the reserves accumulated by the EHIF during the years of rapid growth prior to the crisis provided a range of options for fiscal policy to cope with the financial crisis. The option of depleting the EHIF’s accumulated reserves could have completely covered the funding gap in the health sector. In addition, the health system’s capacity to absorb a short-term decline in revenues was strong after a decade of growth in health sector revenue and smart investments in reconfiguring regional hospitals using EU Structural Funds as part of the strategic restructuring of the service delivery system.

Estonia had learnt the lessons of the financial crisis it experienced in the late 1990s and followed a careful path both on the revenue and the expenditure sides. In particular, the establishment of a legal requirement to accumulate reserves was the consequence of the previous crisis experience when the EHIF’s own (at the time voluntary) savings enabled it to overcome a short-term fall in revenues and to prove its ability to cope without external support from the government budget. This time, however, the reserves were not used to their full potential as the government gave priority to meeting the Maastricht criteria in order to join the Eurozone in 2011. As a result, the EHIF was not allowed to spend much of its reserves.

Despite unfavourable fiscal policy from the health sector’s perspective, the Estonian health system seems to have recovered from the crisis rather rapidly and used the crisis as an opportunity to introduce reforms that had been planned for a long time. This relative success is in part because of the ability of
the health system itself to absorb shock, but also because the crisis in Estonia was relatively short in duration and the economy recovered much faster than in most of the other hard-hit countries of western Europe.
### Appendix 1

**Major crisis-related events and changes in the Estonian health system, 2009–2013**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event/action</th>
</tr>
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</table>
| **2009** | The central government health budget, which accounts for approximately 10% of total health spending, was cut by 26%  
The EHIF’s revenues (social health insurance contributions) fell by 11%, mainly through increased unemployment and lower salaries  
The EHIF reduced its budget expenditures by €70 million (8%) compared to 2008  
A radical reform of temporary sickness benefits, which now included employers paying some of the benefit and reductions to the benefit rates, resulted in considerable savings and funds being released to the EHIF to pay for health services  
Prices/tariffs paid to health care providers were reduced by 6%, leading to significant savings for the EHIF  
As part of health providers tariff cuts, salaries of health professionals fell, mainly through cuts in overtime and by standardizing working hours to 8 hours per day  
The previously universal adult dental care cash benefit became restricted to insured people aged over 63 and some other groups, such as pregnant women and mothers with infants under 12 months  
Value added tax for medicines increased from 5% to 9% |
| **2010** | The unemployment rate reached 17.3%, triple that of 2007  
The EHIF’s revenues (social health insurance contributions) fell by 5%  
A 15% co-insurance rate was introduced for nursing inpatient care  
Tariff agreements and reference pricing was extended to pharmaceuticals in the lowest (50%) reimbursement category (which contains many less cost-effective drugs)  
A ministerial decree encouraged prescribing and dispensing by active ingredient  
Pharmacists became required to provide patients with the drug with the lowest level of cost sharing  
A new e-prescription system was launched to operate alongside paper prescribing |
<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
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</table>
| 2011 | The unemployment rate improved to 12.8%  
EHIF revenue increased by 6%  
Prices/tariffs paid to all health care providers were still at a reduced rate (of 5%) except for primary care, where the price cut was 3% |
| 2012 | Unemployment stabilized at 10.2%  
EHIF revenue again increased by 6%  
User charges for outpatient specialist visits increased from €3.20 to €5.00 and the bed-day fee from €1.60 to €2.50  
Prices/tariffs paid to health care providers were restored to original pre-crisis levels  
The reimbursement cap per prescription of 50% for reimbursed pharmaceuticals was removed, reducing patients’ user charges |
| 2013 | Prices/tariffs paid to health care providers were increased after a physicians’ strike |
References


Thomson S et al. (2010). *Responding to the challenge of financial sustainability in Estonia’s health system*. Copenhagen, WHO Regional Office for Europe.

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