

# **INCOME-RELATED INEQUALITY IN HEALTH CARE FINANCING AND UTILIZATION IN ESTONIA SINCE 2000**



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# ABSTRACT

This paper summarizes recent research on income-related inequalities in health care financing and utilization in Estonia for the period 2000 to 2007. Quantitative analysis is used to analyse evidence for a number of priority policy issues. Considering prefinancing and out-of-pocket payments (OOPs) together, overall health care financing is mildly progressive. During the period studied about 3% of households (about 15 000) dropped below the national absolute poverty line after making OOPs. The number dropped from 3.7% in 2000 to 2.1% in 2007 due to wages and especially old-age pensions rising faster than the cost of living. For those services more dependent on OOPs, such as outpatient drugs and dental care, there are either more inequalities in utilization or households face higher risk of impoverishment. Thus the patterns of equity in both the finance and use of services are closely linked to the structure of the EHIF benefit package. Two recommendations are made, first to revise the structure of prescription drug copayments in order to ensure affordable access, in particular for pensioners, and secondly to improve financial access to adult dental care whilst concurrently maintaining the good protection that exists for other services, such as primary care, inpatient care and emergency care.

## Keywords

HEALTH SERVICES ACCESSIBILITY - ECONOMICS  
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Today it is unacceptable that people become poor as a result of ill health.

Health financing arrangements should sustain the redistribution of resources to meet health needs, reduce financial barriers to use needed services, and protect against financial risk of using care, in a manner that is fiscally responsible.

(The Tallinn Charter: Health Systems for Health and Wealth)



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## Summary

This policy paper summarizes recent research on income-related inequalities in health care financing and utilization in Estonia and presents key messages and a few policy recommendations to target them.

- The overall prefinancing of the Estonian health care system is progressive, meaning that households with higher gross income pay relatively more.
- On the other hand, out-of-pocket payments are regressive, meaning that although poorer households spend less on health care in absolute terms, they spend more as a proportion of their total income.
- Considering prefinancing and out-of-pocket payments (OOPs) together, overall health care financing is mildly progressive. That is, households with higher gross income pay relatively more for health care financing. However, as the share of OOPs in total health care financing has increased, progressivity decreased to near neutrality in 2006–2007.
- During 2000–2007 about 3% of households (about 15 000) dropped below the national absolute poverty line after making OOPs. The number dropped from 3.7% in 2000 to 2.1% in 2007 due to wages and especially old-age pensions rising faster than the cost of living. The main risk group are single pensioners, of whom about 11% fell into this category in the period.
- Patterns of equity in both the finance and use of services are closely linked to the structure of the EHIF benefit package.
- For those services more dependent on OOPs, such as outpatient drugs and dental care, there are either more inequalities in utilization or households face higher risk of impoverishment. For services with very little need for OOPs, such as inpatient care or emergency care, there was no impoverishment and also little difference in utilization by income level.
- Revising the structure of prescription drug copayments to ensure affordable access for those who need them, especially for pensioners, should be a priority area for both health financing and medicines policy. Similarly for adult dental care, the need for patients to pay creates barriers to access that need further monitoring and policy response. The challenge will be to improve financial protection for these services this while concurrently maintaining the good protection that exists for other services, such as primary care, inpatient care and emergency care.
- Because of the dynamic context within which health systems operate, ongoing financing policy adjustments should be accompanied by both monitoring of overall system performance and analysis of specific reform measures to enable policy makers to have an evidence-informed basis for adaptation.

## 1. Introduction

Over nearly twenty years Estonia has established a modern health system, based on a mandatory social insurance system, where all insured persons are formally guaranteed equal access to health care. Health insurance coverage is almost universal – 95% at the beginning of 2009 – with employees covered by their social tax payments and children and retired people automatically entitled. Those who are uninsured are more likely to be the long-term unemployed and inactive men 30–50 years old. The health system is financed mainly by the social tax levied on employment income, and pooled by the Estonian Health Insurance Fund (EHIF) to purchase services from private and public providers. There are also contributions from the state budget on behalf of some socioeconomic groups, financed by other tax revenues. A few services are directly purchased from the state budget or paid by household out-of-pocket payments (OOPs).

OOPs consist of user charges for EHIF benefits, direct payments to providers for services outside EHIF's benefit package or from non-EHIF providers, and informal payments. The benefit package of the EHIF covers primary care services free of charge for the patient (except home visits). Visits to specialists would require referral from the family doctor or other specialists, with a few exceptions (as eye doctor or gynaecologist, and certain conditions (HIV/AIDS, tuberculosis, injuries) where direct access is allowed). Fees also apply to specialists' visits. If patients will go directly to other specialists, the EHIF does not cover any of the cost of consultation or treatment. For inpatient hospitalization, a per day co-payment applies with an upper ceiling for the number of days per episode of care (see Annex 2). Dental care has only limited coverage by the EHIF: services are covered for children and adolescents up to age 18, but above this age, only limited coverage was available until 2009, and most of the cost was covered by patients. Beyond EHIF coverage, the state provides country wide emergency ambulance services available for everybody free of charge and considered as an extended part of primary care that is available to all. The state covers also emergency care for uninsured persons as well free of charge care (both treatment and medicines) in certain conditions like HIV/AIDS or tuberculosis. For outpatient prescription drugs, there is a reference price system of differential user charges based on the nature of the illness and the drug price and effectiveness. The patient pays a flat rate plus a fixed percentage of the cost of the drug. Complex arrangements are in place to protect children, pensioners and heavy users of prescription drugs. However, there is no annual cap on OOPs; rather, there are EHIF reimbursement limits for drugs subject to 50% coinsurance.

Despite the social insurance system and increasing benefits coverage and access from 2000–2007 (Habicht & Habicht, 2008; Koppel et al 2008), income-related inequalities in health care utilization have persisted and OOPs (mostly for pharmaceuticals and dental care), have increased considerably, amplified by overall high income inequality.

We can expect that services more dependent on OOPs have either more inequalities in utilization (if the services are more discretionary, clearly demonstrated in adult dental care), or there is more risk of being pushed into poverty (if the services are necessities, such as prescription drugs). For those services with no or minimal co-payments, such as primary care and hospitalization, we would expect that the objectives of financial protection and equity in utilization are well-served.

Health care financing and access have been on the agenda of the Ministry of Social Affairs for several years and were recently taken up by the EHIF.

Countries have various ways arranging health financing systems but there are common objectives to assess the attainment and performance of health financing system (Kutzin, 2008). Among these the financial protection, equitable financing, equity in utilization are covered in current overview while others such as transparency and accountability, incentives for quality and efficiency, and administrative efficiency are outside the scope of the current study. The commitment to achieve the objectives was recently adopted in the Tallinn Charter: Health Systems for Health and Wealth (WHO, 2008).

The first equity study was performed in 2002, to provide a comprehensive view of inequalities in health, health behaviour and health care (Kunst et al., 2003). The topics have now been analysed for some years, with considerable technical and financial support from the World Health Organization. Previous studies include analysis of OOPs in 1996, 2000 and 2001 (Habicht et al., 2006), trends in health care financing (Couffinhal and Habicht, 2005), sustainability of health care financing (Vörk et al., 2005), health care access (Habicht & Kunst, 2005) and income-related inequality in health care financing and utilization (Vörk, Saluse, Habicht, 2009). A major study about the health financing system's sustainability was completed in 2010 (Thomson et al.), with proposals to address inequalities.

This paper summarizes recent empirical findings on income-related inequality in health care financing and utilization, relying mostly on Vörk, Saluse, Habicht (2009), and on earlier research, and includes the most recent information on the impact of the current economic crisis. To earlier research it adds information on the impact of OOPs on absolute poverty using national poverty lines. It clearly distinguishes dental care from outpatient care to add to the evidence base for policy debates. The paper also shows the redistributive effect of prefinancing and includes self-reported access barriers, especially economic barriers, among income quintiles in 2004–2008 to complement earlier econometric analysis.

Regarding the detailed methods and concepts used please see Vörk, Saluse, Habicht (2009), and for further reading consult Wagstaff, van Doorslaer (1999), Wagstaff (2010), Allin et al. (2010), van Doorslaer, Masseria (2004), and Xu (2005).

The rest of the paper is structured as follows: section 2 gives a brief overview of trends in health care financing in Estonia, the role of taxes and OOPs; section 3 analyses OOPs and their impact on poverty and section 4 analyses use and access inequalities and barriers.

## 2. Equity in health care financing

Overall health expenditure in Estonia has been stable at around 5–6% of GDP, with small variations due to economic changes and OOPs. Public health expenditure has been about 3.8–4.5% of GDP, reflecting generally low public spending on social protection. About two thirds of health care financing comes from earmarked social tax via the EHIF. The central government's share is about 8–10% and local governments contribute about 2% (see the following table). The rest (23% in 2007) is private spending, mainly OOPs. The share of private insurance and spending by private enterprises is very small and has decreased.

If EHIF-financed temporary incapacity benefits (sickness, maternity, adoption and care) are included, the EHIF share climbed as high as 69% in 2007.

**Table 1. Sources of health care financing in Estonia by institution (%)**

Source	Main revenue	Health expenditure		Health expenditure + temporary incapacity benefits	
		2000	2007	2000	2007
Public sector		<b>76.4</b>	<b>75.6</b>	<b>79.3</b>	<b>78.7</b>
Central government	VAT, personal and corporate income tax, excise duties, other revenues	8.4	9.7	7.3	8.5
Local governments	Personal income tax, land tax, other local taxes, other revenues	2.0	1.7	1.8	1.5
Health Insurance Fund	Earmarked part of the social tax (13%) on wages and social tax paid on behalf of benefit recipients from the state budget	66.0	64.2	70.2	68.8
Private sector		<b>23.3</b>	<b>23.3</b>	<b>20.4</b>	<b>20.3</b>
Households		19.7	21.9	17.3	17.7
Private insurance		1.0	0.3	0.8	0.3
Private enterprise		2.6	1.1	2.2	0.9
Foreign sector		0.3	1.1	0.3	1.0
Total		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: National Institute for Health Development, Estonian Health Insurance Fund, own calculations

The social tax is levied on employers' wage payments. This is the most important source of social tax, about 95% of all social tax revenues from 2000–2007. Social tax is also levied on the business income of self-employed persons (about 1% of social tax revenues), employers' non-cash payments (i.e. fringe benefits, about 2.5%) and social tax paid from the state budget or from the unemployment insurance fund on behalf of some socioeconomic groups (about 1.5% of the total social tax revenues in 2000–2007).

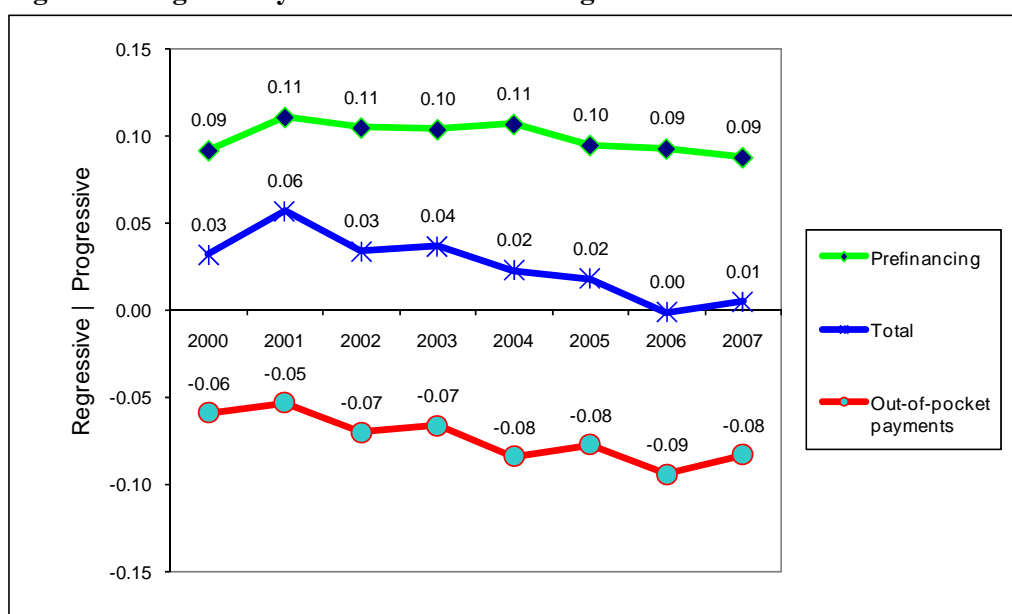
The second largest component of health care financing is household OOPs (21.9% in 2007). The rest is financed by other private spending and taxes. The role of other taxes reflects their importance in central government and municipal budgets: value added tax about 5.5% in 2007, personal income tax 2.7%, excise taxes 2% and capital income tax 1%. The remaining part (other taxes, foreign donations, and payments by other private sector) was 3.9% in 2007 (see Table 2 in the Annex 1).

Vörk, Saluse, Habicht (2009) estimated Kakwani progressivity indices for different taxes based on the ALAN microsimulation model, which uses the Estonian household budget survey data from 2000–2007 and simulates all taxes from the income and consumption data (results in

Annex 1, table 3). Positive values show that tax is progressive, that is, wealthy households pay a larger share of these taxes relative to their income. Negative values show the opposite, that poorer households pay more relative to their income. The lower part of the table presents the weighted contributions to total health care financing.

The results show that the overall health care prefinancing is progressive (see Figure 1), i.e., households with higher gross income pay relatively more for health care financing. The value of the Kakwani index is 0.09 in 2007. The progressivity of prefinancing is due to the social tax, the main source of health care financing, being levied on labour income and not on social benefits, for example, pensions. VAT and excise taxes are regressive on average and income tax is progressive, but their role is tiny.

**Figure 1. Progressivity of health care financing and contributions of its main components**



Source: Vörk, Saluse, Habicht (2009)

On the other hand, OOPs are regressive. Although poorer households spend less on health care in absolute terms, they spend more as a proportion of their total income.

Compared to other developed countries the progressivity of prefinancing (public financing) is rather high in Estonia and for out-of-pocket payments the regressivity is not very high. For countries covered by Wagstaff, van Doorslaer et al (1999) the Kakwani index for public financing ranges from about -0.13 to 0.14 with majority of countries having positive values. On the other hand, for direct payments the Kakwani index is negative for all countries, varying between -0.02 to -0.40.

Note that while prefinancing progressivity does not indicate anything about the corresponding utilization of health care services, OOPs are paid directly for health care services. The structure of OOPs and whether they can be considered as being for necessary health services or closer to consumption of “luxury” health items is discussed in more detail in the next section.

When prefinancing and OOPs are taken together, health care financing is mildly progressive, meaning that households with higher gross income pay relatively more for health care financing. However, as the share of OOPs in total health care financing increased, progressivity decreased, reaching near neutrality in 2006–2007.

About 90% of health care prefinancing in the form of taxes comes from labour taxes, about 9% from consumption taxes and about 1.5% capital taxes. Although labour taxes have provided stable and mostly earmarked revenue for the health sector, their use also poses some problems.

First, the health insurance part of the social tax itself constitutes a large part of labour costs and affects employment. For example, in 2008 for a full-time average wage earner the health insurance part of the social tax constituted about 10% of the cost of labour or about a quarter of the total tax wedge (difference between labour cost and after-tax income). Lowering Estonian labour taxes has been suggested by the OECD (2009) and the Estonian Development Fund (2009). A general shift of the tax burden from direct to indirect taxation and from taxing labour to taxing consumption has been the goal of several successive governments.

Second, due to a shrinking workforce, health care financing based on payroll tax may not be sustainable in long run. Therefore, a broader revenue base might be desirable, for example, either increasing consumption taxes or capital taxes. Paradoxically, changes that lead to larger reliance on indirect taxes or additional contributions from the central government budget may actually lead to more regressive health care financing as indirect taxes are typically more regressive.

Finally, it is important to note that the financial crisis of 2008 has already triggered several tax changes. The standard VAT rate was increased from 18% to 20% in 2009; the reduced rate, including on pharmaceuticals, increased from 5% to 9%. There are several excise tax increases, including on tobacco and alcohol, for 2009–2011. Although the changes have had mainly budgetary objectives, they also influence health behaviour by making alcohol, tobacco and pharmaceuticals more expensive.

#### **Key findings**

- 1) Health care prefinancing is highly dependent on earmarked social tax on labour, which is progressive.**
- 2) From 2000–2007 OOPs for health care, which are regressive, played an increasing role in health system financing.**
- 3) Over the years, the distribution of the burden of funding the health system has moved from progressive to neutral.**

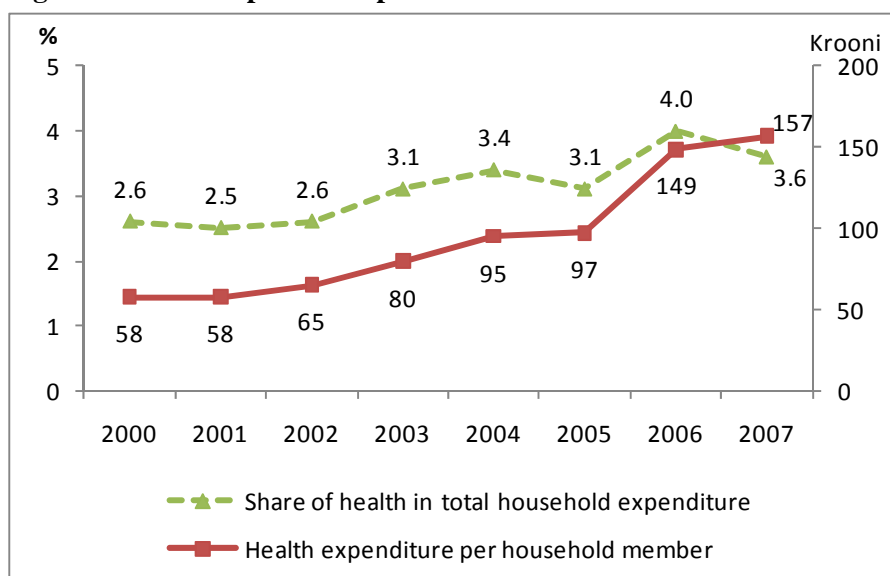


### 3. Impact of OOPs on equitable financing and impoverishment

The role of OOPs in Estonian health care financing has increased steadily (see Annex 2 for a detailed overview). Average OOPs per household member increased almost threefold 2000–2007 (see Figure 2), from 58 krooni per month per household to 157 krooni, about a 170% increase. But if we take the price increase into account (changes in the CPI health expenditure component), then real OOP expenditure has increased by about 67%. OOPs have also increased as a share of total household expenditure, from 2.6% in 2000 to 3.6% in 2007. Partly this can be explained by two times higher price increase of health care goods and services for households compared to the overall price index.

The share of OOPs for pharmaceuticals in 2000–2007 was around 50–60%; outpatient care comprised 20–30%, various other supplies 15–22% and inpatient care 2–5%.

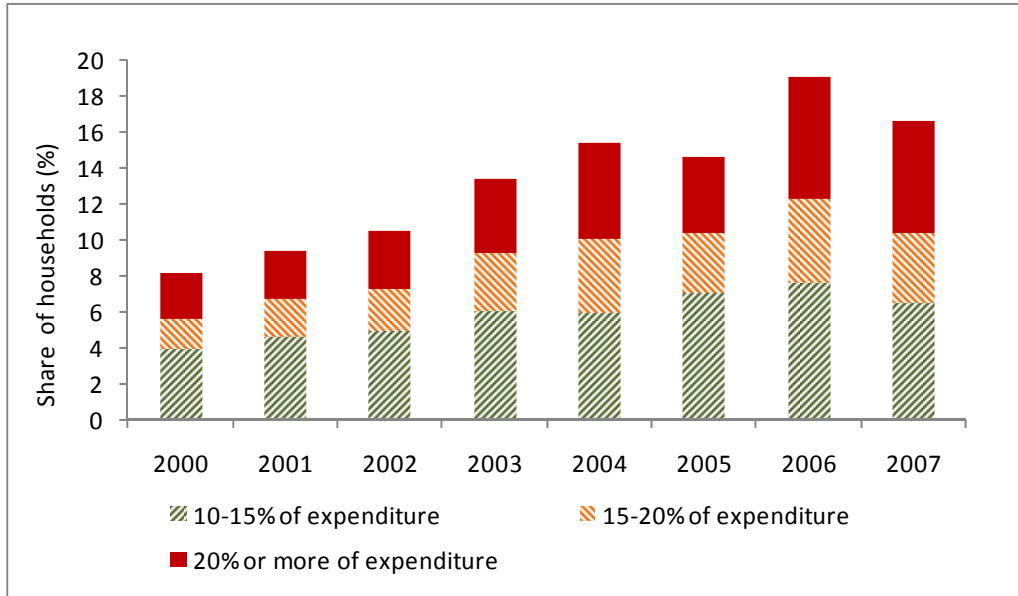
**Figure 2. Health expenditure per household member and as share of total expenditure, 2000-2007**



Source: Statistics Estonia, Estonian Household Budget Survey, own calculations

The percent of households with high health OOPs as a share of total household expenditure has increased. Those with OOPs of more than 20% of household expenditure increased from 2.6% in 2000 to 6.2% in 2007 (see Figure 3). Similarly, the share of households with OOPs of 10–15% or 15–20% of total household expenditure increased. The increase mainly comes from low-income households spending more on OOPs relative to their total expenditure. In 2000 the share of households spending 20% or more on health was 3.7% in the bottom quintile, but in 2007 it was 8.1% (authors' calculations).

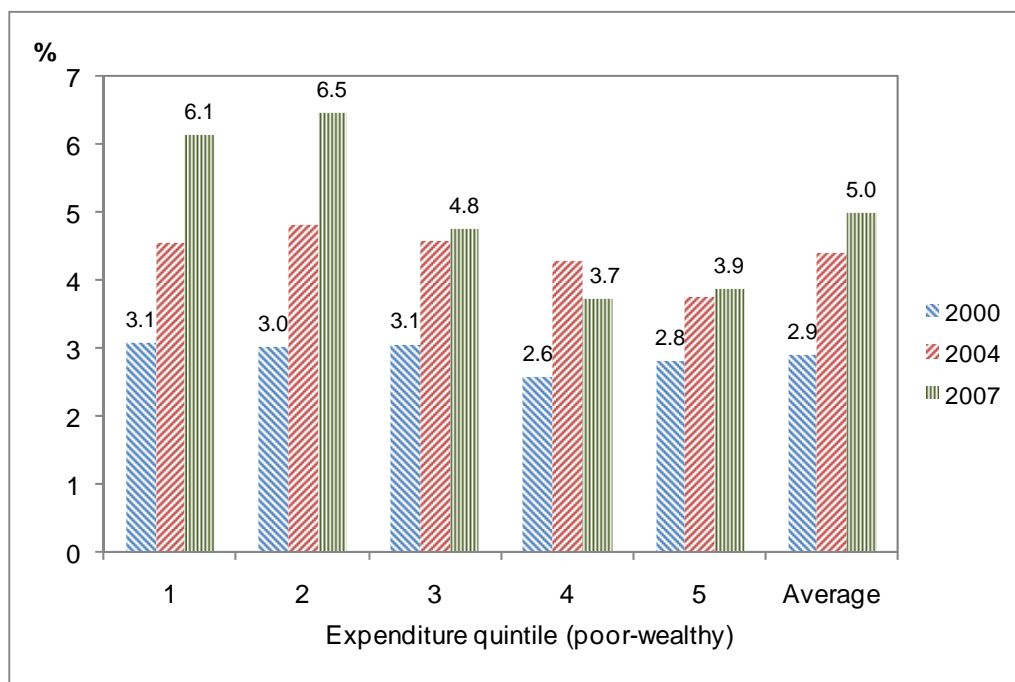
**Figure 3. Percent of households whose out-of-pocket expenditure on health as a share of household total expenditure exceeded defined thresholds, 2000–2007**



Source: Statistics Estonia, Estonian Household Budget Survey microdata, own calculations

In general, households with higher total expenditure also spend more on health care. But OOPs are still regressive, meaning that poorer households spend more relative to their income on medical care. For the lowest expenditure quintile, health-related OOPs constituted 6.1% of the 2007 total, while the top quintile spent 3.9%. The proportion of health expenditure increased especially for lower quintiles, where it doubled since 2000 (see Figure 4).

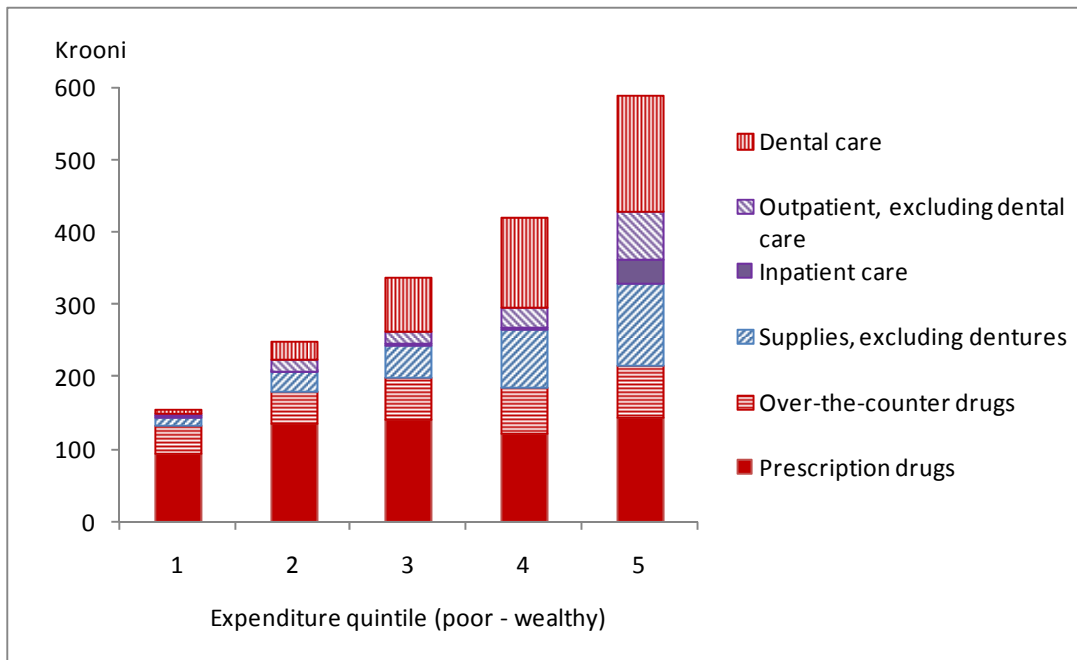
**Figure 4. Out-of-pocket expenditure on health as a share of household total expenditure by quintiles**



Source: Vörk, Saluse, Habicht (2009)

There are also differences in OOP distribution over income groups (Figure 5), most remarkably regarding dental care, but also various supplies (mainly eyeglasses and lenses) and other outpatient care. Spending on prescription and over-the-counter drugs is quite similar in all income groups. Poorer households spend a considerably higher share on drugs than richer households: 86% in the first quintile vs. 36% in the fifth quintile in 2006 (see Figure 6). About 70% of expenditure on medicines is for prescription drugs and 30% for over-the-counter drugs. The share of prescription drugs is slightly larger in lower quintiles (71% and 76% in the first and second) and lower in higher quintiles (65% and 67% in the fourth and fifth), indicating that prescription drugs constitute an important share (61%) of OOPs for the bottom quintile.

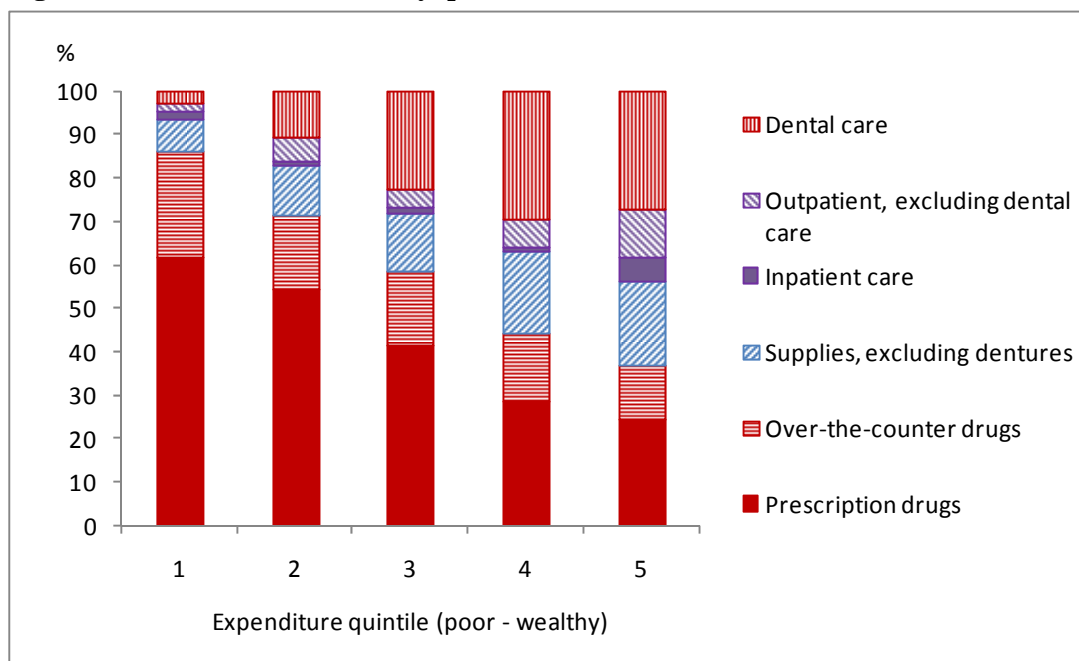
**Figure 5. Average spending on OOPs in 2006, per household per month**



Source: Statistics Estonia, Estonian Household Budget Survey microdata, own calculations

Previous analysis showed that OOPs are regressive. However, not all health services, and corresponding OOPs, are equally needed. In some cases, OOPs may include a clear luxury component, such as the purchasing of expensive eyeglasses, spending on cosmetic surgery or spa services. Of course, it is very difficult to measure from usual survey data what health services are really needed and what may be considered as luxury or discretionary. Still Figures 5 and 6 suggest (for example, by the size of the category “supplies, excluding dentures”), that wealthier households may spend more on these potentially luxurious health care services or products, and inclusion of them in the analysis makes OOPs appear to be more progressive than they otherwise would be. Of course, in principle, the opposite can also be true, for example, when poorer households purchase drugs which they really do not need, but this situation is less likely. Overall, it means that the regressivity of OOPs for needed health care services may be understated by our calculations. This conclusion is unlikely unique to Estonia. Unless very detailed survey data on OOPs are available, beyond the usual aggregation level of OOPs, we would understate the extent of “real” inequity in most systems.

**Figure 6. Distribution of OOPs by quintiles in 2006**

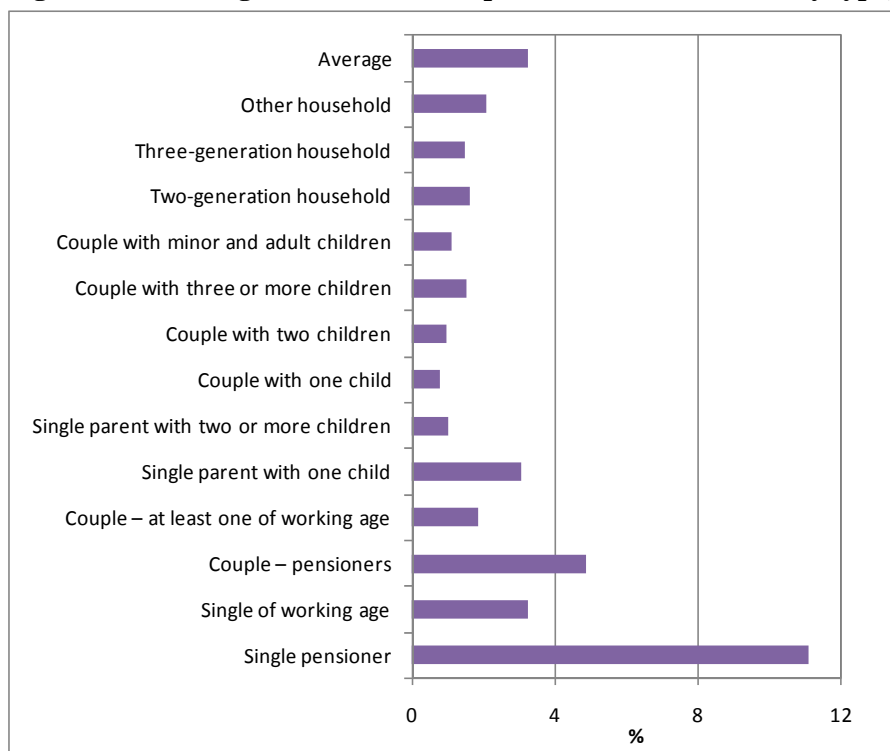


Source: Vörk, Saluse, Habicht (2009)

OOPs may even drive households below the poverty line. Vörk, Saluse, Habicht (2009) show that on average in 2000–2007 about 3% of households (c. 15 000) dropped below the national absolute poverty line after making OOPs. Fortunately, the trend declined from 3.7% in 2000 to 2.1% in 2007. The main risk group is single pensioners, about 11% of whom fell below the absolute poverty line due to OOPs during 2000–2007. But this trend has also declined, from 14% in 2000 to 5% in 2007, mainly due to old-age pensions increasing faster than the poverty line. Pensioner couples also face higher than average risk, at about 5%. Other household types have considerably lower risks. High employment rates and wage growth allowed successive governments to increase pensions faster than the cost of living. While the absolute poverty line increased 50% between 2000 and 2007, the average old-age pension increased 95%.

We can conclude that OOPs regressivity and related impoverishment reflect relatively higher spending by low-income quintiles, especially pensioners, for prescription and over-the-counter drugs. The impact of OOPs on pensioners' impoverishment will most likely not increase during the current economic crisis, because pensions increased in 2009 and will be stable in 2010, while prices and wages have declined. Because of high unemployment, other household types may now face increased risk of impoverishment.

**Figure 7. Percentage of households impoverished due to OOPs by type, 2000–2007**



Source: Statistics Estonia, Estonian Household Budget Survey microdata, own calculations

Another way to analyse the distributional aspect of health expenditures is to compare OOPs to a household's capacity to pay.<sup>1</sup> This approach yields similar results. Vörk, Saluse, Habicht (2009) show that the risk of incurring high health expenditures (OOPs more than 20% of capacity to pay) is greater when there are seniors (65+), disabled, or chronically ill members in low-income households. Having a male head of household and higher education are risk-mitigating factors. The risk is not significantly affected by the household's main language or the number of children.

Overall, we may conclude that the cost of pharmaceuticals is the most important contributing factor in high health expenditure. Thus, designing a copayment structure for prescription drugs that guarantees their affordability, especially for pensioners, should be health financing priorities in order to reduce the risk of OOP-induced impoverishment. Even when payments for dental and other outpatient care, corrective lenses or dentures do not pose the risk of impoverishment, it may well be that households simply decide not to purchase these services or opt for low-quality services. In Section 4 we see that there is also considerable income-related inequality in health care utilization even after taking health need into account.

Furthermore, even though there is not yet conclusive evidence, it must be noted that the current economic crisis has also affected policies related to OOPs, which may intensify the financial barriers and change the current pattern, for example, the rise in the VAT on pharmaceuticals from 5% to 9%, directly leading to increased copayments. Recent research by Vörk, Paulus,

<sup>1</sup> Capacity to pay is defined as household income above subsistence expenditure – this is proxied as the amount available for non-food spending. If actual food expenditure is lower than subsistence spending, then capacity to pay includes total non-food expenditure. See Xu (2005) and Vörk, Saluse, Habicht (2009) for details.

Poltimäe (2008) has shown that of all the reduced VAT rates in Estonia, the reduced rate on pharmaceuticals favoured the poor most and the current change will affect them the most. Second, in 2009 the limited annual monetary benefit for dental care for the working age population was cancelled. Third, in 2010 a copayment for long-term care is being introduced, especially affecting the elderly. Finally, in March 2009 the EHIF extended the maximum waiting period from four to six weeks for outpatient specialist visits, which may cause people to seek private care not covered by the health insurance or change their perception of access to care. However, at the same time all other maximum waiting times were kept at the same level as in previous years.

**Key findings:**

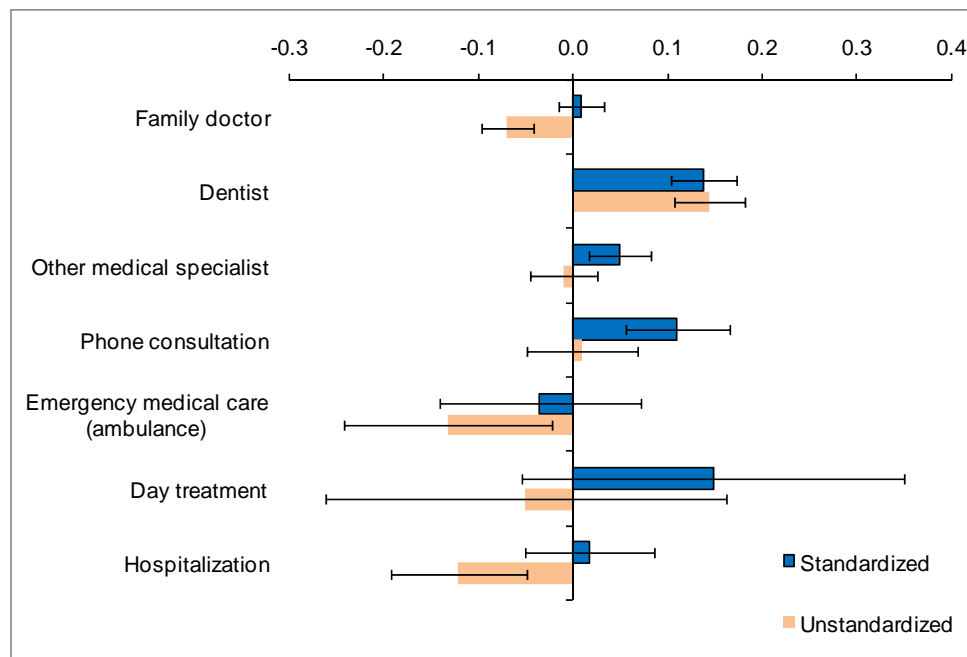
- 1) On average OOPs are 3–4% of total household expenditure. Although wealthy households spend absolutely more on health, poor households spend more relative to their income.**
- 2) Wealthy households spend relatively more on dental care; poor households spend relatively more on drugs and do not use dental care.**
- 3) OOPs caused about 10 000 households to drop below the national absolute poverty line in 2007.**
- 4) Despite the increase in OOPs, there was a reduction in impoverishment from OOPs over the period due to rising incomes and especially old-age pensions.**
- 5) Low household income and the presence of elderly with long-term illness or disability remain the highest risk factors for relatively high health care expenditure and impoverishment.**

## 4. Health care service utilization

In general, utilization of health care services should not depend on household income under the Estonian public health insurance system, because all insured are formally guaranteed equal access. However, because of waiting lists, copayments (especially for dental care; see Annex 2), less than universal insurance coverage, and variation in availability of providers' in regions, utilization of certain services depends on household income. Wealthier people choose to pay for their visits to have quicker access; they can more easily afford copayments for pharmaceuticals and to pay for dental care, and specialized care is nearer and more accessible to urban households.

Empirical evidence shows that even after taking “need” into account, there are differences in utilization of health care services by income groups. Vörk, Saluse, Habicht (2009) calculated concentration indices using Estonian Household Budget Survey data for 2006. Need was proxied by age-sex interactive terms, self-assessed health and disability status. The analysis shows that even without taking this adjustment for need into account, the use of dental care is positively related to income and visits to family doctors and hospitalizations are negatively related to income. The likely reason is that elderly people, who are poorer, use the latter services more. After our adjustment for need, pro-poor inequality related to income in hospitalization and visits to family doctor disappeared, but pro-rich inequality in dental care remained and inequality in phone consultations and visits to other medical specialties became positively related to income. (Figure 8). Utilization of day treatment also turns out to be highly related to income, though it is statistically insignificant due to very small fraction of people who used it.

**Figure 8. Unstandardized and standardized concentration indices of health care utilization, 2006**

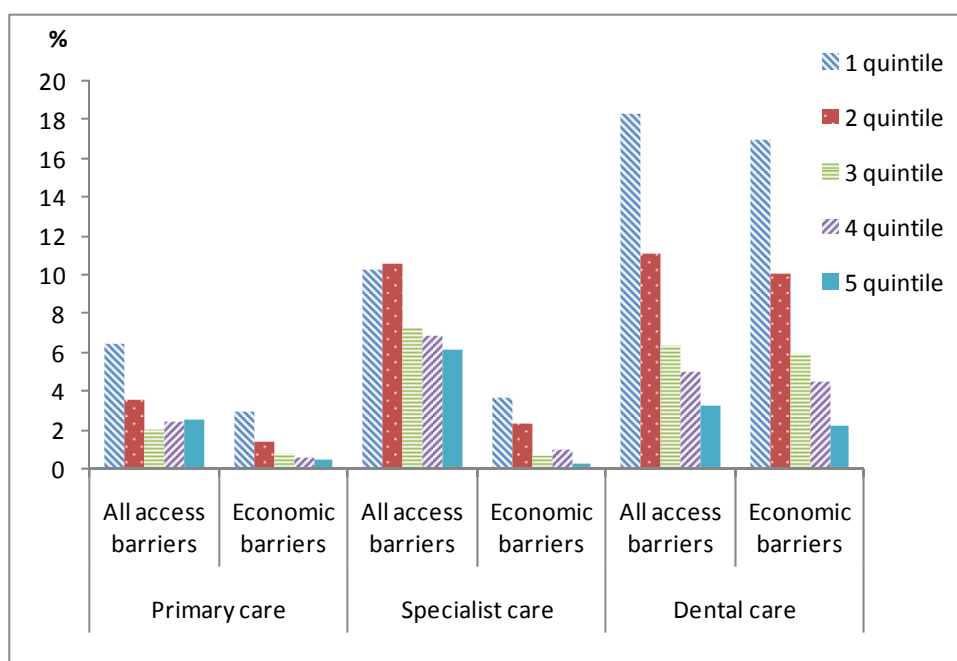


Source: Vörk, Saluse, Habicht, 2009



Because there are other factors that may explain variations in health care need in addition to self-assessed health, self-assessed disability and age-sex composition, the econometric results should be interpreted with caution. But these findings are confirmed by other sources, based on households' self-reported health care access problems. The Estonian Social Survey (a version of the EU-SILC survey) shows that people from lower income quintiles much more frequently report problems visiting a doctor (Figure 8), but only for dental care was the main cause of non-utilization clearly a lack of financial resources (pharmaceuticals were not included in survey questions that were the basis for Figure 8). For primary and specialised care, the main reason was long waiting time. This may also be interpreted as an economic problem, with several possible explanations. For example, people may not have enough money to visit doctors who have not contracted with the EHIF (thereby bypassing the waiting time), since all the cost for such doctors would need to be covered by the users directly. Another possibility is that they cannot afford to travel to see other health care providers in another part of Estonia where waiting lists are shorter.

**Figure 9. Proportion of people who report access barriers to health care during last 12 months by income quintile, 2008**



Source: Statistics Estonia, Estonian Social Survey 2008 microdata, own calculations

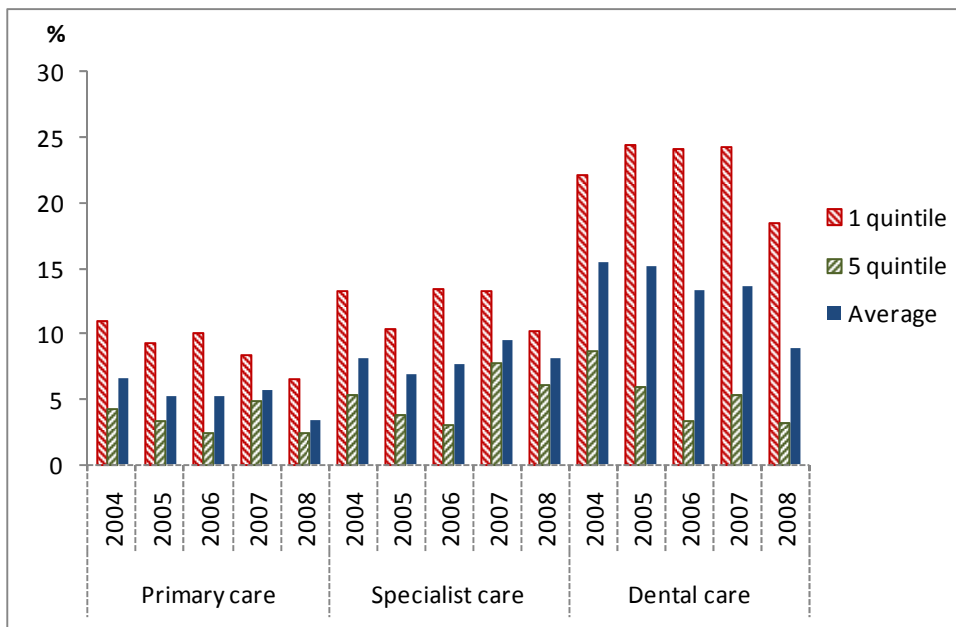
Note: "Economic barriers" include a lack of resources, need to work or take care of a family member, too far to travel or no health insurance.

From 2004 to 2008, access barriers to primary care and dental care decreased on average, but barriers to specialized care remained, and income-related inequalities did not change (see Figure 10), especially in dental care. In the past, barriers have decreased more for wealthier households than for the poor.

Utilization data and self-reported access barriers show that problematic areas of income-related inequity are dental care, phone consultations (which often have call-in fees or reflect advice-seeking behaviour among population groups), other specialist care and perhaps day treatment

service. In all cases the wealthier population has an access advantage. The results imply that health care financing and particularly OOP policies significantly affect inequity.

**Figure 10. Proportion of people who report access barriers to health care during last 12 months by income quintile, 2004–2008**



Source: Statistics Estonia, Estonian Social Survey 2004–2008

**Key findings:**

- 1) The largest inequality is in dental care, which is clearly more accessible to the higher income groups.
- 2) There are significant differences among income groups in the use of specialist care, phone consultations and day treatment.
- 3) There is no significant difference among income groups for family doctor visits, emergency care or hospitalization.
- 4) From 2004 to 2008, access barriers to primary and dental care declined on average, but the inequalities between wealthy and poor remained.
- 5) In all cases, these findings reflect the composition of the EHIF benefit package in terms of what services are covered and co-payment obligations for particular services.

## 5. Conclusions

Our analysis shows that the overall prefinancing of the Estonian health care system is mildly progressive, i.e., households with higher gross income pay relatively more for health care financing. The progressivity of prefinancing is due to the social tax, the main source of health care financing, being levied on labour income. On the other hand, out-of-pocket payments are regressive, meaning that although poorer households spend less on health care in absolute terms, they spend more as a proportion of their total income. When prefinancing and OOPs are taken together, health care financing is mildly progressive. However, as the share of OOPs in total health care financing has increased, progressivity has decreased since 2001, reaching almost neutrality in 2006-2007.

Spending on drugs and dental care are the largest categories of OOPs. In relative terms poorer households spend considerably more on drugs, including prescription drugs, than richer households. Richer households spend more on dental care.

The analysis of income related inequalities in health care financing and utilization shows that for those services more dependent on OOPs, there were either more inequalities in utilization, clearly demonstrated in adult dental care, or there were more risk of being pushed into poverty, such as in case of spending on prescription and over-the-counter drugs by pensioners. Conversely, for those services for which EHIF provides “deep” coverage (i.e. no or minimal co-payments), such as primary care and hospitalization, the objectives of financial protection and equity in utilization are well-served.

On average in 2000-2007 about 3% of households dropped below the national absolute poverty line after making OOPs. Fortunately, the trend declined from 3.7% in 2000 to 2.1% in 2007. The main risk group is single pensioners, about 11% of whom fell below the absolute poverty line due to OOPs during 2000-2007.

Consequently there are two clear areas to target in relation to inequalities in health care financing and utilization: prescription drugs and dental care. Finding a better structure of prescription drug copayments that promotes their affordability, especially for pensioners, should be a priority area for Estonian health financing policy together with broader medicines policy. Also, the current dental care financing needs further monitoring and possible policy response to reduce drastic inequalities in adult dental care utilization. It must be highlighted that at the same time good financial protection of other services, such as primary care, inpatient care and emergency care should be maintained as far as possible, and any further increases of OOPs should be made carefully.

The changes in past years need further analysis of financial protection, equity in financing, and equity in utilization. The prices of medicines for patients have been increasing due various reasons including the increase of VAT on medicines as outlined earlier in the paper. Further, the 2010 introduction of 15% co-payment in long-term care needs very careful analysis, and accompanying social policy measures may be needed to avoid another inequality arising in health care utilization. In this dynamic situation, monitoring of overall performance and analyses of specific reform measures need to be built into the system on a regular basis as an integral part of the change process, so that decision-makers have the evidence needed to make further adjustments in the future.

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## ANNEX 1. HEALTH CARE FINANCING SOURCES AND PROGRESSIVITY

**Table 2. Sources of health care financing in 2000-2007 by tax, %**

	2000	2001	2002	2003	2004	2005	2006	2007
Social tax	66.0	67.0	65.6	65.4	65.7	66.2	61.6	64.2
OOPs	19.7	18.8	19.9	20.8	21.3	20.4	25.1	21.9
Value-added tax	4.6	4.4	4.3	5.2	4.1	5.0	5.2	5.5
Personal income tax	3.5	3.9	3.8	3.2	2.6	2.1	2.8	2.7
Excise taxes	1.6	1.7	1.7	1.9	1.9	2.2	2.0	2.0
Other (other taxes, foreign sector, private sector)	4.6	4.1	4.7	3.5	4.3	4.1	2.9	3.9
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Võrk, Habicht, Saluse (2009), updated 2007 figures.

**Table 3. Kakwani progressivity indices of Estonian taxes and OOPs, 2000–2007**

	2000	2001	2002	2003	2004	2005	2006	2007
Social tax	0.142	0.164	0.161	0.163	0.165	0.150	0.153	0.143
Personal income tax	0.216	0.241	0.228	0.219	0.238	0.244	0.243	0.216
Value-added tax	-0.169	-0.155	-0.165	-0.151	-0.138	-0.131	-0.125	-0.128
Excise taxes	-0.145	-0.119	-0.141	-0.124	-0.125	-0.131	-0.146	-0.113
OOPs	-0.300	-0.284	-0.354	-0.319	-0.395	-0.378	-0.374	-0.379
Contribution to total health care financing (weighted with the share of financing)								
Social tax	0.094	0.110	0.106	0.107	0.109	0.099	0.095	0.092
Personal income tax	0.007	0.009	0.009	0.007	0.006	0.005	0.007	0.006
Value added tax	-0.008	-0.007	-0.007	-0.008	-0.006	-0.007	-0.007	-0.007
Excise taxes	-0.002	-0.002	-0.002	-0.002	-0.002	-0.003	-0.003	-0.002
<b>Total prefinancing</b>	<b>0.092</b>	<b>0.111</b>	<b>0.105</b>	<b>0.104</b>	<b>0.107</b>	<b>0.095</b>	<b>0.093</b>	<b>0.088</b>
<b>OOPs</b>	<b>-0.059</b>	<b>-0.053</b>	<b>-0.070</b>	<b>-0.066</b>	<b>-0.084</b>	<b>-0.077</b>	<b>-0.094</b>	<b>-0.083</b>
<b>Total</b>	<b>0.032</b>	<b>0.057</b>	<b>0.034</b>	<b>0.037</b>	<b>0.023</b>	<b>0.018</b>	<b>-0.001</b>	<b>0.005</b>

Source: Võrk, Habicht, Saluse (2009)

ANNEX 2. COST SHARING BY TYPE OF CARE, 2001-2002 AND 2009

		2001/2002	2009
<b>Primary care</b>		Copayment for visits (€0.32); retirees, the disabled and children exempted	<ul style="list-style-type: none"> <li>No copayment for office visits</li> <li>Home visit fee (€3.2); children under two years old and pregnant women exempted</li> </ul>
<b>Outpatient specialist care</b>	OP* specialists (contracted by HI*)	In addition to copayment under HI rules, some providers have additional fees	Copayment of up to €3.2. children under two years old and pregnant women exempted
	OP specialists (not contracted by HI)	All patients charged according to provider established pricelist	All patients charged according to provider established pricelist, but up to the “reasonable” cost
	Dental care	Partially covered by HI, but additional fees established and charged by private providers	<ul style="list-style-type: none"> <li>No copayment for children’s dental care covered by HI</li> <li>Adult dental care not covered by HI, except limited cash benefits for pregnant and pensioners</li> </ul>
<b>Inpatient care</b>		<ul style="list-style-type: none"> <li>No copayment for hospital stays</li> <li>Copayment established by providers for above standard accommodation</li> <li>Coinsurance for specific services (e.g., IVF, rehabilitation, voluntary termination of pregnancy) set out by HI</li> </ul>	<ul style="list-style-type: none"> <li>Copayment of up to €1.6 per day, for up to 10 days per episode of illness; children, pregnant women and patients in intensive care units exempted.</li> <li>Copayment established by providers for above standard accommodation</li> <li>Coinsurance for specific services (e.g., inpatient rehabilitation in non-acute cases, voluntary termination of pregnancy) set out by HI</li> </ul>
<b>Medicines (only OP prescription medicines as inpatient medicines are covered by HI)</b>		<ul style="list-style-type: none"> <li>Prescription medicines for chronic diseases (by condition and for certain population groups) – copayment of €1.30, plus 0 or 10% coinsurance</li> <li>General prescription medicines – copayment of €3.20 per prescription, plus 50% coinsurance, when HI will not reimburse more than €12 per prescription</li> </ul>	<ul style="list-style-type: none"> <li>Prescription medicines for chronic diseases – copayment of €1.30 plus co-insurance for 0 or 25% of the drug price (or 10% for those aged 4–16, receiving disability or old age pensions, or older than 63)</li> <li>Prescription medicines for those younger than 4, only copayment of €1.3</li> <li>General prescription medicines – copayment of €3.20 per prescription, plus coinsurance of at least 50% of the drug price, when HI will not reimburse more than €12 per prescription</li> <li>Annual spending on OP prescription medicines are eligible for additional reimbursements: 50% (of annual expenditure of €383–639); 75% (€639–1278); none (above €1278)</li> </ul>







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