

Financial protection in high-income countries

A comparison of the Czech Republic, Estonia and Latvia

Sarah Thomson Tamás Evetovits Jonathan Cylus







The WHO Barcelona Office is a centre of excellence in health financing for universal health coverage (UHC). It works with Member States across WHO's European Region to promote evidence-informed policy making.

A key part of the work of the Office is to assess country and regional progress towards UHC by monitoring financial protection – the impact of out-of-pocket payments for health on living standards and poverty. Financial protection is a core dimension of health system performance and an indicator for the Sustainable Development Goals.

The Office supports countries to develop policy, monitor progress and design reforms through a combination of health system problem diagnosis, analysis of country-specific policy options, high-level policy dialogue and the sharing of international experience. It is also the home for WHO training courses on health financing and health systems strengthening for better health outcomes.

Established in 1999, the Office is supported by the Government of the Autonomous Community of Catalonia, Spain. It is part of the Division of Health Systems and Public Health of the WHO Regional Office for Europe.







Financial protection in high-income countries

A comparison of the Czech Republic, Estonia and Latvia

Sarah Thomson Tamás Evetovits Jonathan Cylus

Abstract & keywords

This report draws on a series of country-based studies generating new evidence on financial protection in European health systems. Financial protection is central to universal health coverage and a core dimension of health system performance.

CZECH REPUBLIC
ESTONIA
HEALTHCARE FINANCING
HEALTH EXPENDITURES
HEALTH SERVICES ACCESSIBILITY FINANCING, PERSONAL
LATVIA
POVERTY
UNIVERSAL COVERAGE

ISBN 9789289053259

Address requests about publications of the WHO Regional Office for Europe to:

Publications WHO Regional Office for Europe UN City, Marmorvej 51 DK-2100 Copenhagen Ø, Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office website (http://www.euro.who.int/pubrequest).

© World Health Organization 2018

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters. All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. The views expressed by authors, editors, or expert groups do not necessarily represent the decisions or the stated policy of the World Health Organization.

Contents

Acknowledgements	iv
Executive summary	v
The added value of WHO's work on financial protection in Europe	1
Aim and structure of this report	5
Methods and data sources	6
Comparing financial protection in three high-income countries	7
Unmet need for health and dental care	8
Out-of-pocket payments as a share of household spending	10
Financial hardship: catastrophic and impoverishing out-of-pocket payments	12
Factors that strengthen or undermine financial protection in these countries	15
Low priority to health drives high out-of-pocket payments	17
Weak coverage design leads to financial hardship	20
Implications for policy	26
References	28
Annex 1. Household budget surveys in Europe	30
Annex 2. Methods used to measure financial protection in Europe	33
Annex 3. Regional and global financial protection indicators	39
Annex 4. Glossary of terms	42

Acknowledgements

This report was written by Sarah Thomson, Tamás Evetovits and Jonathan Cylus from the WHO Barcelona Office for Health Systems Strengthening, which is part of the Division of Health Systems and Public Health, directed by Hans Kluge, in the WHO Regional Office for Europe.

The report draws on new evidence on financial protection in three countries commissioned by the WHO Barcelona Office for Health Systems Strengthening and prepared by national experts Daniela Kandilaki (Czech Republic), Andres Võrk and Triin Habicht (Estonia) and Maris Taube, Edmunds Vaskis and Oksana Nesterenko (Latvia).

WHO thanks the Czech Statistical Office, Statistics Estonia and the Central Statistical Bureau of Latvia for making household budget survey data available to the national experts. WHO also gratefully acknowledges funding from the UK Department for International Development under the Making Country Health Systems Stronger programme, and funding from the Government of the Autonomous Community of Catalonia, Spain.

The authors thank Gabriela Flores and Joseph Kutzin for their helpful comments on an earlier draft. The authors are responsible for any mistakes.

Ruth Oberhauser, Juan García Domínguez and Nuria Quiroz coordinated the production and copy-editing of this report. Additional support came from Nancy Gravesen (copyediting), Aleix Artigal and Alex Prieto (design and typesetting) and Juan García Domínguez (checking proofs).

Executive summary

Financial protection is central to universal health coverage and a core dimension of health system performance. The WHO Regional Office for Europe is generating evidence on financial protection using a new method of measuring catastrophic and impoverishing health spending. The aim is to monitor financial protection in a way that produces actionable evidence for policy; promotes pro-poor policies to break the link between ill health and poverty; and is relevant to all Member States in the WHO European Region.

This report illustrates the nature of the Regional Office's work on financial protection and its relevance for policy by comparing financial protection across three high-income countries: the Czech Republic, Estonia and Latvia. The three countries are broadly similar in many ways but experience markedly different levels of financial hardship. The incidence of catastrophic and impoverishing out-of-pocket payments is very low in the Czech Republic, higher in Estonia and among the highest in the European Region in Latvia.

Catastrophic spending on health is heavily concentrated among the poorest households in all three countries and heavily concentrated among pensioner households in Estonia and Latvia, but not in the Czech Republic. The degree of financial hardship experienced by catastrophic spenders varies across countries. On average, Estonian and Latvian households with catastrophic out-of-pocket payments are spending a much larger share of their budget on health than Czech households.

This analysis finds that differences in financial hardship are partly explained by variations in health spending across the three countries, especially variation in the priority given to health when allocating government spending. An increase in public spending on health in Estonia and Latvia would help to lower the out-of-pocket share of total spending on health.

Coverage policy is an equally important explanatory factor, however. It is the primary mechanism through which households are exposed to out-of-pocket payments, and the design of coverage policy determines how out-of-pocket payments are distributed across income groups. Coverage design in Estonia and Latvia – particularly the weak design of co-payments for outpatient medicines – shifts health care costs onto those who can least afford to pay out-of-pocket: poor people, people with chronic conditions and older people. In contrast, the Czech Republic is one of the few countries in the European Union in which the design of user charges policy is relatively strong: user charges are a flat co-payment for health services and medicines, rather than a percentage of price; they are set at a low level; vulnerable people are exempt; and there is a cap on all user charges for everyone, with an even more protective cap for children under 18 and people aged 65 and over. As a result, catastrophic incidence is very low, outpatient medicines are accessible and pensioners do not experience undue financial hardship.

The added value of WHO's work on financial protection in Europe

The policy issue

Financial protection is central to universal health coverage and a core dimension of health system performance (WHO, 2010). Financial hardship occurs when out-of-pocket payments for health are large in relation to a household's ability to pay. Out-of-pocket payments may not be an issue if they are small or paid by people who can afford them, but even small out-of-pocket payments can cause financial hardship for poor people and those who have to pay for treatment such as medicines on an ongoing basis. Where a health system provides weak financial protection, people may not have enough money to pay for health care or to meet other basic needs such as food and shelter. Weak financial protection can therefore undermine access to health care, lead to ill health and deprivation, and exacerbate inequalities.

What the WHO Regional Office for Europe is doing

In 2014, the Regional Office initiated a multi-year project to generate new evidence on financial protection using a new method of measuring catastrophic and impoverishing health spending and a comprehensive approach to monitoring (WHO Regional Office for Europe, 2017a; 2017b). The aim is to monitor financial protection in a way that produces actionable evidence for policy; promotes pro-poor policies to break the link between ill health and poverty; and is relevant to all Member States in the WHO European Region, including the predominantly high-income countries.

WHO's support for monitoring financial protection in Europe is underpinned by the Tallinn Charter: Health Systems for Health and Wealth, Health 2020 and resolution EUR/RC65/R5 on priorities for health systems strengthening in the WHO European Region 2015–2020, all of which include a commitment to work towards a Europe free of impoverishing payments for health (Box 1).

At the global level, support by WHO for the monitoring of financial protection is underpinned by World Health Assembly resolution WHA64.9 on sustainable health financing structures and universal coverage, which was adopted by Member States in May 2011.

Box 1. European Member States recognize the importance of financial protection

Source: WHO Regional Office for Europe (2017a).

The Tallinn Charter: Health Systems for Health and Wealth states that "it is unacceptable that people become poor as a result of ill-health" (WHO Regional Office for Europe, 2008). In September 2015, the 65th session of the WHO Regional Committee for Europe adopted resolution EUR/RC65/R5 on priorities for health systems strengthening in the WHO European Region 2015–2020, committing Member States to work towards a Europe free of impoverishing out-of-pocket payments for health (WHO Regional Office for Europe, 2015).

Resolution EUR/RC65/R5 also calls on the WHO Regional Office for Europe to provide tools and support to Member States for the monitoring of financial protection and to pursue the commitments agreed in the Tallinn Charter. The resolution requests the WHO Regional Director for Europe to report on implementation, focusing mainly on financial protection, in 2018.

The Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 also call for monitoring of, and reporting on, financial protection as one of two indicators for universal health coverage. Resolution EUR/RC67/R3 – a roadmap to implement the 2030 Agenda for Sustainable Development, building on Health 2020 – calls on WHO to support Member States in moving towards universal health coverage.

How this approach to monitoring adds value

WHO/Europe has developed **new metrics for measuring financial protection**. The method used in this report to measure catastrophic out-of-pocket payments addresses some of the limitations of other methods (see Box 2). It builds on the capacity to pay approach used by WHO as part of a broader universal health coverage monitoring agenda (Xu et al., 2003), making it more sensitive to capturing financial hardship among poor households than other methods, and less likely to overestimate financial hardship among rich households than the Sustainable Development Goal method. It also classifies households according to their risk of being impoverished after out-of-pocket payments and draws attention to financial hardship among very poor households. More detailed information can be found in Annexes 1–3.

These new metrics are being used in **systematic** analyses of financial protection for policy development at the national level. WHO/Europe is working with national experts in 25 countries of the European Region to produce estimates of financial protection – often for the first time – that are embedded in detailed country-level reviews. The aim is to enhance policy relevance and support national policy development through in-depth, context-specific analysis over time. To ensure quality, comparability and consistency between countries, the country reviews use similar data sources (national household budget surveys), follow a standard format and are subject to external peer review.

The first phase of the project covers the following countries: Albania, Austria, Croatia, Cyprus, the Czech Republic, Estonia, France, Georgia, Germany, Greece, Hungary, Ireland, Kyrgyzstan, Latvia, Lithuania, the Netherlands, Poland, Portugal, the Republic of Moldova, Slovakia, Slovenia, Sweden, Turkey, Ukraine and the United Kingdom. The project will be extended to other countries in the European Region in a second phase.

This analysis **identifies implications for policy at the regional level**. In 2018, the 25 country-specific reports will form the basis for a regional monitoring report which will review trends in the incidence and drivers of financial hardship over time within countries; trends in inequalities in financial protection within and across countries; and issues around access, including unmet need for health care. The regional report will also highlight examples of good practice and implications for policy.

Box 2. Different ways of measuring catastrophic spending on health

Source: Adapted from WHO & World Bank (2017).

Some studies define out-of-pocket health expenditures as catastrophic when they exceed a given percentage (e.g. 10% or 25%) of income or consumption. This so-called budget share approach is the approach adopted in the Sustainable Development Goals (target 3.8.2). With the budget share approach, catastrophic expenditure is more likely to be concentrated among the rich than the poor (WHO & World Bank, 2015).

Other studies relate health expenditures not to total income or consumption but rather to consumption less a deduction for necessities. The argument is that everyone needs to spend at least some minimum amount on basic needs such as food and housing, and these absorb a larger share of a poor household's consumption or income than that of a rich household. As a result, a poor household may not be able to spend much, if anything, on health care. By contrast, a rich household may spend 10% or 25% of its budget on health care and still have enough resources left over to avoid financial hardship.

So-called capacity to pay approaches deduct expenditures for basic needs in various ways. The main differences between them include: deducting actual spending versus a standard amount; using one item or a basket of items; the method used to derive the standard amount; and treatment of households whose actual spending is below the standard amount.

Some studies deduct all of a household's actual spending on food (Wagstaff et al., 2003). However, although poor households often devote a higher share of their budget to food, food may not be a sufficient proxy for non-discretionary consumption. Also, spending on food reflects preferences, as well as factors linked to health spending: for example, households that spend less on food because they need to spend on health care will appear to have greater capacity to pay than households that spend more on food.

A second approach, aimed at addressing the role of preferences in food spending, is to deduct a standard amount from a household's total resources to represent basic spending on food (Xu et al., 2003; Xu et al., 2007). In practice, it is a partial adjustment to the actual food spending approach because

the standard amount is used only for households that spend more on food than the standard amount. For all other households, actual food spending is deducted instead of the higher, standard amount. Both the actual food and the standard food approaches therefore treat households whose actual food spending is below the standard amount in the same way. Nevertheless, with the standard food approach, catastrophic spending may be less concentrated among the rich than with the actual food spending approach.

A third approach is to deduct a poverty line, essentially an allowance for all basic needs (Wagstaff & Eozenou, 2014). Depending on the poverty line used, this could result in a greater concentration of catastrophic spending among the poor than the rich.

Building on the second and third approaches, WHO/Europe deducts an amount representing spending on three basic needs: food, housing (rent) and utilities (Thomson et al., 2016). It deducts this amount consistently for all households. As a result, catastrophic spending is more likely to be concentrated among the poor with this approach than with all of the other approaches.

Aim and structure of this report

The aim of this report is to illustrate the nature of the Regional Office's work on financial protection and its relevance for policy. To do this, it focuses on three high-income countries – the Czech Republic, Estonia and Latvia – with a view to comparing financial protection across countries that are broadly similar in many ways but experience markedly different levels of financial hardship. The incidence of catastrophic and impoverishing out-of-pocket payments is very low in the Czech Republic, much higher in Estonia and among the highest in the European Region in Latvia.

The following sections set out the report's key sources of data and methods, highlight some of the similarities and differences between the three countries, and briefly review evidence on unmet need for health care. Then new evidence on financial protection in the three countries is presented, drawing on detailed country reports prepared by national experts for the Regional Office (Kandilaki, in press; Võrk and Habicht, 2018; Taube et al., 2018). This is followed by a discussion on the factors that strengthen and undermine financial protection in the Czech Republic, Estonia and Latvia. The report closes with a summary of implications for policy.

Methods and data sources

Data on **unmet need for health and dental care** come from the European Union (EU) Survey on Income and Living Conditions, which is carried out every year in EU countries. The survey asks people aged 16 and over if there has been a time in the last 12 months when they needed a medical or dental examination but did not receive it, and for what reason (due to cost, distance to facilities or waiting time). Self-reported data on unmet need for 2004–2016 are available from Eurostat's online database (Eurostat, 2017a).

The **financial protection** results presented in this report (Table 1) are based on data from household budget surveys carried out by the national statistics office in each country and obtained by national experts. The most recent years of data are 2012 for the Czech Republic, 2013 for Latvia and 2015 for Estonia.

Table 1. Key dimensions of catastrophic and impoverishing spending on health

Note: see Annex 4 for definitions of words in italics

Source: authors.

Catastrophic out-of-pocket payments				
Definition	The share of households with <i>out-of-pocket payments</i> that are greater than 40% of household <i>capacity to pay for health care</i>			
Numerator	Out-of-pocket payments			
Denominator	Total household consumption minus a standard amount to cover basic needs. The standard amount to cover basic needs is calculated as the average amount spent on food, housing and utilities by households between the 25th and 35th percentiles of the household consumption distribution, adjusted for household size and composition			
Disaggregation	Results are disaggregated into household <i>quintiles</i> by consumption. Disaggregation by place of residence (urban–rural), age of the head of the household, household composition and other factors is included where relevant			
	Impoverishing out-of-pocket payments			
Definition	The share of households impoverished or further impoverished after out pocket payments			
Poverty line	A basic needs line, calculated as the average amount spent on food, housing and utilities by households between the 25th and 35th percentiles of the household consumption distribution, adjusted for household size and composition			
Poverty dimensions captured	The share of households further impoverished, impoverished, at risk of impoverishment and not at risk of impoverishment after out-of-pocket payments			

The unit of analysis is the household. Data that are broken down by income or that refer to income inequalities are in the form of quintiles based on per equivalent person consumption levels using the Organisation for Economic Cooperation and Development equivalence scales (1 for the first adult, 0.7 for subsequent adults and 0.5 for children under 13 years of age).

other factors where relevant

Results can be disaggregated into household quintiles by consumption and

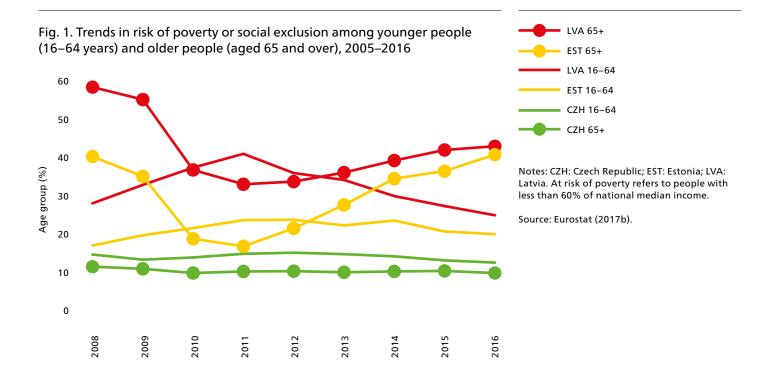
Disaggregation

Comparing financial protection in three high-income countries

The Czech Republic, Estonia and Latvia share many similarities in a geopolitical context. They are located in central and eastern Europe; have a shared historical inheritance; underwent a social, political and economic transition following the collapse of communist regimes; and joined the EU at the same time, in 2004. They also share a similar starting point in terms of their health systems. Before the transition, all three countries offered universal population coverage, with good financial protection; however, they also experienced problems with efficiency and quality in health service delivery (Kutzin et al., 2010).

Today, there are important differences between the countries in terms of socioeconomic development. The Czech Republic is the wealthiest of the three, and scores highest in terms of inequality-adjusted human development, followed by Estonia, then Latvia (United Nations Development Programme, 2017). As Fig. 1 shows, poverty levels are much higher in Latvia and Estonia than in the Czech Republic, and much more likely to be concentrated among older than younger people.

All three countries experienced an economic shock following the financial crisis. In 2009, gross domestic product (GDP) fell by around 6% in the Czech Republic and Latvia and by around 9% in Estonia. While the crisis did not have much effect on poverty rates in the Czech Republic, it appears to have led to a substantial increase in poverty among people of working age in Estonia and Latvia.



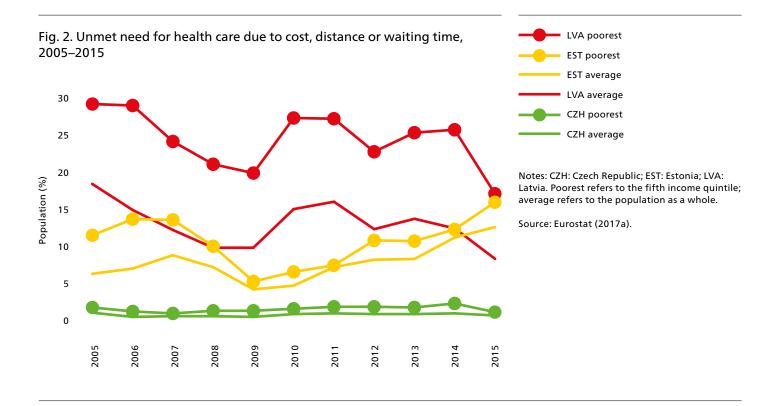
Unmet need for health and dental care

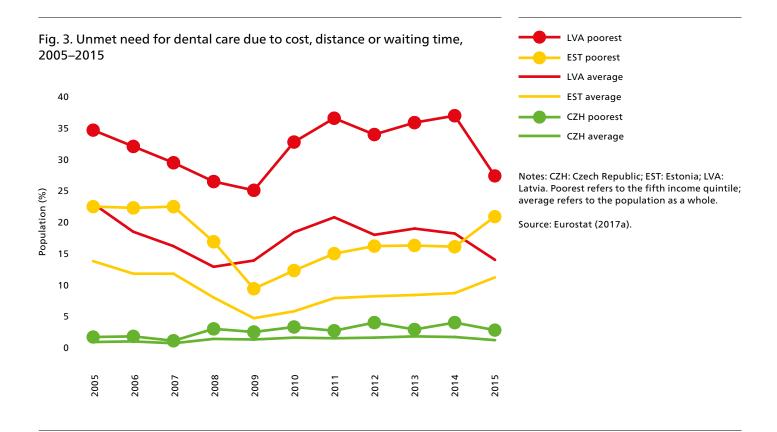
People living in the Czech Republic enjoy good access to health and dental care, on a par with much richer countries like Denmark, Germany, the Netherlands and Sweden, and with little inequality between rich and poor (Fig. 2 and 3).

Unmet need for health and dental care is a significant problem in Estonia. Unmet need for health care is largely reported to be due to waiting times, while unmet need for dental care is mainly reported to be due to cost. Income inequalities in access to dental care are a growing challenge.

Access problems are greatest in Latvia, where they are almost entirely reported to be due to cost, and where income inequality in access to health and dental care is among the highest in the EU.

Unmet need has risen substantially in both Estonia and Latvia since 2009, reversing major improvements in access achieved before the economic crisis.



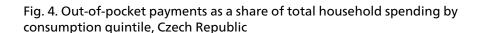


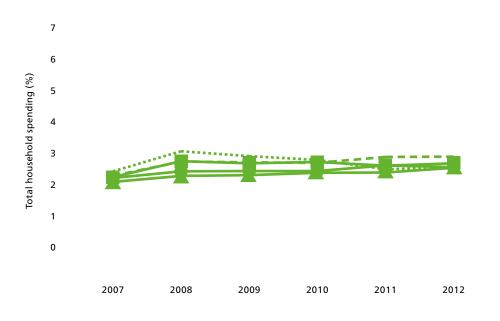
Out-of-pocket payments as a share of household spending

Out-of-pocket payments account for a higher share of total household spending in Latvia than the other two countries (Fig. 4–6). In the Czech Republic, the out-of-pocket share is similar across all income groups (consumption quintiles), whereas in Estonia and Latvia it tends to be higher among richer quintiles.

In the Czech Republic, the average out-of-pocket share increased slightly in 2008 but remained stable between 2008 and 2012. In Estonia, it fell slightly overall between 2006 and 2012, with a sharp fall among the two poorest quintiles, but had risen again in 2015. In Latvia, it rose overall between 2008 and 2013, but fell among the two poorest quintiles in 2009 and 2010.

More than half of all out-of-pocket payments are spent on outpatient medicines across the three countries. The outpatient medicines share tends to be highest for the poorest quintile and lowest for the richest quintile.

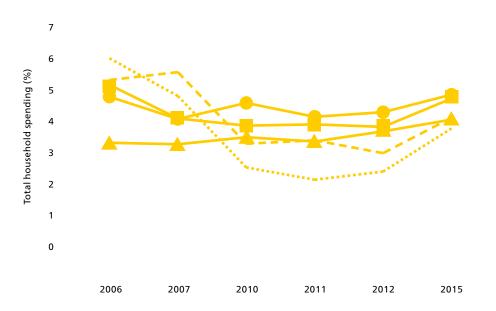


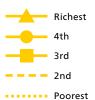




Source: Kandilaki (in press).

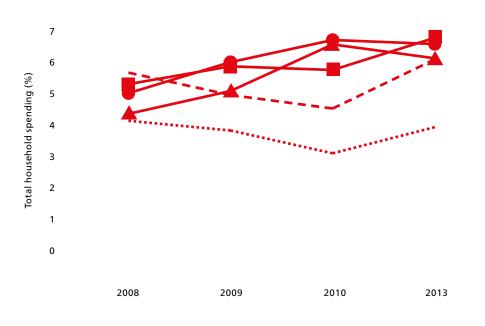
Fig. 5. Out-of-pocket payments as a share of total household spending by consumption quintile, Estonia





Source: Võrk and Habicht (2018).

Fig. 6. Out-of-pocket payments as a share of total household spending by consumption quintile, Latvia

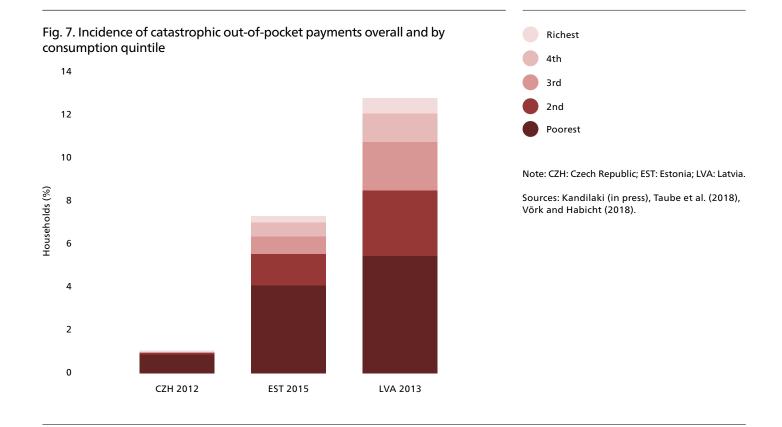




Source: Taube et al. (2018).

Financial hardship: catastrophic and impoverishing out-of-pocket payments

The share of households experiencing catastrophic out-of-pocket payments ranges from 1% in the Czech Republic to 7% in Estonia and 13% in Latvia (Fig. 7). In all three countries, catastrophic spending on health is heavily concentrated among households in the poorest quintile.



In the Czech Republic, catastrophic out-of-pocket payments are most likely to be experienced by economically inactive people of working age (Kandilaki, in press). Almost all households with catastrophic out-of-pocket payments are in the poorest quintile; half of them are also further impoverished by spending on health (people living below the basic needs line and incurring out-of-pocket payments), as shown in Fig. 8.

Catastrophic spending in Estonia is highly concentrated among pensioners; in 2015, 16% of single pensioner households and 12% of pensioner couple households experienced catastrophic out-of-pocket payments (Võrk and Habicht, 2018). The next highest incidence rate was among households of single people of working age (6%). Over half of all households with catastrophic out-of-pocket payments are in the poorest quintile (Fig. 7).

In Latvia, nearly one in three (29%) pensioner households experienced catastrophic out-of-pocket payments in 2013 (Taube et al., 2018). Almost half of all catastrophic spenders are in the poorest quintile (Fig. 7).

The share of households who are further impoverished, impoverished or at risk of impoverishment after out-of-pocket payments is highest in Latvia (close to 7%), followed by Estonia (just over 4%) and the Czech Republic (under 1%) (Fig. 8).

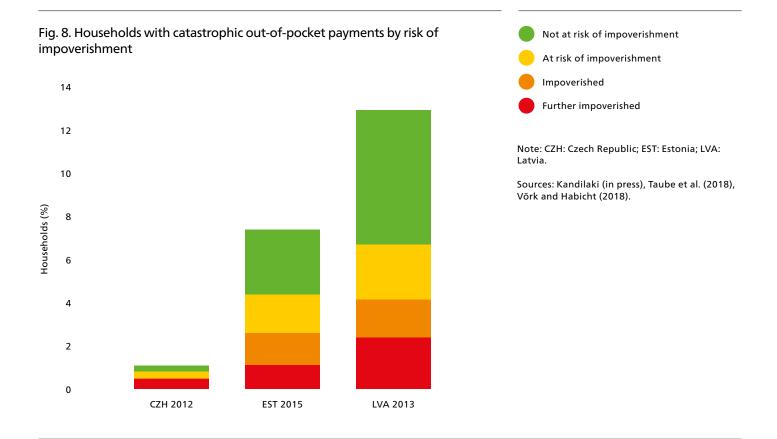
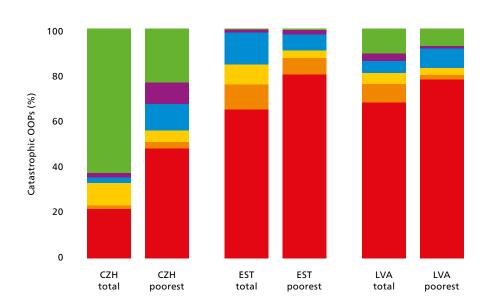


Fig. 9 shows how catastrophic out-of-pocket payments are spent. It breaks down catastrophic spending by type of health service for all households and for the poorest quintile. Across all households, the main driver of catastrophic spending is inpatient care in the Czech Republic and outpatient medicines in Estonia and Latvia. However, among the poorest quintile, outpatient medicines are the main driver of financial hardship in all three countries.

Fig. 9. Breakdown of catastrophic spending by type of health service





Notes: CZH: Czech Republic; EST: Estonia; LVA: Latvia; OOPs: out-of-pocket payments. Diagnostic tests include other paramedical services; medical products include non-medicine products and equipment. Poorest refers to the lowest consumption quintile.

Sources: Kandilaki (in press), Taube et al. (2018), Võrk and Habicht (2018).

Factors that strengthen or undermine financial protection in these countries

Financial protection may be influenced by factors beyond the health system that affect people's capacity to pay for health care – for example, changes in living standards or in the cost of living. When capacity to pay falls, households may have to spend a greater share of their disposable resources on health, unless they forego care.

Following the economic shock of 2009, household capacity to pay and out-of-pocket payments remained stable in the Czech Republic, but in Estonia and Latvia out-of-pocket payments fell as a share of total household spending among households in the two poorest quintiles (Fig. 4–6).

During the years of the crisis, the share of households without any outof-pocket payments rose by 10 percentage points among the two poorest quintiles in Latvia. In Estonia, this share was more than 20 percentage points higher among the two poorest quintiles in 2010 than in 2007.

Given the increase in poverty (Fig. 1) and unmet need (Fig. 2 and 3) seen in both countries from 2009, some of this reduction in household spending on health is likely to reflect people foregoing care.

Financial protection is also influenced by health system factors that shift health care costs onto households. Previous research has shown how financial hardship is more likely to occur when public spending on health is low in relation to GDP and out-of-pocket payments account for a relatively high share of total spending on health (Xu et al., 2003; Xu et al., 2007; WHO, 2010). Fig. 10 plots catastrophic incidence (on the vertical axis) against the out-of-pocket share of total spending on health (on the horizontal axis) for the 25 countries in this study. It confirms the findings of earlier research, revealing a relatively strong association between financial hardship and a greater reliance on out-of-pocket payments across countries.

Catastrophic incidence in the Czech Republic is among the lowest in the European Region. In Estonia it is broadly in line with other countries that joined the EU after 2004, while in Latvia it is close to levels seen in non-EU countries that were part of the former Soviet Union.

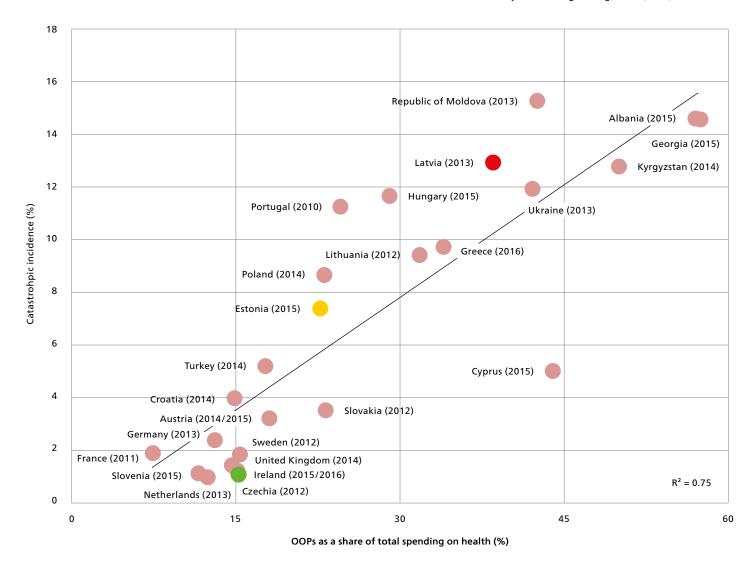
The incidence of catastrophic health spending rises steadily as the outof-pocket share of total spending on health increases. This suggests that the difference in catastrophic incidence across the three countries is partly explained by differences in levels of public spending on health care.

Voluntary health insurance plays a minor role in most countries in the European Region, including in the EU, so the vast majority of private spending on health comes from out-of-pocket payments (Sagan & Thomson 2016).

Fig. 10. Incidence of catastrophic spending on health and the out-of-pocket share of total spending on health in selected European countries, latest year available

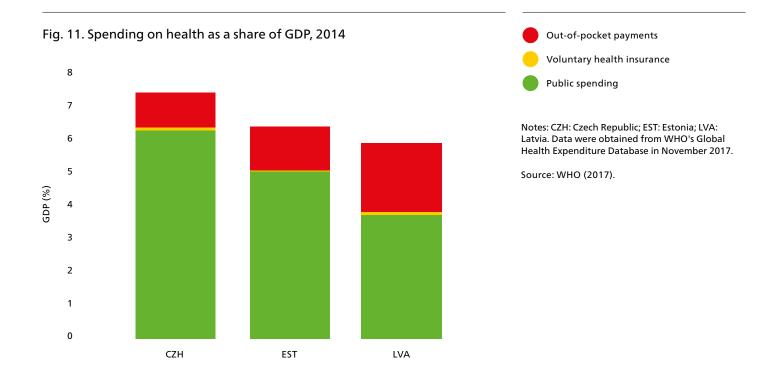
Notes: OOPs: out-of-pocket payments. R²: coefficient of determination. The OOPs data are for the same year as those for catastrophic spending. Czech Republic is highighlighted in green, Estonia is highlighted in yellow and Latvia is highlighted in red.

Sources: WHO Barcelona Office for Health Systems Strengthening; WHO (2018).

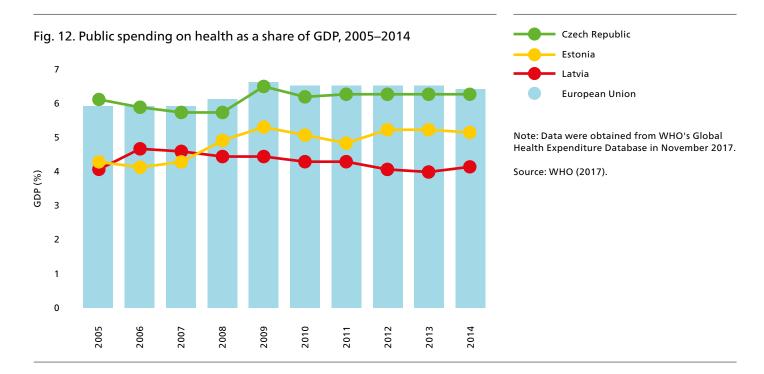


Low priority to health drives high out-of-pocket payments

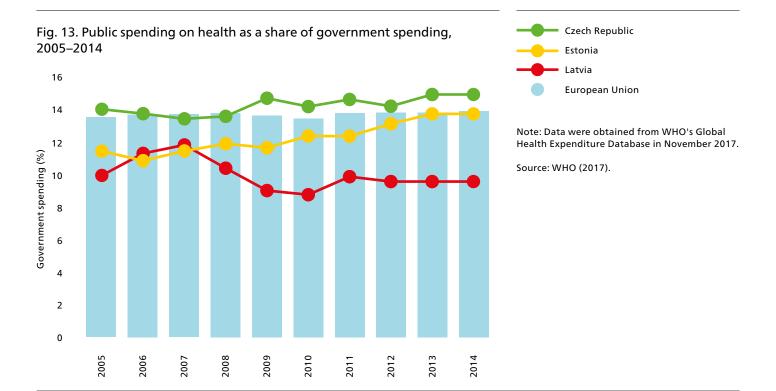
Public spending on health accounts for a much larger share of GDP – and a much larger share of total spending on health – in the Czech Republic than in Estonia and Latvia (Fig. 11).



Over time, public spending on health has matched GDP growth and remained relatively stable as a share of GDP in the Czech Republic, Estonia and the EU (Fig. 12). In Latvia, however, it fell in absolute terms in 2009 and did not reach pre-crisis levels again until 2013. As a share of GDP, public spending on health declined steadily between 2006 and 2012.

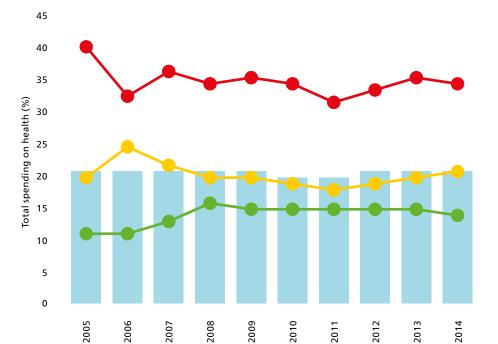


The main reason for the low level of public spending on health in Latvia, and its decline over time, is the low priority accorded to health when determining the allocation of government spending. Fig. 13 shows how public spending on health fell as a share of government spending in Latvia between 2007 and 2010 and was still two percentage points below its 2007 peak in 2014.



Because of low levels of public spending on health, the out-of-pocket share of total spending on health is very high in Latvia and close to the EU average in Estonia (Fig. 14). The out-of-pocket share fell in all three countries after the economic crisis, as the financial pressure facing households rose, especially in Estonia and Latvia, where unemployment rates nearly tripled between 2008 and 2010 (Eurostat, 2017a).

Fig. 14. Out-of-pocket payments as a share of total spending on health, 2005–2014





Note: Data were obtained from WHO's Global Health Expenditure Database in November 2017.

Source: WHO (2017).

Weak coverage design leads to financial hardship

Coverage policy plays a vital role in determining the extent of out-of-pocket payments in a country and – crucially – in determining their distribution across the population. A comparison of different dimensions of health coverage – population entitlement, service coverage and user charges – and of the role of voluntary health insurance across the three countries reveals major variation, with the Czech Republic on one side and Estonia and Latvia on the other (see Table 2).

Table 2. Main gaps in publicly financed coverage and the role of voluntary health insurance (VHI) in the Czech Republic, Estonia and Latvia

Sources: Kandilaki (in press), Taube et al. (2018), Võrk and Habicht (2018); VHI data from Sagan & Thomson (2016).

Czech Republic Estonia Latvia

Population coverage: what is the basis for entitlement to publicly financed health services?

- Entitlement is linked to payment of contributions but access to health care is guaranteed by the state
- Population coverage is very close to universal
- Entitlement is based on payment of contributions
- Around 10% of the working age population is uninsured, mainly men (around 6% of the whole population)
- Entitlement based on residence during the study period
- Population coverage is universal during the study period

Service coverage: what is the scope of the publicly financed benefits package and are waiting times a problem?

- Comprehensive service coverage
- No problems with waiting times
- Adult dental care was excluded from coverage during the study period, but extended in 2017
- Waiting times for elective specialist treatment
- Lack of waiting time guarantees
- Adult dental care is excluded from coverage
- Tight volume controls for outpatient specialist and inpatient care leading to very long waiting times for elective specialist treatment
- Lack of waiting time guarantees

User charges: are there co-payments for publicly financed health services?

- Low user charges introduced for all health services in 2008
- User charges design is strong and simple: flatrate co-payments set at low levels; exemptions for vulnerable people; an overall cap on user charges
- Protection mechanisms strengthened over time
- User charges for specialist care and outpatient medicines without exemption and without an overall cap
- Design of user charges for outpatient medicines is very weak and highly complex: co-insurance rather than flat-rate co-payments; no exemptions; no cap; a ceiling on how much is publicly covered
- Heavy user charges for all health services, without an overall cap, but children are exempt
- Design of user charges for outpatient medicines is weak and complex: coinsurance rather than flat-rate co-payments; insufficient exemptions; the cap is set very high and does not include user charges for outpatient medicines
- Safety net introduced in 2009 exempted very poor households from user charges; it was extended to more households in 2010
- Safety net abolished in 2012 for all except very poor households

Are any of these gaps covered by VHI?

- VHI plays a very minor role; in 2014 it accounted for 0.2% of total spending on health
- VHI plays a very minor role; in 2014 it accounted for 0.2% of total spending on health
- VHI covers some gaps, but is mainly purchased by wealthier people, so it exacerbates inequalities in access and financial protection; in 2014 it accounted for 1.6% of total spending on health

The Czech Republic has a gap in coverage due to user charges, but the gap is small because user charges policy has been carefully designed; and protection against user charges has been strengthened over time.

The Government of the Czech Republic introduced user charges for all health services at the beginning of 2008, which may explain the doubling in the incidence of catastrophic health spending between 2007 and 2008 (see Fig. 15).

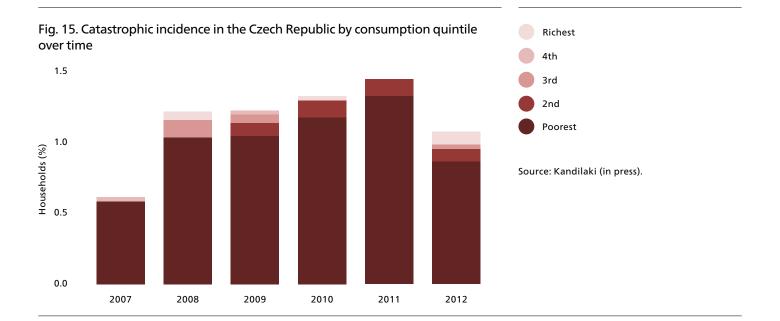
The gap created by user charges is small because the design of the new user charges policy was relatively strong from the outset.

- The user charges were set as a **flat co-payment** rather than as a percentage of the service price.
- These co-payments were **relatively low**: around €1 per doctor visit, per dentist visit and per outpatient prescription item; €2 per day in hospital; and €3 for emergency care.
- There was a **cap** on how much people had to pay in user charges, set at around €180 a year.

The user charges policy was improved in 2009.

- Exemptions from co-payments were introduced for poor households receiving income support, children in care and people with disabilities.
- The **cap was lowered** to around €90 a year for children under 18 and people aged 65 and over.

In 2012, the co-payment for outpatient prescriptions was **lowered to €1 per prescription**, regardless of how many items the prescription contains. This last change may explain the slight fall in the incidence of catastrophic out-of-pocket payments in 2012.



Estonia has gaps in all three dimensions of coverage, but has recently begun to reduce the size of these gaps.

Around 6% of the population is uninsured (about 10% of the working age population) due to the link between entitlement to health services covered by the health insurance fund and payment of contributions.

In terms of service coverage, there are long waiting times for specialist care and dental care was not covered for adults during the study period.

While primary care visits are protected, user charges apply to prescribed outpatient medicines and to specialist care, without an overall cap.

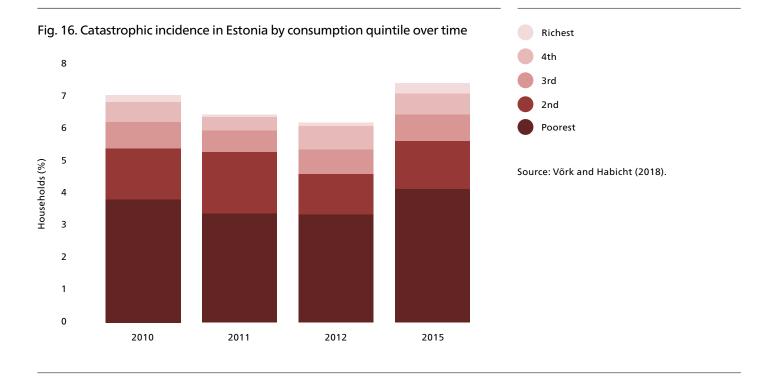
The design of user charges policy is especially weak when it comes to outpatient medicines.

- User charges for prescribed outpatient medicines are in the form of **co-insurance** (a percentage of the medicine price) in addition to co-payments.
- They follow a **complicated** schedule, with different co-payments and coinsurance rates depending on the type of prescribed medicine, how much a person has already paid out-of-pocket and a person's age.
- There are **no exemptions** from prescription charges for poor or regular users, only for children under 4 years old.
- During most of the study period, to protect the health insurance fund's budget, there was a maximum amount the health insurance fund covered per person for some commonly prescribed medicines; this feature, which is highly unusual in EU health systems, was abolished in late 2012.

The lack of exemption from user charges for poor and regular users, as well as the absence of an overall cap on user charges, may explain why outpatient medicines are such a large driver of financial hardship in Estonia, especially among poor households (see Fig. 9). As Fig. 16 shows, the two poorest quintiles consistently account for the vast majority of catastrophic spenders.

Recognizing the magnitude of the gaps in its coverage policy, in 2017 the Estonian Government began to take steps to improve access to dental care for adults. It has also improved protection for people with out-of-pocket payments for prescribed medicines by lowering the threshold for enhanced coverage (lower co-insurance rates) from €300 to €100 per year.

1. For example, the maximum reimbursement per medicine covered at the 50% co-insurance rate was around €13.



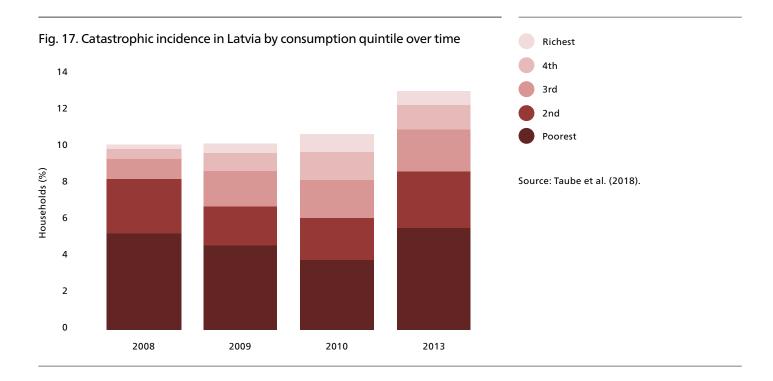
Latvia has major gaps in coverage due to high user charges for outpatient medicines and inpatient care, user charges for adults for all other health services, the exclusion of adult dental care from the benefits package and long waiting times for specialist care.

User charges apply to all health services in Latvia. The user charge per primary care visit is quite low (around €1.50) and children under 18 are exempt from many user charges. Beyond these positive features, however, the design of user charges policy is weak, especially for outpatient medicines.

- Flat co-payments are relatively high for inpatient care: €7 per day in hospital in 2008, rising to €17 per day in 2009 and reduced to €10 per day from 2015.
- The cap on user charges for health services is set very high: €569 per year and €356 per hospitalization.
- User charges for outpatient prescribed medicines are in the form of co-insurance (a percentage of the medicine price) and follow a fairly complicated schedule, with different co-insurance rates depending on the type of prescribed medicine and the severity of disease.
- There are **no exemptions** from prescription charges for poor or regular users.
- There is no cap for prescribed outpatient medicines.

In response to the economic crisis, the Latvian Government introduced a safety net in 2009 that exempted very poor households (those with an income less than half of the minimum wage) from user charges for outpatient visits and inpatient care. In 2010, the exemptions were extended to more households, but in 2012 the safety net was abolished for all except very

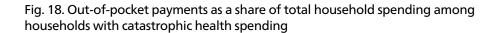
poor households. Looking at catastrophic incidence over time in Latvia (see Fig. 17), the introduction of the safety net in 2009, its extension in 2010 and its abolition (for most households) in 2012 coincides with a reduction and then subsequent increase in catastrophic out-of-pocket payments among the two poorest quintiles.

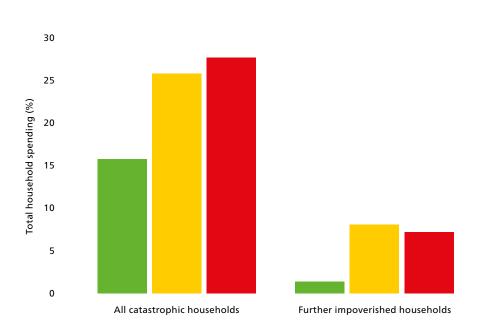


Between 2008 and 2010, tight annual volume controls for publicly financed hospital services, including outpatient specialist services, in combination with major restructuring of the hospital sector led to very long waiting times for inpatient care. The inpatient admission rate fell from 236 per 1000 people in 2008 to 180 in 2010. Public spending on hospitals per person fell by 22% between 2008 and 2013 and the number of hospitalized people paid for by the Latvian Government fell from 234 000 in 2011 to 230 000 in 2013.

Significant differences in coverage policy result in very different levels of financial hardship across the three countries. They also have an impact on the degree of financial hardship households experience.

Among households with catastrophic out-of-pocket payments, the average amount spent out-of-pocket as a share of total household spending is much higher in Estonia and Latvia (over 25%) than in the Czech Republic (15%), as shown in Fig. 18. This means that, on average, catastrophic households in Estonia and Latvia are spending one in every four euros on health services.





CZH 2012
EST 2015
LVA 2013

Note: CZH: Czech Republic; EST: Estonia; LVA: Latvia.

Sources: Kandilaki (in press), Taube et al. (2018), Võrk and Habicht (2018).

Among households who are further impoverished by spending on health – people living below the basic needs or poverty line and incurring out-of-pocket payments – the average amount spent out-of-pocket as a share of total household spending is also very high in Estonia and Latvia (around 7%) compared to the Czech Republic (1%).

Many of these very poor households, who are spending a significant share of their budget on health care, would not be counted as catastrophic in the method used to monitor financial protection for the Sustainable Development Goals.

Implications for policy

There are substantial differences in financial protection across high-income countries with universal or near universal population coverage. The share of households experiencing catastrophic out-of-pocket payments ranges from 1% in the Czech Republic to 7% in Estonia and 13% in Latvia.

Catastrophic spending on health is heavily concentrated among households in the poorest income quintile in all three countries and heavily concentrated among pensioner households in Estonia and Latvia, but not in the Czech Republic.

The degree of financial hardship experienced by catastrophic spenders varies across countries. On average, Estonian and Latvian households with catastrophic out-of-pocket payments are spending a much larger share of their budget on health than Czech households.

This analysis finds that differences in financial hardship are partly explained by variations in health spending across the countries – especially variation in the priority given to health when allocating government spending. The Latvian Government allocates less than 10% of its budget to health, while governments in the other two countries allocate around 13% (Estonia) and 15% (the Czech Republic). As a result, public spending on health as a share of GDP is significantly lower in Latvia, and the out-of-pocket payment share significantly higher, than in the other countries. An increase in public spending on health in Estonia and Latvia would help to lower the out-of-pocket share of total spending on health.

Coverage policy is an equally important explanatory factor, however. It is the primary mechanism through which households are exposed to out-of-pocket payments. Gaps in coverage mean households must spend out of pocket or, if this is not possible, forego the use of health services.

The design of coverage policy determines how out-of-pocket payments are distributed across income groups. It is also one determinant of the level of household exposure to out-of-pocket payments; other determinants include service prices and the volume of service use, which can in turn be influenced by user and provider behaviour.

Coverage design in Estonia and Latvia – particularly the weak design of co-payments for outpatient medicines – shifts health care costs onto those who can least afford to pay out of pocket: poor people, people with chronic conditions and older people. In these countries, financial hardship is largely driven by spending on outpatient medicines; it is highly concentrated among pensioners, many of whom are at risk of poverty or social exclusion, and it is substantial. The linking of entitlement to payment of contributions in Estonia, and the exclusion of dental care for adults from the benefits package in both countries, are also problematic.

In contrast, the Czech Republic is one of the few countries in the EU in which the design of user charges policy is relatively strong: user charges are a flat co-payment for health services and medicines (rather than a percentage of price); they are set at a low level: €1 per general practitioner visit or

prescription item (later changed to €1 per prescription); vulnerable people are exempt: children in care, disabled people and people with low incomes; and there is a cap on all user charges for everyone (€180 a year) and a more protective cap for children under 18 and people aged 65 and over (€90 a year). As a result, catastrophic incidence is very low, outpatient medicines are accessible and pensioners do not experience undue financial hardship.

When coverage design is weak, inefficiencies in the health system can exacerbate financial hardship. For example, if people have to pay a percentage of the price of prescribed medicines, their exposure to out-of-pocket payments will increase as prices rise or where prescribers and dispensers do not face appropriate or aligned incentives.

Unmet need for health and dental care is high in Estonia and Latvia, and has grown since the economic crisis. Given the widespread application of user charges in both countries, without adequate protection for poor and regular users, it is possible that if more people had been able to use health services during the study period, the out-of-pocket payment burden would have been even higher, and the extent of financial hardship even worse, than the current analysis indicates.

References

Eurostat (2017a). Eurostat [online database]. Luxembourg: Statistical Office of the European Communities (http://ec.europa.eu/eurostat/data/database).

Eurostat (2017b). People at risk of poverty or social exclusion [website]. Luxembourg: Statistical Office of the European Communities (http://ec.europa.eu/eurostat/statistics-explained/index.php/People_at_risk_ of poverty or social exclusion).

Kandilaki D (in press). Can people afford to pay for health care? New evidence on financial protection in the Czech Republic. Copenhagen: WHO Regional Office for Europe.

Kutzin J, Cashin C, Jakab M (eds) (2010). Implementing health financing reform: Lessons from countries in transition. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies (http://www.euro.who.int/en/health-topics/Health-systems/health-systems-financing/publications/2010/implementing-health-financing-reform-lessons-from-countries-in-transition-2010).

Sagan A, Thomson S (2016). Voluntary health insurance in Europe: role and regulation. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies (http://www.euro.who.int/en/health-topics/Health-systems/health-systems-financing/publications/2016/voluntary-health-insurance-in-europe-role-and-regulation-2016).

Taube M, Vaskis E, Nesterenko O (2018). Can people afford to pay for health care? New evidence on financial protection in Latvia. Copenhagen: WHO Regional Office for Europe.

Thomson S, Evetovits T, Cylus J, Jakab M (2016). Monitoring financial protection to assess progress towards universal health coverage in Europe. Public Health Panorama 2(3):357–66 (http://www.euro.who.int/en/publications/public-health-panorama/journal-issues/volume-2,-issue-3,-september-2016/original-research2).

United Nations Development Programme (2017). Inequality-adjusted human development index [online data]. New York (NY): United Nations Development Programme (http://hdr.undp.org/en/content/inequality-adjusted-human-development-index-ihdi).

Võrk A, Habicht T (2018). Can people afford to pay for health care? New evidence on financial protection in Estonia. Copenhagen: WHO Regional Office for Europe.

Wagstaff A, Eozenou P (2014). CATA meets IMPOV: a unified approach to measuring financial protection in health. Washington DC: The World Bank (Policy Research Working Paper Series: 6861; https://openknowledge.worldbank.org/handle/10986/18353).

Wagstaff A, van Doorslaer E (2003). Catastrophe and impoverishment in paying for health care: with applications to Vietnam 1993–1998. Health Econ. 12(11):921–33.

2. All websites accessed on 30 November 2017.

WHO (2010). World health report. Health systems financing: the path to universal coverage. Geneva: World Health Organization (http://www.who.int/whr/2010/en/).

WHO (2017). Global Health Expenditure Database [online database]. Geneva: World Health Organization (http://apps.who.int/nha/database).

WHO Regional Office for Europe (2008). The Tallinn Charter: Health Systems for Health and Wealth. Copenhagen: WHO Regional Office for Europe (http://www.euro.who.int/en/media-centre/events/events/2008/06/who-european-ministerial-conference-on-health-systems/documentation/conference-documents/the-tallinn-charter-health-systems-for-health-and-wealth).

WHO Regional Office for Europe (2015). WHO Regional Committee for Europe resolution EUR/RC65/R5 on priorities for health systems strengthening in the WHO European Region 2015–2020: walking the talk on people centredness. Copenhagen: WHO Regional Office for Europe (http://www.euro.who.int/en/about-us/governance/regional-committee-for-europe/past-sessions/65th-session/documentation/resolutions-and-decisions/eurrc65r5-priorities-for-health-systems-strengthening-in-the-who-european-region-20152020-walking-the-talk-on-people-centredness).

WHO Regional Office for Europe (2017a). Coverage, access and financial protection in Europe: a regional overview. Copenhagen: WHO Regional Office for Europe (http://www.euro.who.int/en/health-topics/Health-systems/health-systems-financing/publications/2017/coverage,-access-and-financial-protection-in-europe-a-regional-overview-2017).

WHO Regional Office for Europe (2017b). Country reviews of financial protection in Europe. Copenhagen: WHO Regional Office for Europe (http://www.euro.who.int/en/health-topics/Health-systems/health-systems-financing/publications/2017/country-reviews-of-financial-protection-ineurope-2017).

WHO, World Bank (2017). Tracking universal health coverage in the Sustainable Development Goals era: 2017 global monitoring report. Geneva: World Health Organization.

WHO, World Bank (2015). Tracking universal health coverage. First global monitoring report. Geneva: World Health Organization (http://www.who.int/healthinfo/universal_health_coverage/report/2015/en/).²

Xu K, Evans DB, Kawabata K, Zeramdini R, Klavus J, Murray CJ (2003). Household catastrophic health expenditure: a multicountry analysis. Lancet 362(9378):111–7.

Xu K, Evans DB, Carrin G, Aguilar-Rivera A, Musgrove P, Evans T (2007). Protecting households from catastrophic health spending. Health Aff. 26(4):972–83.

Annex 1. Household budget surveys in Europe

What is a household budget survey? Household budget surveys are national sample surveys that aim to measure household consumption of goods and services over a given period of time. In addition to information about consumption expenditure, they include information about household characteristics.

Why are they carried out? Household budget surveys provide valuable information on how societies and people use goods and services to meet their needs and preferences. In many countries, the main purpose of a household budget survey is to calculate weights for the Consumer Price Index, which measures the rate of price inflation as experienced and perceived by households (Eurostat, 2015). Household budget surveys are also used by governments, research entities and private firms wanting to understand household living conditions and consumption patterns.

Who is responsible for them? Responsibility for household budget surveys usually lies with national statistical offices.

Are they carried out in all countries? Almost every country in Europe conducts a household budget survey (Yerramilli et al., 2018).

How often are they performed? EU countries conduct a household budget survey at least once every five years, on a voluntary basis, following an informal agreement reached in 1989 (Eurostat, 2015). Many countries in Europe conduct them at more frequent intervals (Yerramilli et al., 2018).

What health-related information do they contain? Information on household consumption expenditure is gathered in a structured way, usually using the United Nations Classification of Individual Consumption According to Purpose (COICOP). Information on health-related consumption comes under COICOP code 6, which is further divided into three groups, as shown in Table A1.1. In this study, health-related information from household budget surveys is divided into six groups (with corresponding COICOP codes): medicines (06.1.1), medical products (06.1.2 and 06.1.3), outpatient care (06.2.1), dental care (06.2.2), diagnostic tests (06.2.3) and inpatient care (06.3).

Surveys will usually specify that household spending on health services should be net of any reimbursement to the household from a third party such as the government, a health insurance fund or a private insurance company. Some surveys ask households about spending on voluntary health insurance, but this is reported under a different COICOP code (12.5.3 Insurance connected with health, which covers "Service charges for private sickness and accident insurance") (United Nations Statistics Division, 2018).

Are household budget surveys comparable across countries? Household budget surveys vary across countries in terms of frequency, timing, content and structure. These differences limit comparability. Even among EU countries, where there have been sustained efforts to harmonize data collection, differences remain.

An important methodological difference in quantitative terms is owner-occupier imputed rent. Not all countries impute rent and, among those that do, the methods used to impute rent vary substantially (Eurostat, 2015). In this series, imputed rent is excluded when measuring total household consumption.

Table A1.1. Health-related consumption expenditure in household budget surveys

Includes

Source: United Nations Statistics Division (2018).

COICOP codes

06.1 Medical products, appliances and equipment 06.1.1 Pharmaceutical products

06.1.2 Other medical products 06.1.3 Therapeutic appliances and equipment

06.2 Outpatient services

06.2.1 Medical services 06.2.2 Dental services 06.2.3 Paramedical services

06.3 Hospital services

Hospitalization is defined as occurring when a patient is accommodated in a hospital for the duration of the treatment. Hospital day care and home-based hospital treatment are included, as are hospices for terminally ill persons. This group covers the services of general and specialist hospitals; the services of medical centres, maternity centres, nursing homes and convalescent homes that chiefly provide inpatient health care; the services of institutions serving older people in which medical monitoring is an essential component; and the services of rehabilitation centres providing inpatient health care and rehabilitative therapy where the objective is to treat the patient rather than to provide long-term support. Hospitals are defined as institutions that offer inpatient care under the direct supervision of qualified medical doctors. Medical centres, maternity centres, nursing homes and convalescent homes also provide inpatient care, but their services are supervised and frequently delivered by staff of lower qualification than medical doctors.

This covers medicaments, prostheses, medical appliances and

individuals or households, either with or without a prescription,

equipment suppliers. They are intended for consumption or use

This covers medical, dental and paramedical services delivered to

outpatients by medical, dental and paramedical practitioners and

auxiliaries. The services may be delivered at home or in individual

or group consulting facilities, dispensaries and the outpatient clinics of hospitals and the like. Outpatient services include the medicaments, prostheses, medical appliances and equipment and other health-related products supplied directly to outpatients by medical, dental and paramedical practitioners and auxiliaries.

equipment and other health-related products purchased by

usually from dispensing chemists, pharmacists or medical

outside a health facility or institution.

Excludes

Products supplied directly to outpatients by medical, dental and paramedical practitioners or to inpatients by hospitals and the like are included in outpatient services (06.2) or hospital services (06.3).

Medical, dental and paramedical services provided to inpatients by hospitals and the like are included in hospital services (06.3).

This group does not cover the services of facilities (such as surgeries, clinics and dispensaries) devoted exclusively to outpatient care (06.2). Nor does it include the services of retirement homes for older people, institutions for disabled people and rehabilitation centres providing primarily long-term support (12.4).

References

Eurostat (2015). Household Budget Survey 2010 Wave EU Quality report. Brussels: Eurostat (http://ec.europa.eu/eurostat/documents/54431/1966394/LC142-15EN_HBS_2010_Quality_Report_ver2+July+2015.pdf/fc3c8aca-c456-49ed-85e4-757d4342015f, accessed 19 March 2018).

United Nations Statistics Division (2018). COICOP code 06 detailed structure and explanatory notes. In: United Nations Statistics Division [website]. New York (NY): United Nations Statistics Division (https://unstats.un.org/unsd/cr/registry/regcs.asp?Cl=5&Lg=1&Co=06, accessed 19 March 2018).

Yerramilli P, Fernández O, Thomson S (2018). Financial protection in Europe: a systematic review of the literature and mapping of data availability. Health Policy (http://www.healthpolicyjrnl.com/article/S0168-8510(18)30049-6/fulltext, accessed 19 March 2018).

Annex 2. Methods used to measure financial protection in Europe

Background

The indicators used for monitoring financial protection in Europe are adapted from the approach set out in Xu et al. (2003, 2007). They also draw on elements of the approach set out in Wagstaff & Eozenou (2014). For further information on the rationale for developing a refined indicator for Europe, see Thomson et al. (2016).

Data sources and requirements

Preparing country-level estimates for indicators of financial protection requires nationally representative household survey data that includes information on household composition or the number of household members.

The following variables are required at household level:

- total household consumption expenditure;
- food expenditure (excluding tobacco and alcohol if possible);
- housing expenditure, disaggregated by rent and utilities (such as water, gas, electricity and heating); and
- health expenditure (out-of-pocket payments), disaggregated by type of health care good and service.

Information on household consumption expenditure is gathered in a structured way, usually using the United Nations Classification of Individual Consumption According to Purpose (COICOP) (United National Statistics Division, 2018).

If the survey includes a household sampling weight variable, calculations should consider the weight in all instances. Information on household or individual-level characteristics such as age, sex, education and location are useful for additional equity analysis.

Defining household consumption expenditure variables

Survey data come in various time units, often depending on whether the reporting period is 7 days, 2 weeks, 1 month, 3 months, 6 months or 1 year. It is important to convert all variables related to household consumption expenditure to a common time unit. To facilitate comparison with other national-level indicators, it may be most useful to annualize all survey data. If annualizing survey data, it is important not to report the average level of out-of-pocket payments only among households with out-of-pocket payments, as this will produce inaccurate figures.

Total household consumption expenditure not including imputed rent

Household consumption expenditure comprises both monetary and in-kind payment for all goods and services (including out-of-pocket payments) and the money value of the consumption of home-made products. Many household budget surveys do not calculate imputed rent. To maintain cross-country comparability with surveys that do not calculate imputed rent, imputed rent (COICOP code 04.2) should be subtracted from total consumption if the survey includes it.

Food expenditure

Household food expenditure is the amount spent on all foodstuffs by the household plus the value of the family's own food production consumed within the household. It should exclude expenditure on alcoholic beverages and tobacco. Food expenditure corresponds to COICOP code 01.

Housing expenditure on rent and utilities

Expenditure on rent and utilities is the amount spent by households on rent (only among households who report paying rent) and on utilities (only among households who report paying utilities) including electricity, heating and water. These data should be disaggregated to correspond to COICOP codes 04.1 (for rent) and 04.4 and 04.5 (for utilities). Care should be taken to exclude spending on secondary dwellings. Imputed rent (COICOP code 04.2) is not available in all household budget surveys and should not be used in this analysis.

Health expenditure (out-of-pocket payments)

Out-of-pocket payments refer to formal and informal payments made by people at the time of using any health service provided by any type of provider (COICOP code 06). Health services are any good or service delivered in the health system. These typically include consultation fees, payment for medications and other medical supplies, payment for diagnostic and laboratory tests and payments occurring during hospitalization. The latter may include a number of distinct payments such as to the hospital, to health workers (doctors, nurses, anaesthesiologists etc.) and for tests. Both cash and in-kind payments should be included if the latter are quantified in monetary value. Both formal and informal payments should also be included. Although out-of-pocket payments include spending on alternative or traditional medicine, they do not include spending on health-related transportation and special nutrition. It is also important to note that out-of-pocket payments are net of any reimbursement to households from the government, health insurance funds or private insurance companies.

Estimating spending on basic needs and capacity to pay for health care

Basic needs expenditure is a socially recognized minimum level of spending considered necessary to ensure sustenance and other basic personal needs. This report calculates household-specific levels of basic needs expenditure to estimate a household's capacity to pay for health care. Households whose total consumption expenditure is less than the basic needs expenditure level generated by the basic needs line are deemed to be poor.

Defining a basic needs line

Basic needs can be defined in different ways. This report considers food, utilities and rent to be basic needs and distinguishes between:

- households that do not report any utilities or rent expenses; their basic needs include food:
- households that do not report rent expenses (households that own their home outright or make mortgage payments, which are not included in consumption expenditure data), but do report utilities expenses; their basic needs include food and utilities;
- households that pay rent, but do not report utilities expenditure (for example, if the reporting period is so short that it does not overlap with billing for utilities and there is no alternative reporting of irregular purchases); their basic needs include food and rent;
- households that report paying both utilities and rent, so that their basic needs include food, utilities and rent.

Adjusting households' capacity to pay for rent (among renters) is important. Household budget surveys consider mortgages to be investments, not consumption expenditure. For this reason most do not collect household spending on mortgages. Without subtracting some measure of rent expenditure from those who rent, renters will appear to be systematically wealthier (and have greater capacity to pay) than identical households with mortgages.

To estimate standard (normative) levels of basic needs expenditure, all households are ranked based on their per (equivalent) person total consumption expenditure. Households between the 25th and 35th percentiles of the total sample are referred to as the representative sample for estimating basic needs expenditure. It is assumed that they are able to meet, but not necessarily exceed, basic needs for food, utilities and rent.

In some countries it is common to finance out-of-pocket payments from savings or borrowing, which might artificially inflate a household's consumption and affect household ranking. Where this is an issue, it may be preferable to rank households by per equivalent person non-out-of-pocket payment consumption expenditure.

Calculating the basic needs line

To begin to calculate basic needs, a household equivalence scale should be used to reflect the economy scale of household consumption. The Organisation for Economic Co-operation and Development equivalence scale (the Oxford scale) is used to generate the equivalent household size for each household:

equivalent household size = 1 + 0.7* (number of adults – 1) + 0.5* (number of children under 13 years of age)

Each household's total consumption expenditure (less imputed rent), food expenditure, utilities expenditure and rent expenditure is divided by the equivalent household size to obtain respective equivalized expenditure levels.

Households whose equivalized total consumption expenditure is between the 25th and 35th percentile across the whole weighted sample are the representative households used to calculate normative basic needs levels. Using survey weights, the weighted average of spending on food, utilities and rent among representative households that report positive values for food, utilities and rent expenditure, respectively, gives the basic needs expenditure per (equivalent) person for food, utilities and rent.

Note again that households that do not report food expenditure are excluded as this may reflect reporting errors. For households that do not report any rent or utilities expenses, only the sample-weighted food basic needs expenditure is used to represent total basic needs expenditure per (equivalent) person. For households that report utilities expenditures but do not report any rent expenses, the two basic needs expenditure sample-weighted averages for food and utilities are added to calculate total basic needs expenditure per (equivalent) person. For households that report rent expenditures but do not report any utilities expenses, the two basic needs expenditure sample-weighted averages for food and rent are added to calculate total basic needs expenditure per (equivalent) person. For households that report both rent and utilities, the three basic needs expenditure sample-weighted averages for food, utilities and rent are added to calculate total basic needs expenditure per (equivalent) person.

Calculating basic needs expenditure levels for each household

Calculate the basic needs expenditure specific to each household by multiplying the total basic needs expenditure per (equivalent) person level calculated above by each household's equivalence scale. Note that a household is regarded as being poor when its total consumption expenditure is less than its basic needs expenditure.

Capacity to pay for health care

This is defined as non-basic needs resources used for consumption expenditure. Some households may report total consumption expenditure that is lower than basic needs expenditure, which defines them as being poor. Note that if a household is poor, capacity to pay will be negative after subtracting the basic needs level.

Estimating impoverishing out-of-pocket payments

Measures of impoverishing health spending aim to quantify the impact of out-of-pocket payments on poverty. For this indicator, households are divided into five mutually exclusive categories based on their level of out-of-pocket payments in relation to the basic needs line.

No out-of-pocket payments are those households that report no health expenditure.

Not at risk of impoverishment after out-of-pocket payments are non-poor households with out-of-pocket payments that do not push them below the multiple of the basic needs line.

At risk of impoverishment after out-of-pocket payments are non-poor households with out-of-pocket payments that push them below a multiple of the basic needs line. This review uses a multiple of 120%, but the author also prepared estimates using 105% and 110%.

Impoverished after out-of-pocket payments are non-poor households that are pushed into poverty after paying out of pocket for health services. For them, the ratio of out-of-pocket payments to capacity to pay is greater than one. In the exceptional case that capacity to pay is zero and out-of-pocket payments are greater than zero, a household would be considered to be impoverished by out-of-pocket payments.

Further impoverished after out-of-pocket payments are households already below the basic needs line with out-of-pocket payments. Any household whose ratio of out-of-pocket payments to capacity to pay is less than zero (that is, negative) is pushed further into poverty by out-of-pocket payments.

Estimating catastrophic out-of-pocket payments

Catastrophic out-of-pocket payments are measured as out-of-pocket payments that equal or exceed some threshold of a household's capacity to pay. Thresholds are arbitrary. The threshold used most often with capacity to pay measures is 40%. This review uses 40% for reporting purposes, but the author also prepared estimates using thresholds of 20%, 25% and 30%.

Households with catastrophic out-of-pocket payments are defined as:

- those with out-of-pocket payments greater than 40% of their capacity to pay; this includes all households who are impoverished after out-of-pocket payments, because their ratio of out-of-pocket payments to capacity to pay is greater than one; and
- those with out-of-pocket payments whose ratio of out-of-pocket payments to capacity to pay is less than zero (negative) that is, all households who are further impoverished after out-of-pocket payments.

Households with non-catastrophic out-of-pocket payments are defined as those with out-of-pocket payments that are less than the pre-defined catastrophic spending threshold.

For policy purposes it is useful to identify which groups of people are more or less affected by catastrophic out-of-pocket payments (equity) and which health services are more or less responsible for catastrophic out-of-pocket payments.

Distribution of catastrophic out-of-pocket payments

The first equity dimension is expenditure quintile. Expenditure quintiles are determined based on equivalized per person household expenditure. Household weights should be used when grouping the population by quintile. Countries may find it relevant to analyse other equity dimensions such as differences between urban and rural populations, regions, men and women, age groups and types of household.

In some countries it is common to finance out-of-pocket payments from savings or borrowing, which might artificially inflate a household's consumption and affect household ranking. Where this is an issue, it may be preferable to calculate quintiles based on non-health equivalized per person household expenditure.

Structure of catastrophic out-of-pocket payments

For households in each financial protection category, the percentage of outof-pocket payments on different types of health goods and services should be reported, if the sample size allows, using the following categories, with their corresponding COICOP categorization: medicines (06.1.1), medical products (06.1.2 and 06.1.3), outpatient care (06.2.1), dental care (06.2.2), diagnostic tests (06.2.3) and inpatient care (06.3). Where possible, a distinction should be made between prescription and over-the-counter medicines.

References

Thomson S, Evetovits T, Cylus J, Jakab M (2016). Monitoring financial protection to assess progress towards universal health coverage in Europe. Public Health Panorama. 2(3):357–66 (http://www.euro.who.int/en/publications/public-health-panorama/journal-issues/volume-2,-issue-3,-september-2016/original-research2, accessed 19 March 2018).

United Nations Statistics Division (2018). COICOP code 06 detailed structure and explanatory notes. In: United Nations Statistics Division [website]. New York (NY): United Nations Statistics Division (https://unstats.un.org/unsd/cr/registry/regcs.asp?Cl=5&Lg=1&Co=06, accessed 19 March 2018).

Wagstaff A, Eozenou P (2014). CATA meets IMPOV: a unified approach to measuring financial protection in health. Washington (DC): The World Bank (Policy Research Working Paper No. 6861).

Xu K, Evans D, Carrin G, Aguilar-Rivera A, Musgrove P, Evans T (2007). Protecting households from catastrophic health spending. Health Aff. 26(4):972–83.

Xu K, Evans D, Kawabata K, Zeramdini R, Klavus J, Murray C (2003). Household catastrophic health expenditure: a multicountry analysis. Lancet. 362:111–7.

Annex 3. Regional and global financial protection indicators

WHO uses regional and global indicators to monitor financial protection in the European Region, as shown in Table A3.1.

Table A3.1. Regional and global financial protection indicators in the European Region

Regional indicators (R1, R2)

Global indicators (G1-G4)

Catastrophic out-of-pocket payments

Indicator R1: the proportion of households with out-of-pocket payments greater than 40% of household capacity to pay

Indicator G1: the proportion of the population with large household expenditure on health as a share of total household consumption or income (greater than 10% or 25% of total household consumption or income)

Impoverishing out-of-pocket payments

Indicator R2: risk of poverty due to outof-pocket payments – the proportion of households further impoverished, impoverished, at risk of impoverishment or not at risk of impoverishment after out-of-pocket payments using a country-specific line based on household spending to meet basic needs (food, housing and utilities) Indicator G2: changes in the incidence and severity of poverty due to household expenditure on health using an international poverty line of PPP-adjusted US\$ 1.90 per person per day

Indicator G3: changes in the incidence and severity of poverty due to household expenditure on health using an international poverty line of PPP-adjusted US\$ 3.10 per person per day

Indicator G4: changes in the incidence and severity of poverty due to household expenditure on health using a relative poverty line of 60% of median consumption or income per person per day

Regional indicators

Indicators R1 and R2 reflect a commitment to the needs of European Member States. They were developed by the WHO Barcelona Office for Health Systems Strengthening (part of the Division of Health Systems and Public Health in the WHO Regional Office for Europe), at the request of the WHO Regional Director for Europe, to meet demand from Member States for performance measures more suited to high- and middle-income countries and with a stronger focus on pro-poor policies, in line with Regional Committee resolutions (see Annex 2).

At the regional level, WHO's support for monitoring financial protection is underpinned by the Tallinn Charter: Health Systems for Health and Wealth, Health 2020 and resolution EUR/RC65/R5 on priorities for health systems strengthening in the WHO European Region 2015–2020, all of which include the commitment to work towards a Europe free of impoverishing payments for health.

Note: PPP: purchasing power parity.

Sources: WHO headquarters and WHO Regional Office for Europe.

Global indicators

Indicators G1–G4 reflect a commitment to global monitoring. They enable the performance of Member States in the European Region to be easily compared to the performance of Member States in the rest of the world.

At the global level, support by WHO for the monitoring of financial protection is underpinned by World Health Assembly resolution WHA64.9 on sustainable health financing structures and universal coverage, which was adopted by Member States in May 2011. More recently, with the adoption of the 2030 Agenda for Sustainable Development and its concomitant Sustainable Development Goals (SDGs) in 2015, the United Nations has recognized WHO as the custodian agency for SDG3 (Good health and well-being: ensure healthy lives and promote well-being for all at all ages) and specifically for target 3.8 on achieving universal health coverage, including financial risk protection, access to quality essential health care services and access to safe, effective, quality and affordable essential medicines and vaccines for all. Target 3.8 has two indicators: 3.8.1 on coverage of essential health services and 3.8.2 on financial protection when using health services.

The choice of global or regional indicator has implications for policy

Global and regional indicators provide insights into the incidence and magnitude of financial hardship associated with out-of-pocket payments for health, but they do so in different ways. As a result, they may have different implications for policy and suggest different policy responses.

For example, global indicator G1 defines out-of-pocket payments as catastrophic when they exceed a fixed percentage of a household's consumption or income (its budget). Applying the same fixed percentage threshold to all households, regardless of wealth, implies that very poor households and very rich households spending the same share of their budget on health will experience the same degree of financial hardship.

Global studies find that this approach results in the incidence of catastrophic out-of-pocket payments being more concentrated among richer households (or less concentrated among poorer households) (WHO & World Bank 2015; 2017). With this type of distribution, the implication for policy is that richer households are more likely to experience financial hardship than poorer households. The appropriate policy response to such a finding is not clear.

In contrast, to identify households with catastrophic out-of-pocket payments, regional indicator R1 deducts a standard amount representing spending on three basic needs – food, housing (rent) and utilities – from each household's consumption expenditure. It then applies the same fixed percentage threshold to the remaining amount (which is referred to as the household's capacity to pay for health care). As a result, although the same threshold is applied to all households, the amount to which it is applied is now significantly less than total household consumption for poorer households but closer to total household consumption for richer households. This implies that very poor households spending small amounts on out-of-pocket payments, which constitute a relatively small share of their total budget, may experience financial hardship, while wealthier households are assumed to not

experience hardship until they have spent a comparatively greater share of their budget on out-of-pocket payments.

This approach results in the incidence of catastrophic out-of-pocket payments being highly concentrated among poor households in all countries. For countries seeking to improve financial protection, the appropriate response to this type of distribution is clear: design policies that protect poorer households more than richer households.

Recent global studies most commonly report impoverishing out-of-pocket payments using absolute international poverty lines set at US\$ 1.90 or US\$ 3.10 a day in purchasing power parity (indicators G2 and G3) (WHO & World Bank 2015; 2017). These poverty lines are found to be too low to be useful in Europe, even among middle-income countries. For example, the most recent global monitoring report suggests that in 2010 only 0.1% of the population in the WHO European Region was impoverished after out-of-pocket payments using the US\$ 1.90 a day poverty line (0.2% at the US\$ 3.10 a day poverty line) (WHO & World Bank, 2017).

European studies make greater use of national poverty lines or poverty lines constructed to reflect national patterns of consumption (Yerramilli et al., 2018). While national poverty lines vary across countries, making international comparison difficult, poverty lines constructed to reflect national patterns of consumption – such as that which is used as the poverty line for the regional indicator R2 – facilitate international comparison (Saksena et al., 2014).

References

Saksena P, Smith T, Tediosi F (2014). Inputs for universal health coverage: a methodological contribution to finding proxy indicators for financial hardship due to health expenditure. BMC Health Serv Res. 14:577.

WHO, World Bank. Tracking universal health coverage: first global monitoring report. Geneva: World Health Organization; 2015 (http://apps.who.int/iris/bitstream/10665/174536/1/9789241564977_eng.pdf?ua=1, accessed 19 March 2018).

WHO, World Bank. Tracking universal health coverage: 2017 global monitoring report. Geneva: World Health Organization; 2017 (http://www.who.int/healthinfo/universal_health_coverage/report/2017/en/, accessed 19 March 2018).

Yerramilli P, Fernández O, Thomson S (2018). Financial protection in Europe: a systematic review of the literature and mapping of data availability. Health Policy (https://www.healthpolicyjrnl.com/article/S0168-8510(18)30049-6/fulltext, accessed 19 March 2018).

Annex 4. Glossary of terms

Ability to pay for health care: Ability to pay refers to all the financial resources at a household's disposal. When monitoring financial protection, an ability to pay approach assumes that all of a household's resources are available to pay for health care, in contrast to a capacity to pay approach (see below), which assumes that some of a household's resources must go towards meeting basic needs. In practice, measures of ability to pay are often derived from household survey data on consumption expenditure or income and may not fully capture all of a household's financial resources—for example, savings and investments.

Basic needs: The minimum resources needed for sustenance, often understood as the consumption of goods such as food, clothing and shelter.

Basic needs line: A measure of the level of personal or household income or consumption required to meet basic needs such as food, housing and utilities. Basic needs lines, like poverty lines, can be defined in different ways. They are used to measure impoverishing out-of-pocket payments. In this study the basic needs line is defined as the average amount spent on food, housing and utilities by households between the 25th and 35th percentiles of the household consumption distribution, adjusted for household size and composition. Basic needs line and poverty line are used interchangeably. See poverty line.

Budget: See household budget.

Cap on benefits: A mechanism to protect third party payers such as the government, a health insurance fund or a private insurance company. A cap on benefits is a maximum amount a third party payer is required to cover per item or service or in a given period of time. It is usually defined as an absolute amount. After the amount is reached, the user must pay all remaining costs. Sometimes referred to as a benefit maximum or ceiling.

Cap on user charges (co-payments): A mechanism to protect people from out-of-pocket payments. A cap on user charges is a maximum amount a person or household is required to pay out of pocket through user charges per item or service or in a given period of time. It can be defined as an absolute amount or as a share of a person's income. Sometimes referred to as an out of pocket maximum or ceiling.

Capacity to pay for health care: In this study capacity to pay is measured as a household's consumption minus a normative (standard) amount to cover basic needs such as food, housing and utilities. This amount is deducted consistently for all households. It is referred to as a poverty line or basic needs line.

Catastrophic out-of-pocket payments: Also referred to as catastrophic spending on health. An indicator of financial protection. Catastrophic out-of-pocket payments can be measured in different ways. This study defines them as out-of-pocket payments that exceed 40% of a household's capacity to pay for health care. The incidence of catastrophic health spending includes households who are impoverished (because they no longer have any capacity to pay after incurring out-of-pocket payments) and households who are further impoverished (because they have no capacity to pay from the outset).

Consumption: Also referred to as consumption expenditure. Total household consumption is the monetary value of all items consumed by a household during a given period. It includes the imputed value of items that are not purchased but are procured for consumption in other ways (for example, home-grown produce).

Co-payments (user charges or user fees): Money people are required to pay at the point of using health services covered by a third party such as the government, a health insurance fund or a private insurance company. Fixed co-payments are a flat amount per good or service; percentage co-payments (also referred to as co-insurance) require the user to pay a share of the good or service price; deductibles require users to pay up to a fixed amount first, before the third party will cover any costs. Other types of user charges include extra billing (a system in which providers are allowed to charge patients more than the price or tariff determined by the third party payer) and reference pricing (a system in which people are required to pay any difference between the price or tariff determined by the third party payer – the reference price – and the retail price).

Equivalent adult: To ensure comparisons of household spending account for differences in household size and composition, equivalence scales are used to calculate spending levels per equivalent adult in a household. This review uses the Oxford scale (also known as the Organisation for Economic Co-operation and Development equivalence scale), in which the first adult in a household counts as one equivalent adult, subsequent household members aged 13 or over count as 0.7 equivalent adults and children under 13 years count as 0.5 equivalent adults.

Exemption from user charges (co-payments): A mechanism to protect people from out-of-pocket payments. Exemptions can apply to groups of people, conditions, diseases, goods or services.

Financial hardship: People experience financial hardship when out-of-pocket payments are large in relation to their ability to pay for health care.

Financial protection: The absence of financial hardship when using health services. Where health systems fail to provide adequate financial protection, households may not have enough money to pay for health care or to meet other basic needs. Lack of financial protection can lead to a range of negative health and economic consequences, potentially reducing access to health care, undermining health status, deepening poverty and exacerbating health and socioeconomic inequalities.

Further impoverishing out-of-pocket payments: An indicator of financial protection. Out-of-pocket payments made by households living below a national or international poverty line or a basic needs line. A household is further impoverished if its total consumption is below the line before out-of-pocket payments and if it then incurs out-of-pocket payments.

Health services: Any good or service delivered in the health system, including medicines, medical products, diagnostic tests, dental care, outpatient care and inpatient care. Used interchangeably with health care.

Household budget: Also referred to as total household consumption. The sum of the monetary value of all items consumed by the household during a given period and the imputed value of items that are not purchased but are procured for consumption in other ways.

Household budget survey: Usually national sample surveys, often carried out by national statistical offices, to measure household consumption over a given period of time. Sometimes referred to as household consumption expenditure or household expenditure surveys. European Union countries are required to carry out a household budget survey at least once every five years.

Impoverishing out-of-pocket payments: An indicator of financial protection. Out-of-pocket payments that push people into poverty or deepen their poverty. A household is measured as being impoverished if its total consumption was above the national or international poverty line or basic needs line before out-of-pocket payments and falls below the line after out-of-pocket payments.

Out-of-pocket payments: Also referred to as household expenditure (spending) on health. Any payment made by people at the time of using any health good or service provided by any type of provider. Out-of-pocket payments include: (a) formal co-payments (user charges or user fees) for covered goods and services; (b) formal payments for the private purchase of goods and services; and (c) informal payments for covered or privately purchased goods and services. They exclude pre-payment (for example, taxes, contributions or premiums) and reimbursement of the household by a third party such as the government, a health insurance fund or a private insurance company.

Poverty line: A level of personal or household income or consumption below which a person or household is classified as poor. Poverty lines are defined in different ways. This study uses basic needs line and poverty line interchangeably. See basic needs line.

Quintile: One of five equal groups (fifths) of a population. This study commonly divides the population into quintiles based on household consumption. The first quintile is the fifth of households with the lowest consumption, referred to in the study as the poorest quintile; the fifth quintile has the highest consumption, referred to in the study as the richest quintile.

Risk of impoverishment after out-of-pocket payments: After paying out of pocket for health care, a household may be further impoverished, impoverished, at risk of impoverishment or not at risk of impoverishment. A household is at risk of impoverishment (or not at risk of impoverishment) if its total spending after out-of-pocket payments comes close to (or does not come close to) the poverty line or basic needs line.

Universal health coverage: All people are able to use the quality health services they need without experiencing financial hardship.

Unmet need for health care: An indicator of access to health care. Instances in which people need health care but do not receive it due to access barriers.

User charges: Also referred to as user fees. See co-payments.

Utilities: Water, electricity and fuels used for cooking and heating.

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

Albania

Andorra

Armenia

Austria

Azerbaijan

Belarus

Belgium

Bosnia and Herzegovina

Bulgaria

Croatia

Cyprus

Czechia

Denmark

Estonia

Finland

France

Georgia

Germany

Greece

Hungary

Iceland

Ireland

Israel

Italy

Kazakhstan

Kyrgyzstan

Latvia

Lithuania

Luxembourg

Malta

Monaco

Montenegro

Netherlands

Norway

Poland

Portugal

Republic of Moldova

Romania

Russian Federation

San Marino

Serbia

Slovakia

Slovenia

Spain

Sweden

Switzerland

Tajikistan

The former Yugoslav Republic of Macedonia

Turkey

Turkmenistan

Ukraine

United Kingdom

Uzbekistan



World Health Organization Regional Office for Europe

UN City, Marmorvej 51, DK-2100 Copenhagen Ø, Denmark Tel.: +45 45 33 70 00 Fax: +45 45 33 70 01 Email: eurocontact@who.int

Website: www.euro.who.int