1.1. Households facing catastrophic out-of-pocket (OOP) payments (% of respondents, HBS) (A-4)

1.1.1. Documentation sheet

Description	**Primary indicator** A-4 Households facing catastrophic out-of-pocket payments (% of respondents, HBS) **Secondary indicator** Households facing impoverishing or further impoverishing out-of-pocket payments (% of respondents, HBS)
Calculation	**Numerator**: weighted number of households who experience catastrophic out-of-pocket payments (using HBS survey weights). See rationale and technical definitions for more information on catastrophic health spending. **Denominator**: total weighted number of households included in the survey (using HBS survey weights).
Rationale	Belgium has made a commitment to universal health coverage (UHC), i.e. everyone should be able to obtain the health services that they need, of high quality, without risk of financial hardship in doing so.[1, 2] Ensuring affordable access to healthcare is at the heart of universal health coverage, and was reaffirmed numerous times as main objective of the Belgian healthcare system.[1] Healthcare is generally considered financially inaccessible when people limit or postpone the use of necessary care because of (excessively) high costs, or when they have to relinquish other basic necessities because they need care. Financial accessibility can be undermined by out-of-pocket (OOP) payments for healthcare. All countries use OOP payments to pay for some healthcare, though to varying degrees (see indicators A-2 & A-3). Evidence shows that user charges are not a good instrument for directing people to use resources more efficiently and can have negative effects on equity and efficiency.[3-7] Low-income populations are disproportionately affected by increased cost sharing, as they have higher care needs, are more price sensitive and resource constrained than other income groups. Hence, OOP payments can be a barrier to accessing health services and treatments, resulting in people foregoing or delaying the use of healthcare (unmet need for healthcare, see indicators A-6 and A-7) with potential adverse consequences to their health.[1, 8] By shifting healthcare costs on to households, OOP payments can also lead to financial hardship (e.g. impoverishing or catastrophic health spending). In this latter case, people can no longer afford to meet basic needs – food, housing, electricity – because they have to pay out of pocket for healthcare.[2, 3] Households with low incomes are consistently most likely to lack affordable access to healthcare, experiencing both catastrophic health spending and unmet need. This deepens poverty, erodes health and well-being and increases social inequalities within and across countries.[7, 9] **The incidence of catastrophic and impoverishing out-of-pocket payments are two widely used indicators of financial hardship related to healthcare use. They assess the relation between healthcare spending and ability or capacity to pay.**[10, 11] For reasons of international comparability, we follow the methodology proposed by the World Health Organization (WHO) Europe Region in its series on financial hardship (detailed in the technical definition).[3, 12] This is a capacity-to-pay approach that assumes that households need to spend part of their resources to meet basic needs, such as food, housing (rent) and utilities (electricity, water, fuel etc.). The underlying idea to implement a correction for basic needs is that poor households devote relatively more of their resources to meeting basic needs and may face a trade-off between consuming basic needs and healthcare. Only after meeting basic needs, resources are available to spend on healthcare.

	- **Impoverishing health spending** provides information on the impact of OOP payments on poverty. A **household is impoverished** if its total consumption spending excluding OOP payments for healthcare is below the amount needed to cover basic needs. In this case the household is unable to cover at the same time basic needs and healthcare. A **household is further impoverished** if its total consumption spending is below the amount needed to cover basic needs and it incurs OOP payments. - **Catastrophic health spending** occurs when OOP payments exceed a predefined share of the household's capacity to pay. This is an indication that the household may no longer be able to meet basic needs. OOP payments that are impoverishing or further impoverishing are always catastrophic, but catastrophic OOP payments are not necessarily impoverishing
Data source	**Household Budget Survey (HBS).**[13] The HBS data Statbel (Algemene Directie Statistiek – Direction générale Statistique – Statistics Belgium) contain individual and household information for a representative sample of the population residing in Belgium. They include very detailed information on consumption expenditures (using the Classification of Individual Consumption According to Purpose (COICOP), next to basic sociodemographic (e.g. age, sex, household size, region of residence) and socioeconomic information (e.g. income, educational attainment). Generally, all consumption expenditures are registered during a period of 1 month in 2012, 2014 and 2016 and during a period of 15 days in 2018 and 2020 (with the exception of dental care costs and inpatient care costs which are registered on an annual basis since 2018).[2] Information on specific expenditures, e.g. for durables or insurance premiums, are gathered through interview questions and refer to annual amounts.
Technical definitions	For detailed information on the selected variables from the HBS database and the calculation of catastrophic and impoverishing or further impoverishing out-of-pocket payments, we refer to section 3.2.1 of the Supplement of KCE report 334.[1] **Key information in the data:** **1) Information on household capacity to pay:** consumption expenditures are registered in high detail at the household level. We use information on total household expenses as well as expenses for basic necessities (food, utilities and rent). Total household consumption expenditures exclude imputed rent, i.e. COICOP 042, and expenses unrelated to consumption, i.e. COICOP 129. Household consumption expenditures are considered as proxy for household resources and used to compute the household's capacity to pay. **2) Information on out-of-pocket (OOP) payments:** In the HBS OOP payments for healthcare are defined as all expenses related to COICOP category 06. They can be further subdivided in 6 categories: (1) medicines with and without prescription (COICOP 0611 + 06129D), (2) medical products and equipment, such as glasses, hearing aids, wheelchairs (COICOP 0612 + 0613), (3) outpatient care (COICOP 0621), (4) dental care (COICOP 0622), (5) diagnostic tests and paramedical services (COICOP 0623), (6) inpatient care (COICOP 063). The OOP payments reflect the amount paid at the point of use and are not corrected for potential reimbursements through the sickness fund or private insurers. Information on the receipt of sickness fund reimbursements over the past 4 months is classified as an income variable (variable r14) and is not necessarily related to healthcare used in the registration period. In addition, information is available on the premiums paid for private hospital insurance (in case they are (partly) paid by the household and not in full by the employer) and on contributions to the sickness fund. Also, information on accommodation expenses for long-term care (e.g. nursing homes, rehabilitation centres) and expenses for home care (e.g. home-cleaning services, meal programmes, day-care centres, home nursing care) are registered under a separate category (COICOP 1240). In line with the WHO methodology, we do not classify these expenses as OOP payments. **3) Information on relevant groups in the population, e.g.** • **Quintiles of equivalized household consumption expenditure**. The OECD household equivalence scale is used to account for economies of scale in household consumption based on the number of adults and children included in the household. The equivalence scale is calculated as follows:

$$eqsize_h = 1 + 0.7 * (number\ of\ adults - 1) + 0.5 * (number\ of\ children\ under\ 13\ years\ of\ age)$$

Calculation of catastrophic and impoverishing healthcare expenditures

To estimate the catastrophic and impoverishing healthcare expenditures, we followed four main steps of the methodology proposed by the WHO European Region in its series on financial protection:[14] i.e. estimate of 1) the basic needs lines, 2) the basic needs expenditures levels, 3) the capacity to pay and, 4) the incidence of impoverishing and catastrophic OOP payments. The methodology of the WHO European Region was chosen as it allows for a comparison with other countries. A detailed description of the methodology can be found in WHO (2016) and in section 3.2.5 of the Supplement of KCE report 334.[1, 15]

Step 1: basic needs lines.

A basic needs line is calculated as the average amount spent on food, housing (rent) and utilities (water, electricity and fuel used for cooking and heating) by households with equivalized total household consumption expenditures between the sample weighted 25th and 35th percentile of the distribution, which report any spending in the concerned category, rescaled using the equivalence scale (see above). These households are selected based on the assumption that they are able to meet, but not necessarily exceed, basic needs for food, housing and utilities.

Step 2: expenses for basic needs.

The household expenses for basic needs are calculated by multiplying the basic needs lines with the equivalized household size.

Step 3: capacity to pay.

A household's capacity to pay for healthcare is defined as household consumption expenditures minus basic needs expenses. When the household consumption level is insufficient to cover basic needs expenses, i.e. the household's capacity to pay is negative, the household is considered poor.

Step 4: incidence of catastrophic, impoverishing and further impoverishing OOP payments.

To calculate the **incidence of impoverishing or further impoverishing out-of-pocket payments**, the households are divided into 5 mutually exclusive categories based on the level of out-of-pocket payments in relation to the poverty line.

1. *Households without out-of-pocket payments*, irrespective of the household financial resources.
2. *Households not at risk of impoverishment*: non-poor households with out-of-pocket payments. When OOP payments are deducted from the total household consumption expenditures, the remaining financial resources are above 120% of the poverty line, implying that the household has enough means to cover basic needs.
3. *Households at risk of impoverishment*: non-poor households with out-of-pocket payments. When OOP payments are deducted from the total household consumption expenditures, the remaining financial resources are between the poverty line and 120% of the poverty line, implying that the household has enough means to cover basic needs, but with (very) limited financial leeway.
4. *Impoverished households*: non-poor households with out-of-pocket payments. When OOP payments are deducted from the total household consumption expenditures, the remaining financial resources are below the poverty line, implying that the household has not enough means to cover both basic needs and healthcare.
5. *Further impoverished households*: poor households with out-of-pocket payments. The household has not enough means to cover basic needs and OOP payments make the financial situation even more precarious.

	The **incidence of catastrophic payments** can be calculated using the household's OOP payments in relation to its capacity to pay. Out-of-pocket payments are considered catastrophic when they exceed 40% of the household's capacity to pay. Hence, households that are impoverished or further impoverished always experience catastrophic out-of-pocket payments.
International comparability	Data on catastrophic health spending is available from the WHO Euro database, based on HBS data.[16] Household budget surveys are conducted in all EU Member States, but despite efforts towards harmonisation within the EU, each Member State decides the objectives, methodology and frequency of conduction of the survey which means that international comparisons of these indicators should be interpreted with caution.
Limitations	Registered OOP payments reflect payments made at the point of use, not corrected for reimbursements by sickness funds or private insurers. A distinction between covered and non-covered expenses cannot be made. The analyses and hence results are largely based on self-reported data over 1 month (in waves 2012, 2014, 2016) or 15 days (wave 2018, 2020), not necessarily representative for average consumption patterns at the micro level.[17] Response rates of the Household Budget Survey are generally low, ranging between 9% and 17%, and have fallen over time. Moreover, some vulnerable population groups are not included in the survey sample: people residing in collective facilities such as the elderly and prisoners, the homeless or refugees. It is known from other studies that these groups experience higher than average healthcare needs or difficulties in accessing healthcare.[18-20]
Dimension	Accessibility
Related indicators	A-2 Out-of-pocket (OOP) payments (% of current expenditure on health) A-3 Out-of-pocket (OOP) medical spending (% of final household consumption) A-5 Out-of-pocket (OOP) payments for hospital care (% of total hospital care expenditures) A-6 People with self-reported unmet needs for medical examination due to financial reasons (% of respondents 16+, EU-SILC) A-7 People with self-reported unmet needs for dental examination due to financial reasons (% of respondents 16+, EU-SILC)
Reviewers	Carine Van de Voorde (KCE)

1.1.2. Results

Impoverishing and further impoverishing OOP payments (secondary indicator)

Table 1 provides information on the proportion of households that were impoverished, further impoverished and at risk of impoverishment after OOP payments between 2012 and 2020. The share of households that were impoverished or further impoverished decreased between 2012 and 2020. Also the share of households at risk of impoverishment decreased over time. Households that were further impoverished, impoverished or at risk of impoverishment were almost exclusively situated in the poorest consumption quintile (see Figure 1).

The important decrease in incidence between 2016 and 2018 cannot be explained by policy changes and was likely related to the change in survey design in 2018, in which the recall period for most OOP payments was reduced from 1 month to 15 days (see documentation). In 2018 and 2020, significantly more households reported no OOP payments (about 33%) compared to previous years (between 17% and 20%).

The share of households without OOP payments had an important effect on the incidence of catastrophic and impoverishing OOP payments as households without OOP payments cannot be impoverished or further impoverished and cannot have catastrophic payments. This does not necessarily reflect a positive result as it might be related to increased unmet needs for medical or dental care (for more information on unmet needs for medical or dental care, see indicators A-6 and A-7).

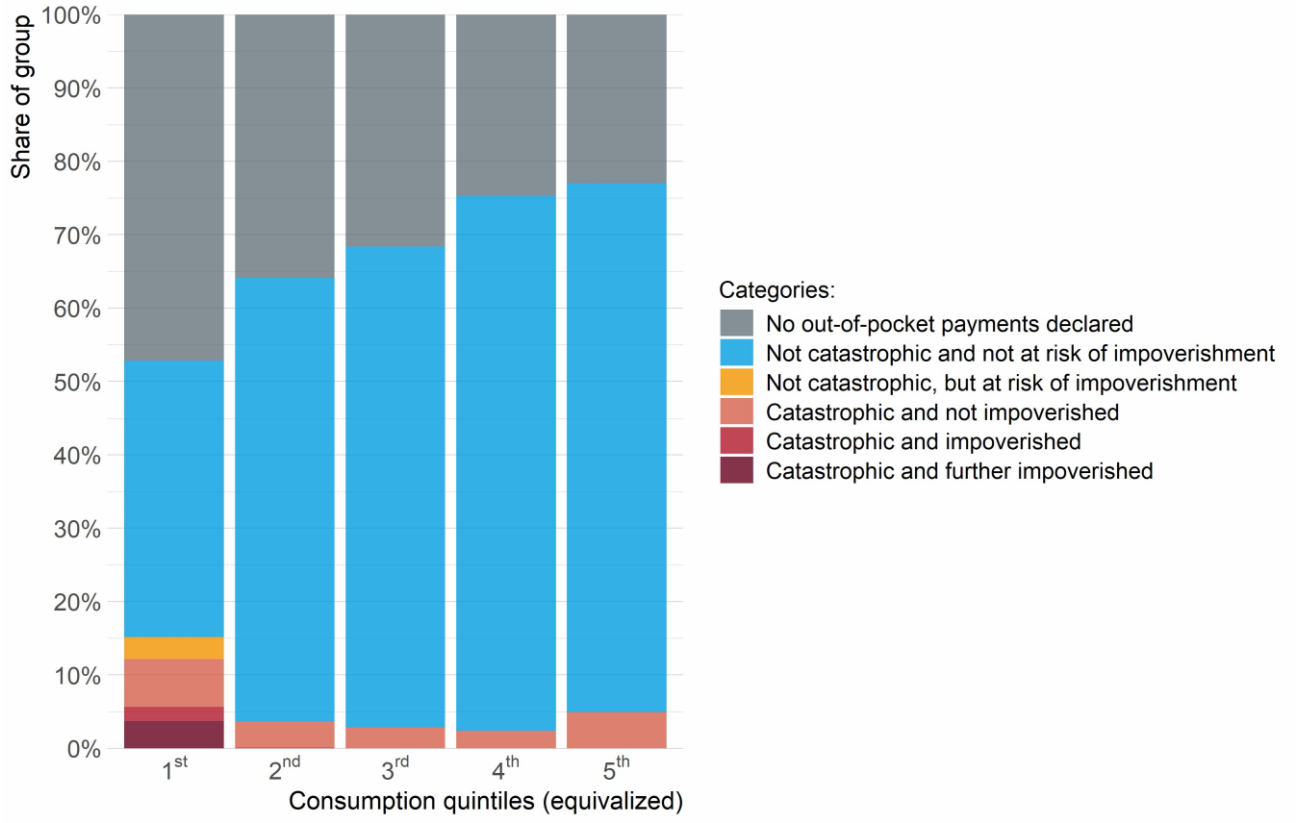
Poorer households were consistently less likely to report OOP payments than richer households (see Figure 1). In 2020 nearly half of households in the poorest quintile did not report out-of-pocket payments compared to about one quarter of households in the richest consumption quintile.

Table 1 – Proportion of households being further impoverished, impoverished, at risk of impoverishment, not at risk of impoverishment and without out-of-pocket payments (2012-2020)

	2012	2014	2016	2018	2020
Further impoverished	1.5%	1.0%	1.5%	0.6%	0.7%
Impoverished	0.6%	0.3%	0.4%	0.2%	0.4%
At risk of impoverishment	1.8%	1.7%	2.0%	0.8%	1.3%
Not at risk of impoverishment	79.1%	80.5%	76.5%	65.5%	65.1%
No out-of-pocket payments	17.1%	16.4%	19.7%	32.8%	32.5%

Note: break in series in 2018; data before and after 2018 are not comparable.
Source: own calculations based on HBS data Source: own calculations based on HBS data from Statistics Belgium (waves 2012, 2014, 2016, 2018, 2020).

Figure 1 – Relative share of households by risk category and consumption quintile (year 2020)



Source: own calculations based on HBS data from Statistics Belgium (wave 2020)

Catastrophic out-of-pocket payments (primary indicator) – incidence in Belgium

Households with **catastrophic health spending** are defined as those who spend more than 40% of their capacity to pay on healthcare. This includes households who are impoverished after out-of-pocket payments (because they no longer have any capacity to pay) and further impoverished (because they had no capacity to pay before paying out-of-pocket for healthcare).

Table 2 indicates that 4.7%, 3.9%, 5.3%, 3.8% and 5.2% of the households experienced catastrophic OOP payments in 2012, 2014, 2016, 2018 and 2020, respectively.

Catastrophic out-of-pocket payments (primary indicator) – Analysis by sociodemographic characteristics, socioeconomic status and region

In all years of the considered period, the incidence of catastrophic spending was heavily concentrated among the poorest quintile, although the concentration has diminished since the change in survey design in 2018, falling from 68% in 2012 to 60% in 2014 and 2016 and to 46% in 2018 and 2020 (see Figure 2). The share of the three richest quintiles has increased over time from 27% to 39%. Within the poorest quintile the share of households with catastrophic spending fell from 16.2% in 2012 to 12.2% in 2020 (see Table 2).

Catastrophic spending was also heavily concentrated among inactive people, unemployed people and people with a lower level of education – groups likely to overlap with households in the poorest quintile (see Table 2). Households with very low work intensity in Belgium have higher healthcare needs and often struggle to pay for health services, resulting in higher unmet need for medical and dental care due to cost.[1]

The share of households with catastrophic spending was consistently higher in Brussels than in Flanders and Wallonia with, respectively, a share of 6.7%, 4.8% and 5.3% in 2020.

Medical products, physiotherapy/rehabilitation and dental care are important drivers of catastrophic spending

The expenditures of households facing catastrophic OOP payments differed significantly from those of the general population. In 2020, the majority of OOP payments were related to spending on outpatient medicines (26%), medical products (22%) and outpatient care (19%), followed by diagnostic tests and paramedical services (15%), dental care (12%) and inpatient care (7%) (see Figure 3). Between 2012 and 2018 most shares remained relatively stable, although there was an increase in the inpatient care share in 2014, which fell again in 2016, and the dental care and diagnostic tests and paramedical services shares increased in 2016. In 2020 there was a sharp increase in the medical products share (which would include COVID-19-related spending on facemasks and disinfectants) and diagnostic tests (in particular due to spending on physiotherapy and rehabilitation). These increases were offset by a decline in the outpatient and inpatient care shares – not surprising given lockdowns and the postponement of non-urgent care in response to COVID-19.

In 2020, the main drivers of catastrophic spending were medical products (hearing aids, glasses, dentures, prostheses, orthopaedic material, facemasks etc.), diagnostic tests and paramedical services (particularly physiotherapists, rehabilitation, osteopaths, chiropractors and psychologists) and dental care (see Figure 3). The medical products share of catastrophic spending declined between 2012 and 2018 but shot up again in 2020. The diagnostic test and paramedical services share increased in 2016, while the dental care, inpatient and outpatient care shares have fluctuated. In 2018, spending on hospital care was the second main driver of catastrophic OOP payments, but the use of inpatient care and, to a lesser extent, outpatient care, were distorted in 2020 due to lockdowns and the postponement of non-urgent care in response to COVID-19. For the poorest quintile, spending on outpatient medicines was a more important contributor to catastrophic OOP payments than in other quintiles, while spending on medical products was not (see Figure 3). A more detailed analysis of catastrophic spending can be found in Bouckaert et al. (2023).[2]

Table 2 – Share of households with catastrophic out-of-pocket payments, by subgroup (2012-2020)

		2012	2014	2016	2018	2020
Belgium		4.7%	3.9%	5.3%	3.8%	5.2%
Regions	**Flanders**	3.6%	3.3%	4.0%	3.4%	4.8%
	Wallonia	6.1%	3.9%	6.3%	4.2%	5.3%
	Brussels	6.7%	7.0%	9.7%	5.0%	6.7%
Household equivalized consumption quintiles	**First quintile**	16.2%	11.7%	15.8%	8.7%	12.2%
	Second quintile	1.1%	2.1%	1.6%	2.9%	3.7%
	Third quintile	1.9%	1.6%	1.9%	3.0%	2.8%
	Fourth quintile	1.5%	1.1%	4.0%	2.0%	2.4%
	Fifth quintile	3.0%	3.1%	3.5%	2.6%	4.9%
Educational attainment of household head	**Primary degree or no degree**	9.6%	9.3%	8.6%	7.4%	8.2%
	Secondary degree	5.8%	4.7%	6.8%	4.4%	5.5%
	Tertiary degree	2.6%	1.7%	3.1%	2.7%	4.2%
Activity status household head	**Employed**	3.4%	3.1%	3.5%	3.2%	4.0%
	Unemployed	11.1%	9.1%	12.7%	8.0%	8.5%
	Inactive	10.1%	8.5%	16.4%	7.7%	10.5%
	Retired	5.4%	3.4%	4.8%	3.5%	5.9%
Sex of household head	**Males**	4.6%	3.5%	5.1%	3.3%	5.0%
	Females	5.0%	4.5%	5.7%	4.5%	5.4%
Age category of household members	**At least one member aged 65 or more**	5.2%	3.8%	5.0%	3.4%	6.2%
	All members aged below 65	4.6%	3.9%	5.5%	4.0%	4.8%

Note: break in series in 2018; data before and after 2018 are not comparable.
Source: own calculations based on HBS data from Statistics Belgium (waves 2012, 2014, 2016, 2018, 2020)

Figure 2 – Evolution of the share of households with catastrophic out-of-pocket payments, subdivided by consumption quintile

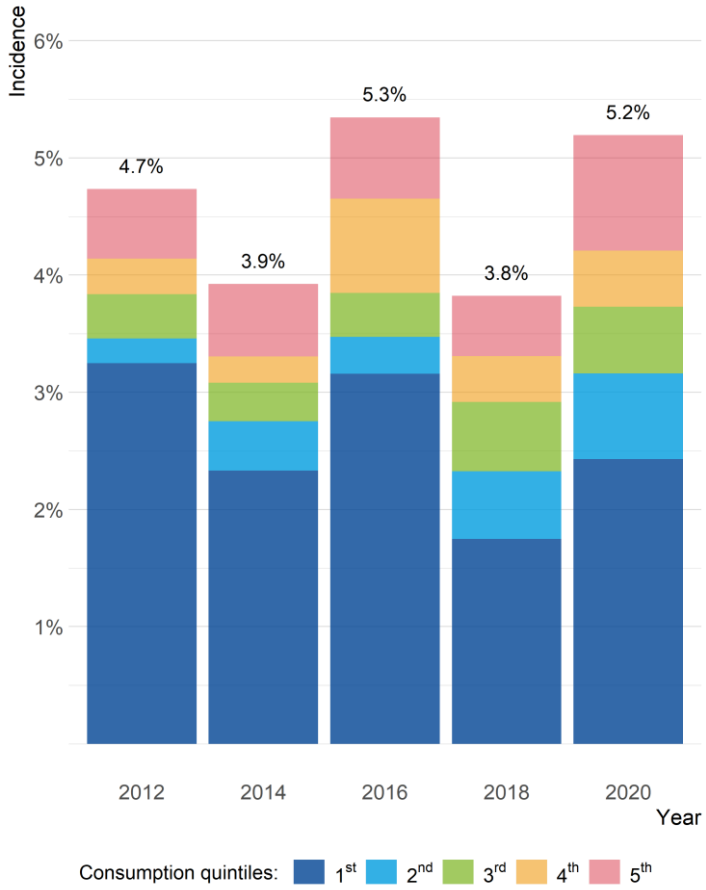
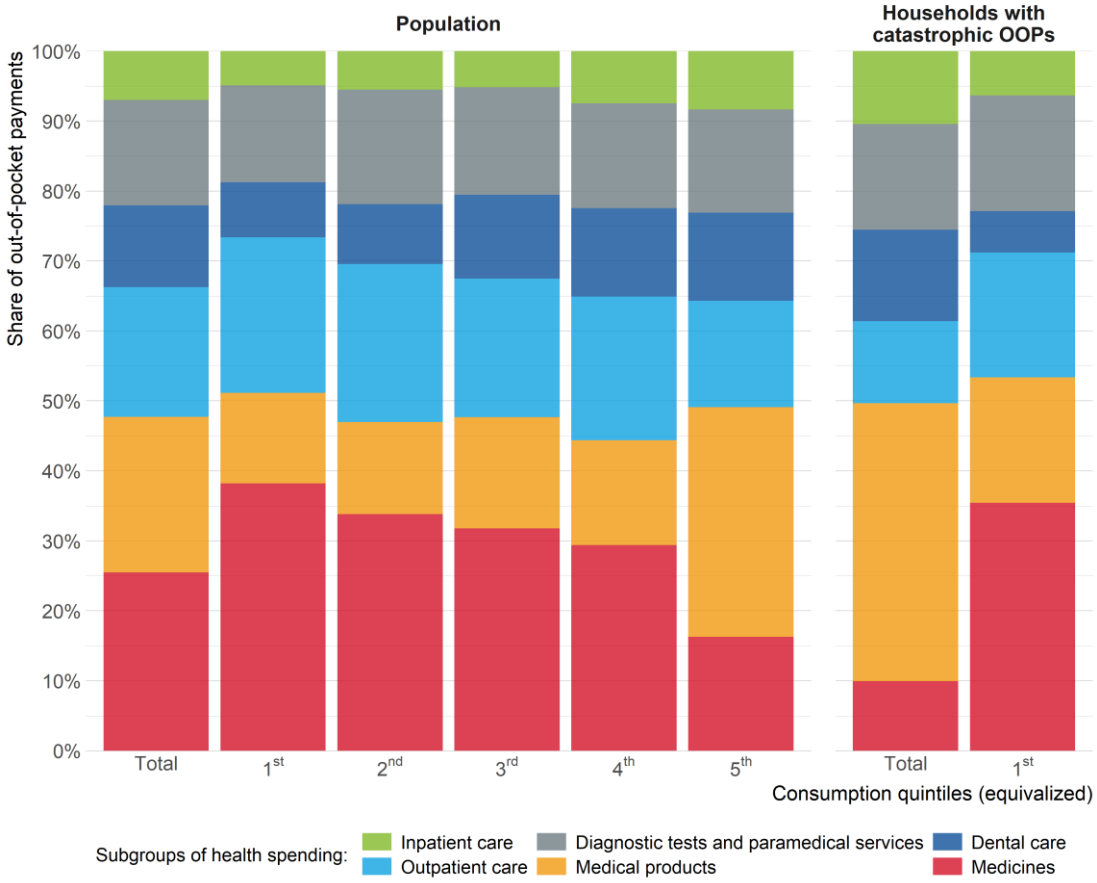


Figure 3 – Breakdown of out-of-pocket payments by health service among the population and among households with catastrophic out-of-pocket payments (year 2020)



Note: break in series in 2018; data before and after 2018 are not comparable.
Source: own calculations based on HBS data from Statistics Belgium (waves 2012, 2014, 2016, 2018, 2020).

International comparison of catastrophic health spending

Figure 4 gives an overview of the incidence of catastrophic health spending among European countries using the latest available information before the start of the COVID-19 pandemic. We use pre-pandemic figures, because most countries do not calculate this indicator yearly, and we want to avoid comparing pre-pandemic and pandemic incidence rates. The share of households with catastrophic OOP payments in Belgium for 2018 (3.8%) was situated below the EU-14 average (4.3%) and the EU-27 average (6.5%). Nevertheless, the Belgian rate exceeded those in our neighbouring countries: the Netherlands (2015: 0.5%), France (2017: 2.1%), Germany (2018: 2.4%) and Luxemburg (2019: 3.3%).

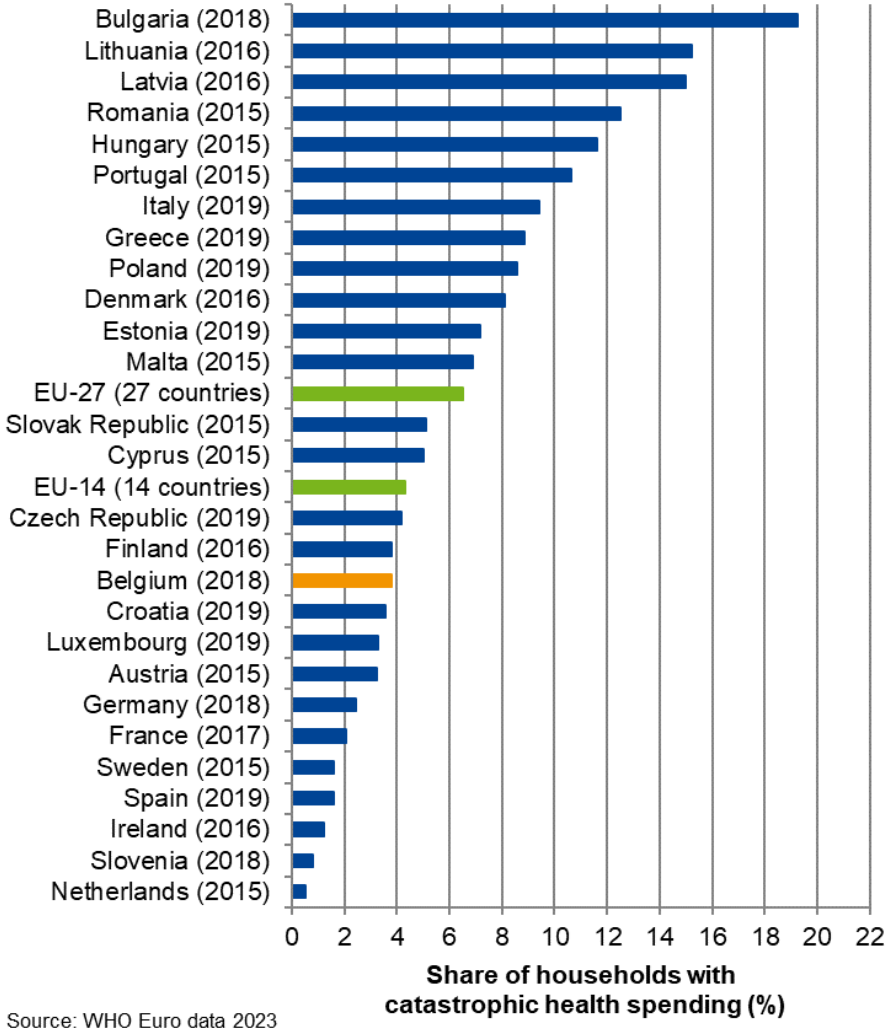
Research shows that there is an association between the share of OOP payments in current health spending and the incidence of catastrophic health spending.[3, 9] Hence, the relatively higher share of OOP payments in Belgium compared to our neighbouring countries may partly explain the higher incidence of catastrophic health spending.

Impact of COVID-19 pandemic

Although difficult to quantify, it is likely that there was an upward impact of COVID-19 on catastrophic and impoverishing health spending. The effects of COVID-19 on both indicators were threefold. First, there was an impact on the level and type of health spending. In 2020 we observed a sharp increase in the medical products share (which would include COVID-19-related spending on facemasks and disinfectants) and diagnostic tests and paramedical services (in particular due to spending on physiotherapy and rehabilitation), and a decline in the outpatient and inpatient care shares, due to lockdowns and the postponement of non-urgent care in response to COVID-19. Second, household spending was scaled back on things such as recreation, restaurants and accommodation services, and may be affected by reduced household budgets due to (temporary) unemployment. Third, the amount needed to cover basic needs was likely higher, given that expenses for food and utilities increased due to the lockdown (e.g. people spend more time at home (working, studying etc.) which pushed up utility expenses, bars and restaurants had to close which increased household spending on food).

It is not clear in what direction the first effect would alter the incidence of catastrophic and impoverishing health spending. The two latter effects, however, reduce the household's capacity to pay and increase the incidence of both catastrophic and impoverishing health spending.

Figure 4 – Catastrophic health spending in a European perspective (last available year before COVID-19)



Source: WHO Euro data 2023

Key points

- **The incidence of catastrophic health spending in Belgium amounted to 5.2% of the households in 2020.**
- **There was a higher incidence of catastrophic out-of-pocket payments among poor households with a low-educated and inactive or unemployed head.**
- **A higher incidence was found in Brussels (6.7%) than in Flanders (4.8%) and Wallonia (5.3%).**
- **Medical products, physiotherapy/rehabilitation and dental care were important drivers of catastrophic spending in 2020, while spending on inpatient care and outpatient care were lower in 2020 due to lockdowns and the postponement of non-urgent care in response to COVID 19.**
- **When comparing pre-pandemic rates of catastrophic health spending in EU countries, Belgium (3.8% in 2018) was situated below the EU-14 average (4.3%) and the EU-27 average (6.5%), but had a higher rate than its neighbouring countries.**

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