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High Out-Of-Pocket Payments: Beneficiaries' Profiles and Persistence Over Time

Carine Franc (Inserm, Centre de recherche en épidémiologie et santé des populations, Université Paris-Saclay, Université Paris-Sud, UVSQ, CESP, Inserm U1018, Villejuif, Irdes),

Aurélie Pierre (Irdes)

In France, Out-Of-Pocket payments (OOP) to be paid by the insured after reimbursements by the National Health Insurance (NHI) account for a quarter of health spending on average. However, these costs can be very high for some people and constitute a barrier to access to care, especially when they are repeated over time. From the Health, Health Care and Insurance Survey (*Enquête santé et protection sociale*, ESPS) matched to health-care consumption data, we defined profiles of the 10% of individuals who bore the highest burden in OOP in 2010 using a typology. Four profiles are identified based on various care items consumed and then described according to their socio-economic characteristics and health status. The first profile gathers patients primarily treated as outpatients for chronic diseases; the second profile gathers vulnerable individuals hospitalized in a public institution; the third profile mainly relates to employees who have spent on dental care; and the fourth profile gathers non-hospitalized elderly. The results show that individuals belonging to the first profile were the most likely to incur high OOP two years later (in 2012).

In France, despite high and stable funding by the National Health Insurance (NHI) fund over time (76% on average in 2014; Mikou and Roussel, 2015), Out-Of-Pocket payments (OOP) for beneficiaries after reimbursement by the NHI — including copayments computed as percentages of regulated prices, non-refundable deductibles and extra-fees — can prove very high.

Because OOP correspond to non-socialized health expenditures by public insurance, and because access to complementary health insurance depends on individuals' income, they are likely to weigh on patients' budgets and might prove to be a real barrier to access to care. To tackle the issue of access to care, some devices have been introduced to limit OOP, especially for the sickest and the poorest, including the following: exemption of copayments related to the treatment of specific chronic diseases (*Affection de longue durée*, ALD); introduction of means-tested Universal Complementary Health Insurance (*Couverture maladie universelle complémentaire*, CMU-C) and the Health Insurance Vouchers Scheme (*Aide à la complémentaire santé*, ACS) and, more generally, an increasing regulation of complementary health insurance market through, for example, responsible contracts[1].

[1] The "responsible contract" is a complementary health insurance (CHI) contract that encourages the compliance with the gatekeeping pathway and which legally circumscribes the guarantee levels in order to limit extra fees and optical care reimbursements, while copayments are totally reimbursed.

Despite these devices, high OOP and the groups they mainly affect call into question the current system of health care financing. For example, people belonging to the system of ALD still bear higher OOP on average than the rest of the population (Dourgnon *et al.* 2013; Geoffard and Lasganerie, 2012; Debrand and Sorasith, 2011). Moreover, among all the people who are not listed as ALD, some might suffer from chronic diseases not listed among the ALD, and they also have very high OOP. These high levels jeopardize access to care because they are likely to recur in time. It is therefore essential to understand the composition of these high OOP, to understand their potential recurrence and to carefully describe individuals who pay for them in terms of health and socio-economic features.

The High Council for the future of health insurance (*Haut Conseil pour l'avenir de l'Assurance maladie*, HCAAM) wondered about the composition of the high OOP by studying them according to care-items and whether individuals are entitled to ALD status (HCAAM, 2013). Lagasnerie *et al.* (2015) have analysed the persistence over time of OOP between 2008 and 2013; these findings show that the more recurrent OOP are mainly those associated with medications and physician visits. However, because of the data used, these studies do not allow to characterize the individuals having to pay the highest OOP beyond the information available about reimbursement (ALD, gender, age).

From the 2010 Health, Health Care and Insurance Survey (ESPS) matched with health insurance reimbursements (Box: Sources & Data), the 10% of individuals who bear the highest burden in OOP were analysed by identifying, using a typology, the different profiles of higher OOP, defined according to the care items involved (Box: Method page 5). These profiles are then described according to the state of health and socio-economic characteristics of individuals and to the amount of copayments, lump sum payments and extra-fees. The analysis of persistence over time is achieved by studying the OOP incurred in 2012 by individuals included in the study population, according to the previously established profiles, *i.e.*, two years after being identified as incurring high OOP.

Sources and data

The 2010 Health, Health Care and Insurance Survey (*Enquête santé et protection sociale*, ESPS), which is representative of the population living in private, non-institutional households, has been matched to health-care consumption data from the National Health Insurance (*Système national d'information inter-régimes de l'Assurance maladie*, Sniiram) related to care to outpatients and inpatients in Medicine, surgery, and obstetrics (*Médecine, chirurgie, obstétrique*, MCO) in public and private institutions for the years 2010 and 2012. Hospital expenditures, follow-up care and rehabilitation (*Soins de suite et réadaptation*, SSR) in psychiatry and home hospitalization (*Hospitalisation à domicile*, HAD) are not included in this study. These data characterize profiles of individuals according to their OOP and their compositions (copayments, deductibles, extra-fees), on one hand, and on their socio-economic characteristics and health status, on the other hand.

Individuals' OOP are related to their inpatient and outpatient consumption reimbursed by NHI (at least partially) in 2010. The study distinguishes the following care items: General practitioners, Specialists, Biology, Pharmacy, Dental, Optical, Transport, Emergencies not followed by hospitalization, Materials, prostheses and equipment, Paramedics, Hospital admissions in private and public institutions. The fees associated with a hospital stay are part of hospital expenditure.

The individual characteristics taken into consideration were as follows: age, sex, health status measured by three indicators from the European mini-module (perceived health, suffering from a chronic illness and being limited in daily activities), being exempt from copayments on account of a long-term illness (ALD), employment status (actively employed, unemployed, retired, student, homemaker, other inactive), the socio-professional category, household income per consumption unit, complementary health insurance coverage (CMU-C, individual contract, employer-sponsored contract, without complementary health insurance) and the residential area.

The study population consists of the 10% of individuals who bear the highest OOP in 2010, that is, those with a total OOP higher than 1,110€ corresponding to 1,268 individuals. Women, individuals over 60 years old and retired people, respectively, account for 63%, 48% and 43% (compared with 52%, 21% and 20% of the whole matched ESPS population). These individuals report they are on average less healthy, regardless of the selected health status indicator. For example, they are almost twice as likely to report suffering from an ALD (28% compared with 15%).

T1

Distribution of high out-of-pocket payments per care item

	Average	% of health posts	P10	P25	P50	P75	P90
Ambulatory	**1,620€**	**100 %**	**791€**	**1,139€**	**1,382€**	**1,887€**	**2,791€**
GPs	74€	5 %	8€	20€	46€	92€	162€
Specialists	186€	11 %	9€	37€	101€	221€	396€
Dental	492€	30 %	0€	0€	25€	800€	1,602€
Biology	50€	3 %	0€	10€	33€	69€	120€
Pharmacy	273€	17 %	30€	77€	204€	383€	629€
Optical	268€	17 %	0€	0€	0€	513€	799€
Transports	14€	1 %	0€	0€	0€	0€	24€
Emergencies	4€	0 %	0€	0€	0€	0€	10€
Material and prostheses	171€	11 %	0€	0€	8€	66€	286€
Paramedics	87€	5 %	0€	0€	7€	76€	260€
Hospital	**294€**	**100 %**	**0€**	**0€**	**0€**	**306€**	**972€**
Public hospital	187€	64 %	0€	0€	0€	0€	649€
Private hospital	107€	36 %	0€	0€	0€	18€	364€
Total OOP	**1,914€**	**100 %**	**1,170€**	**1,278€**	**1,578€**	**2,230€**	**3,090€**

Field: Individuals whose OOP exceeded 1,110€ in 2010 (n = 1,268).

Reading: 90% of the sampled individuals have a dental OOP of less than 1,602€. For 10% of individuals, the OOP is greater than this amount.

Sources: 2010 SNIIRAM 2010 - ESPS pairing.

Download the data

High out-of-pocket payments vary significantly

The OOP incurred by individuals in the study are at minimum 1,110€ and averaged 1,914€ (1,620€ for outpatient care and 294€ for hospital care, Table 1). "General practitioners", "Specialists" and "Pharmacy" account for a third of the OOP for ambulatory care. Another third is related to Dental care; "Optical" care OOP are less than 20% of the ambulatory OOP.

The variability of OOP in this population remains relatively high and linked to care items; 10% of the population incur OOP of more than 3,090€, and more than half have no OOP on the "Dental",

Context

This work comes from a report prepared for the Directorate General of Health (*Direction Générale de la Santé*, DGS), which funded the study. The work also gave rise to another *Questions d'économie de la santé* (Issues in health economics: "Out-of-Pocket Spending for Ambulatory and Hospital Care after Reimbursement by the French Public Health Insurance: Unequally Distributed Financial Burden".

"Optical", "Transport", "Emergency" and "Hospital" items (Table 1). In the study population, 10% of individuals have OOP of more than 629€ on "Pharmacy", 396€ on "Specialists", 1,602€ on "Dental" items, or even higher than 972€ on the "Hospital" item. Individuals' detailed profiles help demonstrate the different types of consumption and care needs that induce such variability.

Four profiles of beneficiaries supporting high OOP

Profile 1: The chronically ill, mainly treated in ambulatory care

This profile includes 26% of individuals in the study population. Their OOP in 2010 were 1,942€ on average (Table 2). Individuals with this profile have the highest OOP on "Physician" care, biology, Pharmacy and Paramedics. The costs are also characterized by OOP associated with private hospitalization, amounting to 226€ on average.

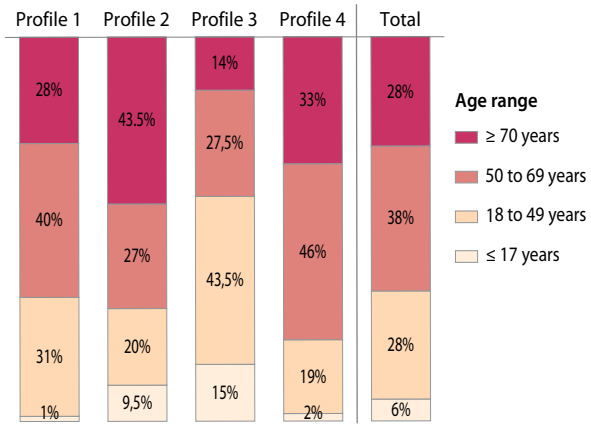
The contribution of copayments for doctors' visits and deductibles levels reflects frequent visits to general practitioners to which are added specialists' particularly large extra-fees; 41% of individuals of that class (*versus* 14%) incur OOP in specialist extra-fees higher than 144€. Extra-fees in private hospitals mostly account for the OOP associated with the "Hospitalization" item; these costs exceed 300€ for more than 15% of profile 1 individuals (*versus* 7% for the population) [Additional data can be downloaded].

This profile most often includes women (70% *versus* 63% in the study population) and individuals reporting a chronic illness (nearly 50% *versus* 45%), but less often an ALD (23% *versus* 28%). No pattern emerges in employment status or age. However, the individuals are more likely to reside in the Paris region (33% *versus* 21%) where the ratio of sector 2 specialists is the highest in France (64% *versus* 43% on average).

The frequency of health care use and the state of health of individuals fitting this profile confirm that the high OOP burden is supported by individuals with chronic diseases not listed under ALD. Their OOP consist as much of extra-fees as copayments. Although copayments are supported by complementary health insurance, extra-fee coverage depends on the level of guarantees provided by their contract.

F1

Age of individuals per class



Profile 1: Individuals having at least one chronic disease, mainly treated as outpatients; **Profile 2:** Hospitalized and rather vulnerable individuals; **Profile 3:** Actively employed individuals consuming dental care; **Profile 4:** Non-hospitalized seniors.

Source: 2010 SNIIRAM 2010 - ESPS pairing.

Download the data

T2

Average amounts of OOP incurred in 2010 and 2012 according to the profiles of individuals

	Profile 1 (Num: 324)		Profile 2 (Num: 153)		Profile 3 (Num: 311)		Profile 4 (Num: 480)		Total (Num: 1268)	
	2010	2012	2010	2012	2010	2012	2010	2012	2010	2012
Ambulatory	**1,630€**	**1,237€**	**1,131€**	**545€**	**1,831€**	**575€**	**1,648€**	**937€**	**1,620€**	**889€**
GPs	133€	80€	60€	37€	31€	31€	62€	55€	74€	54€
Specialists	359€	218€	158€	45€	98€	83€	121€	99€	186€	121€
Dental	202€	216€	113€	70€	1,283€	177€	352€	161€	492€	169€
Biology	93€	55€	52€	24€	12€	16€	40€	39€	50€	36€
Pharmacy	382€	293€	279€	157€	97€	100€	299€	244€	274€	214€
Optical	195€	160€	102€	78€	204€	127€	416€	163€	268€	143€
Transports	10€	11€	87€	17€	0€	1€	2€	3€	14€	6€
Emergencies	7€	3€	13€	7€	1€	2€	1€	1€	4€	3€
Material and prostheses	94€	103€	140€	48€	88€	22€	289€	115€	171€	82€
Paramedics	156€	99€	128€	62€	16€	17€	66€	57€	87€	60€
Hospital	**311€**	**221€**	**1,183€**	**250€**	**89€**	**52€**	**107€**	**97€**	**294€**	**140€**
Public hospital	85€	94€	1,108€	228€	37€	29€	45€	63€	187€	84€
Private hospital	226€	127€	74€	22€	52€	22€	62€	34€	107€	56€
Total OOP	**1,942€**	**1,458€**	**2,314€**	**796€**	**1,920€**	**626€**	**1,755€**	**1,034€**	**1,914€**	**1,029€**

Sources: 2010 and 2012 SNIIRAM 2010 - ESPS pairing.

Download the data

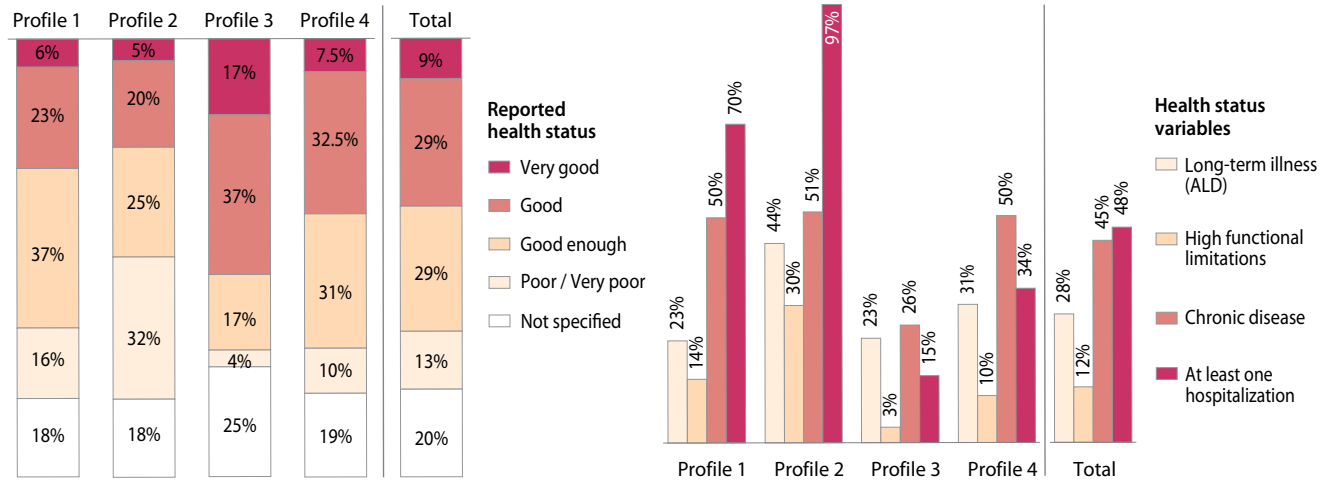
Profile 2: Patients in public institutions are rather vulnerable

The second profile comprises 12% of the study population and is characterized by the highest OOP, 2,314€ on average, almost half of which is related to hospitalization in a public institution (1,108€) [Table 2]. Almost all of the individuals of this class have been hospitalized at least once a year. Though OOP do not amount to relatively high sums, the high OOP related to transport and emergencies are a part of a specific hospital use.

The amount of copayment for hospital care in public institutions is very high, over 1,030€ for 30% of individuals. A

F2

Health variables by class



Profile 1: Individuals having at least one chronic disease, mainly treated as outpatients; **Profile 2:** Hospitalized and rather vulnerable individuals; **Profile 3:** Actively employed individuals consuming dental care; **Profile 4:** Non-hospitalized seniors.
Source: 2010 and 2012 SNIIRAM 2010 - ESPS pairing.

Download the data

total of 43% of individuals in this class are over 70 years old (*versus* 29% overall, Chart 1), 44% benefit from the ALD scheme (*versus* 28%), a third report a poor or very poor health (*versus* 13%), and over half report having at least one chronic disease (*versus* 45%) [Figure 2 and additional data available for download]. Individuals reporting the lowest income per consumption unit (less than 1,000€ per month) represent 30% of this class (*versus* 18%), and the beneficiaries of the Universal Complementary Health Insurance (*Couverture médicale universelle complémentaire*, CMU-C) represent 6% (*versus* 3%) [Figure 3]. Although those without complementary health coverage are more represented (4.1% *versus* 1.4%) in this class, the OOP associated with public hospital care should be largely supported by complementary health insurance contracts. While contracts, including sustainable ones (contrats responsables), limited reimbursement of copayment for hospital care to 90 days, the latest 2014 reform of 'responsible' contracts make it mandatory for insurance companies to cover hospital daily rates indefinitely.

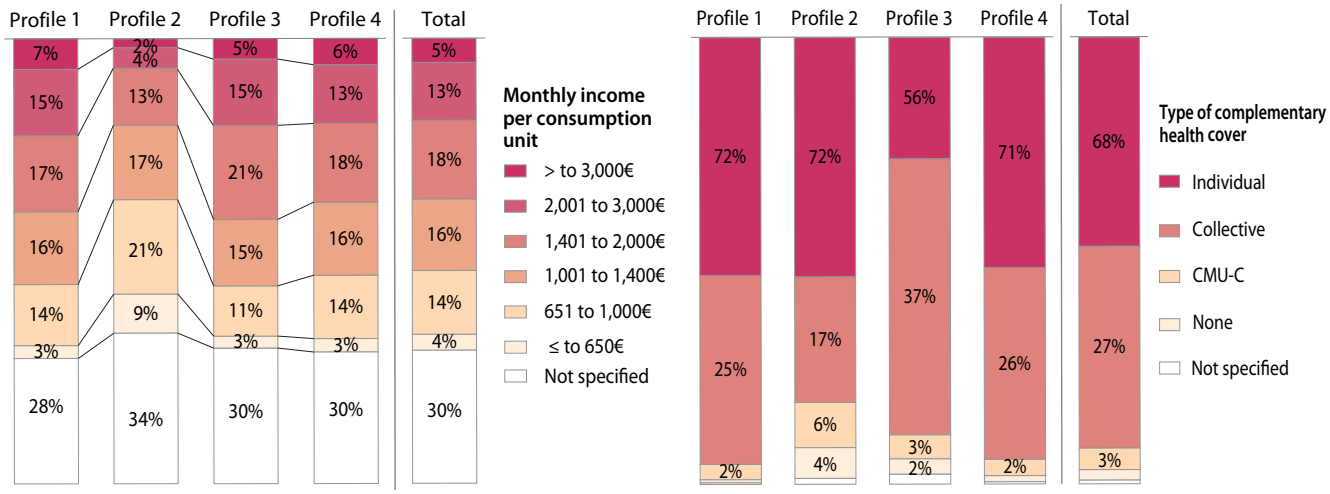
Profile 3: Actively employed people who consume dental care

The third profile represents 24% of individuals in the studied population. Their OOP reach 1,920€ on average; 67% of individuals of this class had dental OOP (Table 2) and for half of them, this OOP exceeds 1,200€ (Table 3).

Men account for 48% of this class (*versus* 38% of all individuals who have high OOP). People reporting a good and very good health status, without ALD, with-

F3

Individuals' incomes and complementary health coverage by class



Profile 1: Individuals having at least one chronic disease, mainly treated as outpatients; **Profile 2:** Hospitalized and rather vulnerable individuals; **Profile 3:** Actively employed individuals consuming dental care; **Profile 4:** Non-hospitalized seniors.
Source: 2010 and 2012 SNIIRAM 2010 - ESPS pairing.

Download the data

out chronic illness and who have not reported being limited in daily activities are also more numerous. The employees account for 52% (*versus* 39%), and those who benefit from an employer-sponsored complementary health insurance represent 37% (*versus* 27%).

Profile 4: Seniors in ambulatory care

The fourth profile includes 38% of individuals in the studied population. Almost all of them have nearly zero OOP associated with hospital and emergencies care. Out-of-pocket payments (1,755€ on average) is explained by the "Optical" and "Materials and prostheses" items, although a majority of individuals report OOP close to the average for "General practitioners", "Specialists", "Biology" and "Pharmacy" items (Table 2). Individuals with this profile are overrepresented among those who face higher OOP than average for Ambulatory items associated with a disease ("Doctors" and "Pharmacy" items), reflecting frequent visits to practitioners and rather high care needs. The optical OOP related to extra-fees exceed 550€ for almost 40% of them (*versus* 22% in the study population).

More than half of individuals belonging to this profile are over 60 years of age (57% *versus* 48%), and 53% of them are retir-

METHODS

Profiles of individuals bearing high OOP

A Hierarchical Ascendant Classification (HAC) was performed from the first 10 factorial axes from a Multiple Correspondence Analysis (MCA), which represents more than 98% of the initial information. Individuals are grouped by the Ward criterion that, at each stage of the aggregation, minimizes the loss of interclass inertia. The classification generated a partition of the population into 4 classes, which leaves an interclass inertia of 27.4%.

The active variables introduced in the analysis that allow the building of the typology are the amounts of 2010 OOP dependent decomposed by care item and coded into classes according to their distribution (Table 3). This decomposition allows us to account for the high variability of OOP without presuming the characteristics of the individuals who support the OOP.

Two categories of illustrative variables are used to characterize the established profiles:

- The nature of the OOP by care item; that is, the amount of copayments, deductibles and extra-fees, also introduced in the analysis in classes depending on the level of distribution.
- The socio-economic characteristics (status relative to employment, socio-professional category, income per consumption unit), coverage by a complementary health insurance, age, health status and residential area.

T3

Description of individuals' profiles according to the OOP amounts by care item*

	Profile 1	Profile 2	Profile 3	Profile 4	TOTAL
Numbers	324	153	311	480	1,268
GPs					
≤ 20€	9.9	27.5	53.1	17.9	25.6
20€/46€	9.6	28.8	28	34.6	25.9
46€/92€	24.4	22.2	11.6	31.5	23.7
> 92€	**56.2**	21.6	7.4	16	24.8
Dental					
None	31.2	79.7	12.2	41	36.1
> 0€ and ≤ 36€	33.6	8.5	2.3	11.9	14.7
36€/573€	22.8	6.5	4.2	20.4	15.4
573€/1,199€	7.7	3.3	29.3	18.3	16.5
> 1,199€	4.6	2	**52.1**	8.3	17.4
Biology					
None	5.3	19.6	56.9	7.1	20.4
0€ and ≤ 23€	6.8	24.2	24.1	26.5	20.6
23€/44€	12.4	13.1	10.3	33.5	20
44€/80€	28.4	21.6	7.1	22.3	20
> 80€	**47.2**	21.6	1.6	10.6	19.1
Pharmacy					
≤ 77€	10.8	17.7	66.2	10.4	25.1
77€/204€	17.9	32	20.6	31.3	25.3
204€/383€	27.5	25.5	8.7	32.3	24.5
> 383€	**43.8**	24.8	4.5	26	25.2
Material and prostheses					
None	22.2	26.1	73.3	38.8	41.5
> 0€ and ≤ 16€	17.9	15	11.6	14.4	14.7
16€/48€	20.1	28.1	6.1	11.7	14.4
48€/152€	28.1	7.2	4.5	14.6	14.7
> 152€	11.7	**23.5**	4.5	**20.6**	14.8
Hospitalization in a private facility					
None	54.9	80.4	93.3	83.1	78.1
> 0€ and ≤ 90€	12.4	5.9	3.2	4.6	6.4
90€/231€	7.7	4.6	0.6	6.3	5.1
231€/560€	**13.9**	4.6	0.3	2.7	5.2
> 560€	**11.1**	4.6	2.6	3.3	5.3

	Profile 1	Profile 2	Profile 3	Profile 4	TOTAL
Numbers	324	153	311	480	1,268
Specialists					
≤ 37€	3.1	37.9	64.6	15	26.9
37€/101€	7.4	28.8	19.9	40.2	25.5
101€/221€	21.6	25.5	7.7	38.5	25.1
> 221€	**67.9**	7.8	7.7	6.3	22.6
Optical					
None	62	76.5	63.3	37.5	54.8
> 0€ and ≤ 376€	16.4	11.1	11.3	10	12.1
376€/556€	7.7	5.9	13.5	13.3	11
556€/774€	7.7	3.3	3.9	**20**	10.9
> 774€	6.2	3.3	8	**19.2**	11.2
Paramedics					
None	17	26.1	74	28.5	36.4
0€ and ≤ 8€	10.5	11.8	12.5	25.2	16.7
8€/44€	16.7	24.2	5.1	19.4	15.8
44€/144€	**23.5**	17.7	4.8	15.4	15.1
> 144€	**32.4**	20.3	3.5	11.5	15.9
Transports					
None	82.1	30.1	96.8	89.8	82.3
> 0€ and ≤ 30€	8	23.5	3.2	9.2	9.2
30€/73€	7.4	17	0	1	4.3
> 73€	2.5	**29.4**	0	0	4.2
Emergencies					
None	79.3	60.8	94.9	95.4	87
/	/	/	/	/	/
/	/	/	/	/	/
> 0€ and ≤ 44€	17.3	28.1	4.5	3.5	10.3
Max > 44€	3.4	**11.1**	0.6	1	2.8
Hospitalization in a public establishment					
None	75.3	10.5	96.5	85.6	76.6
> 0€ and ≤ 126€	13	3.9	0.6	4.6	5.7
126€/414€	8.3	9.2	1	7.3	6.2
414€/1,022€	2.2	**34.6**	0.3	2.1	5.6
> 1,022€	1.2	**41.8**	1.6	0.4	5.9

* OOP by care items were usually determined according to quantiles (Min 0, P25, P50, P75, P100 Max).

Field: Individuals whose OOP exceeded 1,110€ in 2010 (n = 1268).

Reading: 56.2% of individuals with profile 1 have a GPs OOP higher than 92€ against 24.8% for the whole sample.

Sources: 2010 SNIIRAM 2010 - ESPS pairing.

Download the data

ees (*versus* 43%). Half report at least one chronic disease, although there is a slight over-representation of people reporting good or very good perceived health (33% and 31% *versus* 30% and 29%).

High persistence of OOP for the first profile

Considering the OOP paid in 2012 by the 10% of individuals whose OOP were the highest in 2010, nearly a third would still be considered burdened with high OOP.

While all profiles are currently benefitting from a decrease in their average OOP, persistence of high OOP is most important for profile 1, namely, individuals with one or more chronic disease and mainly treated as outpatients. These individuals' OOP amounted to 1,458€ on average in 2012 *versus* 1,942€ in 2010 (- 25%, Table 2). The OOP total has decreased for most care items but is still relatively high. Therefore, 50% of individuals in this class continued to be burdened with high OOP in 2012, *i.e.*, OOP higher than the top deciles of OOP distribution in 2012, *i.e.*, 1,146€.

Regarding profile 4, which includes "non-hospitalized seniors", the total OOP has decreased by 41% (1,034€ in 2012 *versus* 1,755€ in 2010), mainly accounted for by the significant decrease in care items relating to medical schemes ("Optical", "Dental", "Materials and prostheses"), while OOP related to visits to physicians and pharmaceuticals have been kept relatively stable. Therefore, 32% of individuals in this class were still burdened with high OOP in 2012.

Individuals in profile 2, rather vulnerable and hospitalized, in 2010 (public hospital), have a total OOP much lower in 2012 on average (-65%, 796€ *versus* 2,314€ in 2010). This change is explained by a decrease in nearly 80% of hospital OOP and nearly 50% in outpatient OOP ("Specialists" and "Pharmacy"). Only 23% of individuals in this class maintain high OOP in 2012.

Finally, OOP have decreased most steeply for profile 3, namely, employees consuming dental care: -67% (626€ in 2012 *versus* 1,920€ in 2010); the proportion of individuals who continued to bear high OOP in 2012 is the lowest in this category: 16%.

* * *

This study has shown that high OOP do relate to some categories of care that are poorly reimbursed by the compulsory scheme, such as optical or dental care as expected, but result also and rather often from an accumulation of different kinds of OOP for care associated with a greater extent with disease. Among those burdened with high OOP, 4 out of 10 report chronic health problems or have undergone at least one hospitalization during the year. Persistence over time of high OOP for chronic health problems often results from concomitant medical, pharmacy and biology expenses. The existence, but above all the relatively high persistence over time of outpatient care OOP, highlights the need to properly identify the most vulnerable populations to best adjust the support systems. These results indirectly raise the matter of the role of complementary health insurance. While some of the OOP observed in this study are ultimately reimbursed by complementary health insurance, such as copayments, some of the individuals in the study population might have limited their care consumption to avoid having to bear high OOP. In this regard, the prospect of matching compulsory health insurance and complementary health insurance data, as required by law as part of the national health data system (*Système national des données de santé*, SNDS), will enrich the knowledge about OOP. ♦

For further information

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