Out-of-Pocket Spending for Ambulatory and Hospital Care after Reimbursement by the French Public Health Insurance: Unequally Distributed Financial Burden

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The French Public compulsory health insurance scheme is characterized by "out-of-pocket payments » (OOP) on most of the care it covers, namely nearly a quarter of the expense on care and medical goods consumption (CSBM) in 2015 (Beffy *et al.*, 2016). These public OOP are paid by private complementary health insurance or by households themselves. They are made of a superposition of financial contributions introduced over time: Public Copayments, daily allowances, lump sum contributions, extra fees... These financial contributions vary depending on the type of care consumed; they can reach high and hamper access to care by the poorest.

In this study, every financial contribution is studied according to its contribution to the inequalities in OOP based on income and distinguishing ambulatory and short-stay hospital care. The financial contributions for hospital co-payments and per-diem fees, appear the most inequitable. They are generally reimbursed in full by the complementary insurance, but 5% of people are not covered by such insurance and are therefore exposed to the full charge of OOP.

*I*n France, more than three quarters of health spending is financed by Social Security. Not-supported spending is here called "out of pocket payments", which are paid directly by households, or indirectly via complementary health insurance. The distribution of OOP in the population varies depending on the level and nature of consumer care and as a function of income. These OOP weigh particularly heavily on low resource households budgets. The objective of this study is to identify the main categories of OOP and their impacts on households'income in terms of financial equity.

System for the reimbursement of care and insured patients' financial contribution

Social Security reimbursements depend on the type of care consumed. As a proportion of expenditure, they are higher in hospital than in ambulatory care, and within ambulatory care, they are higher for some regulated cost expenditure items (sector 1 consultations, laboratory tests, radiology, paramedic, etc.) than in care with the non-fixed fee sector aid stations (visits to sector 2 physicians, prosthetics, glasses...). For some particularly expensive treatments, such as drugs with high medical benefit, the Social Security regulated prices are 100%, improving their access to care. In hospital, while financing by Social secu-

Context

rity exceeds 90%, some financial contributions such as the *per-diem* fees or hospital copayments may reach significant amounts, especially for one-fifth of hospitalized patients, because these have not benefited from heavy technical procedures during their hospitalization, and are not exempted from hospital co-payment fees. The reimbursement rate may also depend on the medical status of the patient receiving care. Thus, the system of exemptions from co-payments for long-term illnesses (LTI) [*Affection de longue durée* (ALD)] allows patients with chronic diseases to receive higher reimbursements, thereby promoting their access to care.

The different types of financial participations have been gradually introduced. When Social Security was created, co-payment on regulated prices was the only type of financial participation incumbent on patients. Other types of OOP were introduced in the 1980s onwards, due to the progressive degradation of Social Security accounts: the daily rate in 1983, in 2004 and again in 2008, the lump-sum contribution and deductibles on ambulatory care and, in 2006, the 18€ deductible on heavy hospital stays[1]. Extra fees have grown since the creation of sector 2 in 1980.

In total, these OOP, composed of a super-position of financial contributions introduced over time and following various logics (co-payments on regulated prices, *per-diem* fees, deductibles, extra fees...) may represent large amounts when people with significant care needs, and hamper access to care for individuals with modest resources.

These OOP, which thus account for almost a quarter of health expendi-

tures, are paid either by private complementary health insurance (provided by the employer or individually purchase, 13.3% of expenditure in 2015), or directly by households (8.4% in 2015). 95% of French citizens do have a private complementary health insurance and, for the last fifteen years, the various reforms of complementary health insurance – introduction of *Couverture maladie universelle-complémentaire*, (CMU-C, a free scheme for the poorest), responsible contracts[2], implementation of the *Aide au paiement d'une complémentaire santé* (ACS, a voucher for the near-poor), generalization of employer provided health insurance to the whole private sector – strengthen its role in access to care. However, contributions to mandatory health insurance (which depend on the income) and complementary health insurance, which generally depend on age, obey different logics. Thus, studying OOP, after repayment by the compulsory health insurance but before reimbursement by complementary health insurance, may provide an interesting perspective on healthcare spending beyond the solidarity financing by mandatory health insurance.

Lessons of the literature about OOP

In recent years, many studies have investigated the distribution of OOP (HCAAM, 2014A; Lagasnerie *et al.*, 2015.), which led to the following findings:

- OOP are unevenly distributed in the population. People who face the highest healthcare expenditure, including those exempted from co-payments on regulated prices due to a long-term illness (LTI), usually have to pay high OOP.
- The distribution of OOP however, is less concentrated than that of expenditures. The 5% of the population who consumes the most, account for about half of health spending, while the 5% who are facing the largest OOP are burdened with "only" 28% of the OOP. Indeed, the covering system better repays major expenditures through various exemption mechanisms: 16% of the population benefits from long-term illness (LTI) scheme, 8 hospital stays in 10 are exempted from co-payments on regulated prices and the most expen-

sive hospital and out-patient drugs and medicines, which account for a fifth of the market, are totally reimbursed.

- This concentration of OOP has been mitigated still more over several years, as high OOP do not repeat every year for the same person. Thus, over a 6-year period (2008-2013), the top 5% of OOP payers bear 20% of total accumulated OOP.
- The main expenditure items generating high public OOP are prosthetic care, for which market prices are far above Social Security regulated prices; drugs, with yearly recurring OOP; and hospital care, with high co-payments on regulated prices in the public system and extra fees in the private sector.
- Despite high average reimbursment rates of over 90%, hospital care alone generates a high OOP risk, because exemption rules lead to concentrate the majority of financial participation on public hospital stays without costly[3] acts. Thus, within the population that is hospitalized at least once over a period of six years, 53% of accumulated OOP are borne by 10% of patients. However, the latter have not resulted in the highest hospital spending over that period. These cumulative OOP over six years have doubled for people who have been hospitalized at least once during the period, compared to those who have not been hospitalized. Over one given year, the risk of "catastrophic hospital OOP" is not negligible, because 1% of hospital patients face a hospital OOP that exceeds € 3,000.

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[1] 18€ to pay for surgery acts exceeding 91€.

[2] Responsible contracts : to be labelled as responsible, a complementary health insurance contract should exclude from reimbursements medical lump-sums and deductibles financial penalties for non-compliance with gatekeeping system and should cover the whole copayment on regulated prices for visits to physicians (generalists and specialists) into the gatekeeping system. It should also cover a fraction of copayments for prescriptions of those physicians. Responsible contracts are subjected to a preferential tax treatment compared to non-responsible one.

[3] Financial participation rules are complex and detailed in Appendix 1 in the 2013 HCAAM (*Haut conseil pour l'avenir de l'assurance maladie*) report. In particular, different methods of calculating co-payments by various public hospitals, where they depend on the stay duration and daily rates, and private clinics, where it depends on the national rate of the homogeneous group of stays (*Groupe homogène de séjour*, GHS), result in patients bearing a risk of higher OOP in the public system than in the private one for stays that are not exempt from co-payments

Several studies have pointed out that these financial contributions weight unequally in income according to the living standards or health status (Debrand and Sorasith, 2010; Geoffard and Lagasnerie, 2012). Thus, in the management dashboard of the High Council for the Future of Health Insurance (*Haut Conseil pour l'avenir de l'Assurance maladie*, HCAAM), these contributions account for a lesser proportion of income in the lowest deciles of living standards (2%) than in the first one (7%), despite exemption mechanisms designed to protect the most fragile. In view of the correlation between living standards and health status, exemption mechanisms related to health status, such as LTD exemptions, also contribute to reducing health-care use inequalities (Dourgnon and Sorasith, 2013).

Recently published work (Franc and Pierre, 2015) drew up a typology of policyholders bearing the highest OOP. The first profile concerns patients primarily treated as outpatients for chronic diseases; the second comprises rather precarious individuals hospitalized in a public institution; a third mainly relates to active people consuming dental care;

and as for the fourth profile, it consists of elderly outpatients. In continuation of this work, this study approximates the distribution of public OOP with that of household incomes, in order to measure the impact of each type of financial participation in terms of fairness. Among the different types of OOP, those that weigh most in terms of financial expense have been identified, namely, co-payments on regulated prices, hospital and outpatient deductibles as well as ambulatory deductibles, *per-diem* fees at hospital, and extra fees (specialists essentially); dental prosthetic acts, clinical acts or a number of medical devices.

The analysis was performed using the 2010 data regarding the matching of the Health, Health care and Insurance Survey (*Enquête santé et protection sociale*, ESPS) with cross-schemes consumption data (*Données de consommation interrégimes*, DCIR) for outpatient expenses and with the information systems medicalization scheme (*Programme de médicalisation des systèmes d'information*, PMSI) as regards hospital expenses in MSO – Medicine, Surgery and Obstetrics – wards (*Médecine, chirurgie et obstétrique*, MCO) –, which

makes it possible to have information not only on healthcare consumption, but also on socio-economic and health statuses (Sources and Method box).

The ambulatory OOP grows with rising living standards – not hospital OOP

In 2010, the average annual remainder of patients in the sample who used outpatient care amounts to 443€ per person, *i.e.* 33% of outpatient expenditure. For half of them, it is less than 255€; for a quarter of them, it exceeds 586€; and for 10% of them, it is higher than 1,052€. Among the 14% of individuals who were hospitalized at least once in short-stay services, the average annual OOP for this type of hospitalization amounts to 287€, *i.e.* 9% of hospital expenditure. For half of them, the remainder is less than 119€; for a quarter of them, it is more than 294€; and for 10% it exceeds 759€.

Unlike outpatient expenses, which vary little with living standards (between 1,299€ and 1,415€, according to the

Sources and Method

Data source

This analysis is based on the administrative data of the three major Compulsory Health Insurance schemes (*Régime général de la Caisse nationale de l'assurance maladie des travailleurs salariés*, CNAMTS), *Mutuelle sociale agricole* (MSA), *Régime Social des Indépendants* (RSI)) matched with the 2010 Health, Health Care and Insurance survey (*Enquête santé protection sociale*, ESPS). The ESPS survey, conducted every two years, concerned over 20,000 health insurance beneficiaries in 2010, *i.e.* about 8,000 households. It makes it possible to have data that is representative of the general population that provide information on socio-economic status, health status, compulsory and complementary social protection, as well as resorting, or not, to care.

The data from the ESPS survey are matched to medical and hospital consumption data from the National Inter-schemes of health insurance information system (*Système national d'information inter-régimes de l'Assurance maladie*, SNIIRAM):

• The Datamart inter-consumption regimes (*Datamart des consommations inter-régimes*, DCIR) grants access to the history of outpatient healthcare consumption and to the characteristics of this consumption: their nature, date, place, expense incurred, reimbursed amounts and OOP broken down according to their nature (Public Copayments, extra fees, deductibles).

• The medicalization of information systems scheme (*Programme de médicalisation des systèmes d'information*, PMSI) grants access to the history of hospital stays in Medicine, surgery, obstetrics (MSO), and the characteristic features of these stays: medical and administrative information (place, date, duration, admission and discharge modes, main diagnosis legitimizing the stay, homogeneous group of patients (*Groupe homogène de maladies*, GHM) and the stay-related expenses, the OOP and the amount paid due to extra fees and hospital deductibles.

Matching ESPS survey data with the Health Insurance data grants access to a sample of 12,596 individuals for which the survey and medical consumption data are available. Among them, a category of individuals has been removed: patients who are covered, or not, by private complementary health insurance or whose activity status is unknown, namely 12,488 individuals, of which 11,860 have

consumed ambulatory care at least once; and 1,860 have consumed hospital care in short-stay services.

The yearly OOP in ambulatory care as well as its components are directly known via data from the Health insurance scheme. Hospital OOP are also filled in, as well as extra fees on this item, the *per-diem* fees and the 18€ deductible. Co-payment is calculated by subtracting the excess fee, the 18€ contribution by the outpatient and the in-patient charges from the OOP. The professional activity performed in a public establishment and private room payments are not included in the database. However, extra fees associated with a hospital stay in a private clinic are attached to the stay and contribute to the hospital remainder.

In 2010, according to the sample, half of outpatient OOPs are made up of copayments, 44% of extra fees and 6% of medical lump-sum deductibles. These results are similar to those found in national databases. In MSO, the share of co-payments on regulated prices within the OOP is found to stand at 41%; the share of *per-diem* fees at 31%; extra fees at 24% and the share corresponding to the 18€ medical deductible amounted to 4%. The share of co-payments in MSO is slightly lower than the share assessed in the 2013 HCAAM report.

The Kakwani index measures the fairness of OOP distribution across the population

The Kakwani index calculated here is the difference between the Gini index of the OOP distribution as well as the Gini index of income distribution. The Gini index (or ratio) is a synthetic indicator of wage inequalities (income, living standards...) which varies between 0 and 1. Between 0 and 1, inequalities are all the stronger as the Gini index rises. The Kakwani index, for its part, permits to measure the fairness of OOP distribution across the population. It takes values between -1 and +1. Since OOP are proportionately a heavier burden on the poor's budget, the OOP Kakwani index is almost always negative, regardless of co-payment type. The closer to -1 the Kakwani index is, the more unfair the OOP proves to be. Conversely, the closer to zero the Kakwani index gets, the fairer it proves to be*. All calculations are explained in A. Wagstaff and Van Doorslaer E.' the seminal article (1992).

quintiles of income per consumption unit), the OOP increases, from 374€ on average for the 20 % poorest, to 530€ for the 20% richest individuals (Figure 1). The wealthiest have better access to complementary health insurance supporting extra fees and, at the same level of coverage, they have been more able to cope with high OOP after refunds by complementary health insurance. Indeed, when treating CMU-C beneficiaries, doctors are required to apply the conventional price and opticians and dentists are supposed to stick to a fee schedule.

For short-stays at hospital, the expense decreases as the standard of living increases, from 3,497€ for individuals in the first quintile of living standards to 2,934€ for those in the bottom quintile (Figure 2). That negative gradient can be explained by differences in demographics and health status according to the social environment. However, the remainder varies only slightly – from 275€ to 309€ – according to the quintiles of income per consumption unit.
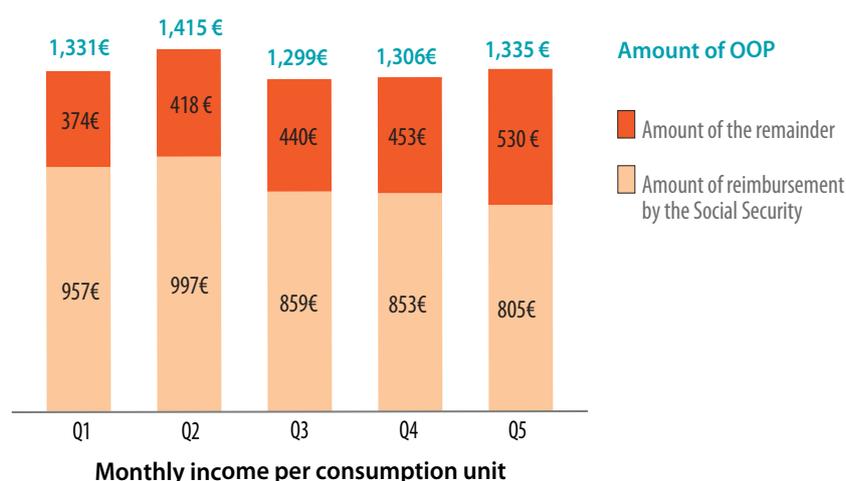
The composition of OOP, for outpatients as well as inpatients, depends on living standards

The composition of outpatients'OOP depends on the social environment, due to the weight of extra fees. Indeed, the amounts of co-payments, averaging 20€, remain constant whatever the living standard quintile. Similarly, medical lump-sums and deductibles are not much dependent on income (from 22€ for the poorest 20% to 26€ or 27€ for the other living standards quintiles) [Figure 3]. However, the amounts of extra fees grow steadily with living standards. They range from 133€ for individuals in the first living standards quintile to 279€ for the fifth quintile, *i.e.* twice as much. They therefore account for 53% of the richest individuals'OOP (against 42% for co-payment) as against 36% of the poorest individuals'remainder (compared with 58% for co-payment).

The composition of short-stay hospitalizations OOP is also highly dependent on the social environment, since the amounts

F1

Amounts of reimbursements by the Social Security, and ambulatory OOP amounts reimbursed according to standard of living in 2010

Amount of OOP

■ Amount of the remainder

□ Amount of reimbursement by the Social Security

Monthly income per consumption unit

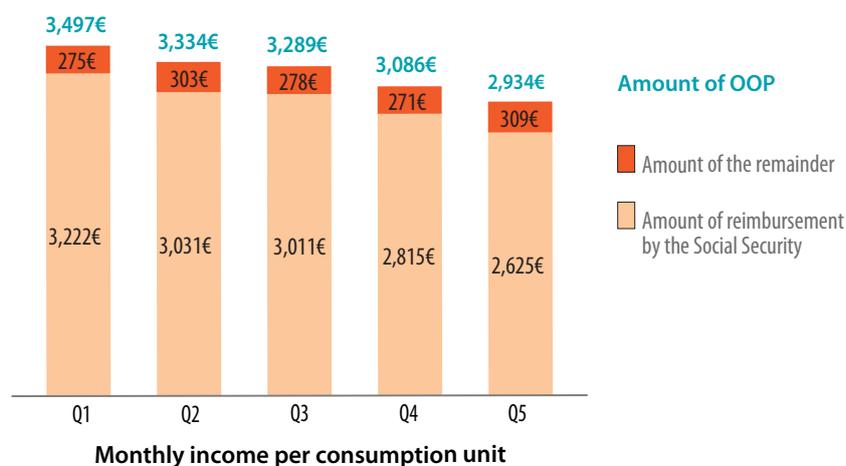**Field:** Individuals who consumed ambulatory care in 2010.

Reading: The average outpatient expenditure by individuals in the first living standards quintile (Q1 = 20% of the poorest people) is 1,331€, including 957€ paid by Social Security and a 374€ OOP paid by patients.

Source: 2010 DCIR-ESPS Matching.   Data available for download

F2

Amount of Social Security refunds and of hospital OOP according to the standard of living in 2010

Amount of OOP

■ Amount of the remainder

□ Amount of reimbursement by the Social Security

Monthly income per consumption unit

Field: Individuals who were hospitalized in MSO in 2010.

Reading: The average expenditure for stays in Medicine, surgery and obstetrics (short-stays) by individuals in the first living standards quintile (Q1 = 20% of the poorest people) is 3,497€, including 3,222€ refunded by the Social Security and 275€ that are left for payment by patients.

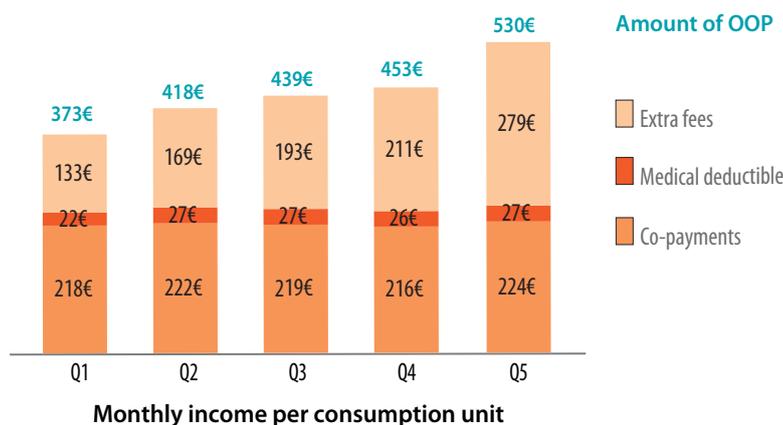**Source:** 2010 PMSI-ESPS Matching.   Data available for download

of co-payments and hospital *per-diem* fees actually fall when income levels increase: the amount of co-payments is thus, on average, 128€ and 142€ for individuals in the first and second income quintiles against respectively 93€, 110€ and 106€ for the third, fourth and fifth income quintiles [Figure 4]. The decline is even clearer on accumulated average *per-diem*

fees: it averages 104€ for individuals in the first quintile; 100€ for those in the second quintile; 94€ for those in the third quintile; 81€ for those in the fourth quintile and 69€ for the wealthiest individuals. This result is mainly explained by differences in the nature of supported care and the seriousness of stays depending on living standards, with proportionally more

F3

Composition of outpatient OOP according to living standards in 2010

Amount of OOP

- Extra fees
- Medical deductible
- Co-payments

Q1	Q2	Q3	Q4	Q5
373€	418€	439€	453€	530€
133€	169€	193€	211€	279€
22€	27€	27€	26€	27€
218€	222€	219€	216€	224€

Monthly income per consumption unit

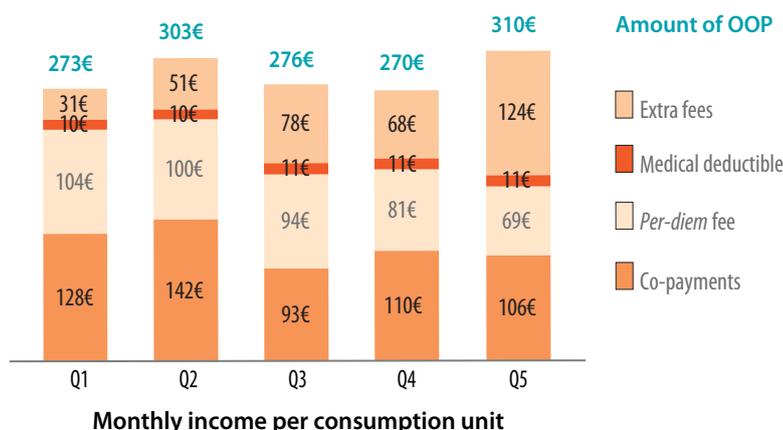**Field:** Individuals who consumed ambulatory care in 2010.

Reading: The average outpatient OOP among individuals in the first living standards quintile (Q1 = 20% of the poorest people) is at 373€, including a 218€ co-payment on regulated prices, a 22€ flat-rate contribution and medical deductibles plus a 133€ excess fee.

Source: 2010 DCIR-ESPS Matching.   ⬇ Data available for download

F4

Composition of outpatient OOP according to living standards in 2010

Amount of OOP

- Extra fees
- Medical deductible
- *Per-diem* fee
- Co-payments

Q1	Q2	Q3	Q4	Q5
273€	303€	276€	270€	310€
31€	51€	78€	68€	124€
10€	10€	11€	11€	11€
104€	100€	94€	81€	69€
128€	142€	93€	110€	106€

Monthly income per consumption unit

Field: Individuals who were hospitalized in MSO in 2010.

Reading: The average OOP in MSO paid by individuals in the first living standards quintile (Q1 = 20% of the poorest people) is at 273€ including 128€ Public Copayments , a 104€ *per-diem* fee, 10€ medical deductibles and 31€ extra fees.

Source: 2010 ESPS-DCIR Matching and 2010 ESPS-PMSI Matching.   ⬇ Data available for download

patients from modest social backgrounds cared for in Medicine hospitalization, the elderly in particularly. Yet, in Medicine, the exemption of hospital co-payments is less frequent and stays last longer. Furthermore, studies have highlighted the link between precariousness and hospitalization, highlighting longer stay durations for isolated people (Raynaud, Yilmaz, 2010). Instead, extra fees related to hospitalization follow a growing trend: 31€ (11% of the remainder) for the first income quintile, 78€ (28% of the remainder) for those in the third quintile and 124€ (40% of the remainder) for those in the bottom quintile. These extra fees get higher as income rises, which is explained by more frequent stays into private clinics. Finally, the average amounts of medical deductibles are almost identical from one income quintile to another, ranging between 10€ and € 11€.

Hospital Public Co-payments and *per-diem* fees prove to be the most unfair financial contributions

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The progressive – or not – nature of the remainder is measured from the Kakwani index (K, Sources and Methods box). It indicates whether the financial input by the poor is higher (negative K), identical (zero K) or lower (positive K) than by the richest. This index has two advantages: it provides a summary measure of the unequal distribution of the financial burden according to individuals' incomes, which the financial burden does not permit in itself. On the other hand, it can be decomposed according to the different types of OOP, indicating to what extent each of them contributes to the overall inequality.

Given the Kakwani index, the financial effort tends to be higher when income decreases. The Kakwani index associated to ambulatory OOP is negative (K =-0.21) [Table]. Compared to income, the financial burden left by the compulsory health insurance tends to increase when the level of resources decreases. In ambulatory, co-payment on regulated prices causes the most uneven effort (K = 0.28), contributing 65% to the total value of the Kakwani index. Financial contributions and medical deductibles have a similar index value (K = -0.25), but contribute only very moderately to the unequal financial effort given their low weight in the remainder. Finally, extra fees have a much lower Kakwani index (K = -0.14) and contribute about 28% to the regressive nature of OOP. Indeed, individuals on low income can more easily access care which high extra fees, or replace them with OOP free care, opting for consulting doctors without extra fees. Moreover, CMU-C beneficiaries, located in the lower income categories, are in principle burdened with no extra fees.

The distribution of OOP contingent to income seems more unfair regarding financial contributions to hospitals

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Indices of social inequality as regards outpatient and short-stay hospitalization OOP and decomposition according to OOP types	Coefficient	P>|z|	Confidence intervals[1]	
Outpatient OOP				
Index Level	-0.21	0	-0.23	-0.198
Co-payments				
Index Level	-0.28	0.000	-0.30	-0.27
Contribution to inequality	0.65	0.000	0.62	0.68
Extra fees				
Index Level	-0.14	0.000	-0.16	-0.11
Contribution to inequality	0.28	0.000	0.24	0.32
Per-diem contributions and deductibles				
Index Level	-0.25	0.000	-0.27	-0.23
Contribution to inequality	0.07	0.000	0.06	0.07
Hospital OOP (MSO)				
Index Level	-0.32	0.000	-0.38	-0.27
Hospitality OOP				
Index Level	-0.41	0.000	-0.45	-0.36
Contribution to inequality	0.40	0.000	0.34	0.47
Co-payments				
Index Level	-0.42	0.000	-0.52	-0.32
Contribution to inequality	0.54	0.000	0.46	0.62
Extra fees				
Index Level	-0.03	0.216	-0.11	0.05
Contribution to inequality	0.02	0.215	-0.03	0.08
18€ medical deductible				
Index Level	-0.29	0.000	-0.33	-0.25
Contribution to inequality	0.03	0.000	0.03	0.04

[1] The confidence intervals for indices and their contributions are assessed by bootstrap, the number of prints made to implement this method is at 500 each time.

Reading: In outpatient care, the index of the progressivity linked to co-payment is at -0.28; its total contribution to social inequalities regarding outpatient OOP (-0.21) is at 0.65, *i.e.* 65%.

Source: 2010 DCIR-ESPS Matching.
 Data available for download

(K = -0.32) than those relating to outpatient care (K = -0.21). These are copayments and *per-diem* fees[4] that display the most negative index values (-0.42 and -0.41, respectively), contributing by 54% and 40%[5] to the regressive nature of short-stay hospital OOP. While the Kakwani index associated with the 18€ medical deductibles is also significantly negative (K = -0.29), the contribution of this type of OOP is still only 3%, given their low amounts. Finally, extra fees associated with a hospital stay have a Kakwani index that is not significantly higher than zero. As for outpatient care, this small contribution of extra fees can be explained by the fact that individuals with limited resources scarcely resort to care incurring extra fees: for example, they consult at public sector facilities rather than in the private sector. For hospital care, choosing extra fees-free care is probably easier to do via the public hospital than via a number of outpatient care where extra fees are quite common, which may explain that the Kakwani index relative to extra fees is significantly negative for outpatients and zero at the hospital.

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These results confirm that deductibles paid by the insured for care expenses after reimbursement by the compulsory health insurance are unfair, depending on their living standards: the financial burden of people using health services is all the heavier as the standard of living is low. The degree of greater inequality observed for shorts stays at hospital deserves highlighting. Indeed, the use of this type of care can be regarded as crucial and inevitable. Therefore, financial participation cannot be justified by the logic of containing demand for care by sharing costs with insured patients. Besides, we show

these effort inequalities are mainly caused by the distribution of co-payments on regulated prices for hospital care as well as outpatient care. As for hospital OOP, this finding is to be compared with those presented in the 2013 HCAAM report, which highlights the dominant weight of co-payments in the high OOP in the public hospital sector (HCAAM, 2014b). Hence, our study shows that these hospital OOP especially penalize the poorest, which more generally questions the logic of setting up different forms of financial participation to hospital care.

The small role played by extra fees for outpatients and in hospital can raise the issue of access to a number of treatments whose costs exceed the statutory Social Security fee. But it may also reflect that, in some respects, the regulation of fees reduces inequalities, as is the case with the CMU-C. The interpretation of this result cannot be unequivocal. As for ambulatory medical deductibles, they contribute to inequalities to a small extent only, since their amount is low compared to other financial contributions.

The new legislation on responsible contracts, which extends the obligation to cover co-payments on outpatient and hospital care and states that the *per-diem* hospital fee must be paid indefinitely regardless of the treatment duration, echoes these results. This extension of the financial specifications of responsible contracts allow, through coverage by private complementary health insurance, fully covering two types of OOP that result in social inequalities in terms of financial burdens. Yet, these reforms are not likely to erase all of the observed inequalities. Firstly, because there still is a fraction of the population who does not have private complementary health insurance and is therefore fully exposed to the OOP not

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[4] Rules for financial participation in hospitals limit the effect of the daily fee in favor of co-payment. Indeed, when the stay is not exempted from co-payment, the rule is that between co-payment and daily fee, only one participation is due, the most important, the other being exempted. In practice, it means that the daily fee, which is less expensive, is not paid when the co-payment is due.

[5] Despite very close Kakwani index values, there are notable differences in contribution due to a significant weight of co-payment in the hospital OOP

paid by the compulsory health insurance. This population is characterized by lower levels of income than the rest of the population (Célant *et al.*, 2014). Moreover, as they are somewhat excluded from the labor market, they will benefit very little from the generalization of the employer provided health insurance implemented on 1 January 2016 (Jusot, Pierre, 2015). On the other hand, pooling on complementary health insurance contracts is imperfect. Therefore, contributions are indirectly related to the risk of high OOP, especially as regards individual covers whose rates vary with age. However, hospital co-payments, mainly in medicine,

which is allegedly the most unfair regarding financial participation, are related to the aging phenomenon. In this regard, the 2016 Act on the financing of social security (*Loi de financement de la Sécurité sociale*, LFSS) provides for labelling seniors'contracts, since labelled / certified contracts have to meet the coverage and price criteria.

Finally, it is worth pointing out that – failing a data match between the compulsory health insurance and the private complementary health insurance on representative, large samples – analyses have yet to be conducted on OOP after repayment by

private complementary health insurance. However, studies based on simulations have been used to investigate differences between OOP paid by individuals after repayment by private complementary health insurance (Lardellier *et al.*, 2012). The creation of the health data national system (*Système national des données de santé*, NSDS) by the public healthcare Act – providing for matching the Mandatory health insurance with the private complementary health insurance, which has already been experimented (Dourgnon *et al.*, 2014) – is expected to develop studies on OOP after payments by the private complementary health insurance. ◆

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