Sickness coverage and social discrepancies of medical consumption

Andrée Mizrahi
Arié Mizrahi

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Andrée Mizrahi
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PROBLEM STATEMENT

Social policies in the field of health aim at improving access to medical care for all, improving the state of health of the population and, to reach that goal, making a special effort to tap the less privileged groups and reduce health inequities.

As concerns the first question, many publications have revealed the positive statistical relation between the levels of sickness coverage and medical consumption : as concerns most primary care, people without complementary coverage to social security have a lower level of consumption than those who do have complementary coverage (*see ref. [1] and [4]*).

This disparity of access to medical care according to complementary coverage is not only due to a price barrier, people without complementary coverage having to pay the co-payment entirely. Indeed, people without complementary coverage tend to belong to less privileged groups - unskilled employees and workers, the unemployed, low-income households, foreigners, etc. These groups consume some categories of specialized care less than others, even if they benefit from complementary coverage.

The subject of this study is the impact of complementary coverage on discrepancies of access to care. In other words, does a better collective coverage of medical expenses effectively reduce inequities in medical consumption ? The results are disclosed in *[2]*, and show that as concerns visits to physicians, whether GPs or specialists, discrepancies are stronger among groups without complementary coverage than among those with complementary coverage.

Subsidiary question - or same question asked differently : is the effect of complementary protection the same for different social groups ?

1. DIMENSIONS OF SICKNESS COVERAGE IN FRANCE

Sickness coverage in France is a complex and mixed system. It is two-fold : social protection is made compulsory by law, and complementary coverage is generally optional.

1.1. The compulsory scheme

Compulsory sickness protection is based on a great number of schemes, mostly based on professional activity[1].

The main compulsory schemes of medical care coverage are : the general scheme, which covers 80% of the population (including assimilated schemes, the principal one being that of civil servants, 8.3%), the farmers' scheme (5.4%), and the craftsmens' and shopkeepers' scheme (5.2%).

Their financing comes from prepayments determined according to the nature and level of income. They are proportional to the salary for wage-earners and, in general terms, to the revenue for others. The general level of the benefits paid are quite independent from the scheme one belongs to (trade and industry wage-earners' scheme, independents', farmers', civil servants', students' scheme, ...).

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1 *A reform of sickness protection is under way. One of its objectives is to reach a situation in which all people residing in France would have an equivalent minimum compulsory sickness protection (universal scheme).*

There are six rates of reimbursement in the trade and industry wage-earners' general scheme, as there are in a few other schemes (civil servants, students,...) and in the farmers' scheme :

- 35% for drugs with a blue label, called "comfort drugs",
- 60% for the fees of medical auxiliaries and for medical biology tests,
- 65% for drugs with a white label, various supplies and medical transportation, as well as for the cost of certain thermal cures,
- 70% for a physician's or a mid-wife's intervention,
- 80% for hospitalization costs (fees, laboratory, costs of a hospital stay...) and certain thermal cures,
- 100% for certain "irreplacable" medical specialties.

This reimbursement leaves part of the cost (between 0 and 100%) to the patient (co-payment). In other schemes, reimbursement rates can be higher (SNCF - French National Company of Railroads) or lower (craftsmen's and shopkeepers' scheme) than the rates of the general scheme.

Three main exceptions complement this mechanism :

- tariffs are not always applied by practitioners. Indeed, social security has accepted that in some cases, pricing be left to the physician, dentist or biologist. The tariffs and rates of reimbursement remaining the same, this practice increases the additional cost to be met by the patient in an uncontrolled way. These additional costs, which can be heavy, are found mostly among specialists of the second field (whose average additional fee is around 50%). Dental care and certain goods such as glasses or other medical supplies are reimbursed on the base of flat rates that do not follow the evolution of real prices ;
- social security reimburses 100% of the tariff for care relative to certain illnesses or to exceptionally expensive treatments, but leaves the additional costs mentioned above to the patient (11.6% of the people protected by social security are exempt from all or part of the co-payment in that way) ;
- social security reimburses 100% of the tariff for certain long hospitalizations or those involving an important surgical operation, but leaves the per diem to the patient (70 French francs in 1996), as well as the eventual overcosts.

1.2. Complementary protection

Complementary protection is administered through a great number of structures that can be clustered in three groups : mutual insurances, providence funds[2] and private insurances. The prepayments are again quite variable, and can be proportional to revenue - as in the case of compulsory protection -, to the number of people of the household, to age, to risk ... Inversely, the benefits granted can be proportional to compulsory benefits or adapted to the needs (particularly if tariffs are trespassed), to the population aimed at ... In general, those protected by a complementary coverage find that specialists' care is well reimbursed, 76.4% consider that they are completely or well reimbursed, whereas 27% consider that they are weakly or very weakly reimbursed for false teeth and the care they require *(see graph 1).*

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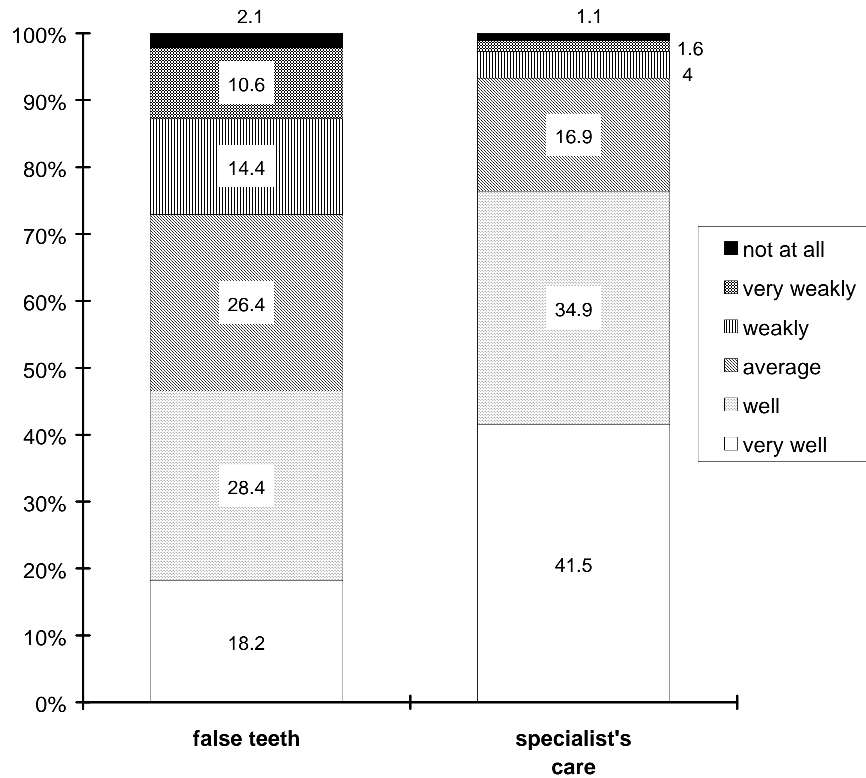
2 *Joint structures, the principal activity of which is to levy prepayments and to pay in complementary pensions to the "basic" schemes.*

All schemes considered, 85% of the people have complementary coverage *(see table 5 in the appendices).* This proportion, which varies according to the scheme, reaches 97% among the beneficiaries of the civil servants' scheme (8.3% of the population), and 76% among the beneficiaries of the SNCF (French National Company of Railroads) scheme[3] (1.3% of the population).

Graph 1
Perception of the level of reimbursement of the complementary coverage as concerns specialists' care and false teeth



Source : French annual survey of health and social protection 1994

1.3. Combination of compulsory and optional coverage

Thus, in the end, 7.5% of the population is both exempt from co-payment and protected by a complementary coverage *(see table 1),* whereas 12.1% must face co-payment and is not protected by complementary coverage. Three quarters of the population face co-payment and benefit from a complementary coverage.

Among those without complementary coverage, a higher proportion (21.4%) is exempt of co-payment as among those with complementary coverage (8.9%). This inverted relation is very broadly significant, with an odds ratio of 2.85% *(see table 1 and graph 2).*

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3 *In the scheme of the SNCF, care is free if the physician is an SNCF one.*

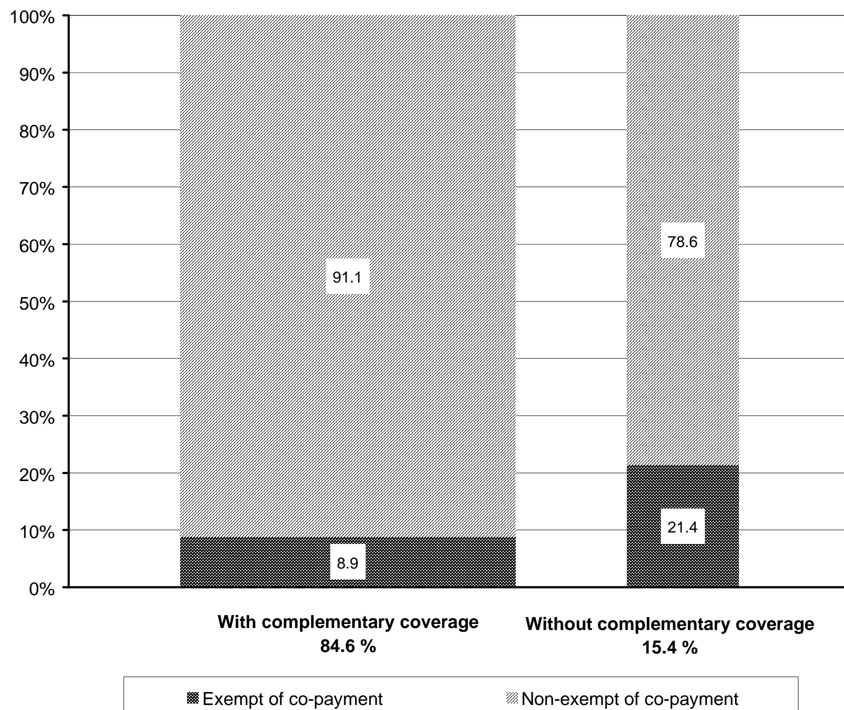
In order to avoid confusion between the effect of the scope of sickness coverage in the compulsory scheme and the effect of complementary coverage, this study is limited to schemes with benefits in accordance with the general scheme of trade and industry workers, which covers more than 90% of the population[4].

Table 1
Proportion of people exempt of co-payment according to complementary coverage

	With complementary coverage	Without complementary coverage	Total
Exempt of co-payment	7.5	3.3	10.8
Non-exempt of co-payment	77.1	12.1	89.2
Total	**84.6**	**15.4**	**100.0**
Exempt of co-payment	8.9	21.4	10.8
Non-exempt of co-payment	91.1	78.6	89.2
Total	**100.0**	**100.0**	**100.0**

Source : 10-yearly survey on health and medical care, 1991-92 (20,417 observations. Weighted data.)

Graph 2
Proportion of people exempt of co-payment according to complementary coverage



Source : 10-yearly survey on health and medical care, 1991-92 (20,417 observations. Weighted data.)

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4 *Certain people occupying various jobs simultaneously (part-time workers) or successively (seasonal workers) are covered by several compulsory insurance schemes : the frontier between the schemes is unclear and the adding-up of the number of people covered by the various schemes adds up to more than the population living in France (despite an unprotected fraction of the population).*

1.4. Sickness coverage and state of health according to the social background

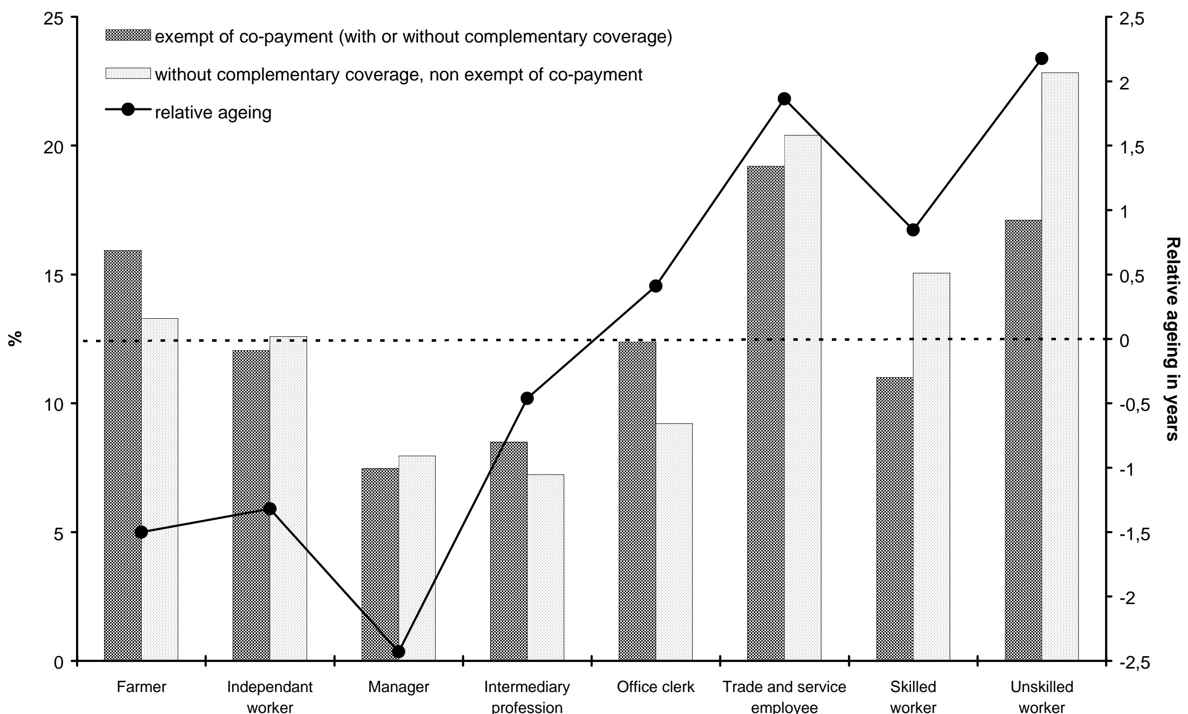
Social background is defined by the profession of the reference person in the household. If that person is retired or unemployed, his or her last profession is taken into account. Care coverage is strongly linked to the social background *(see graph 3).*

To evaluate the sanitary condition of adults according to their social background, the notion of relative ageing is used, which compares a given person's state of health with the state of health that could be expected according to his or her age and gender. Relative ageing is the equivalent of the intuitive notion of "prematurely aged", or on the contrary, "younger than one's age", based on one's state of health.

To apprehend the state of health of an adult (18 years and above), the morbid age is determined according simultaneously to age, vital risk and disability. The morbid age of a given person equals its actual age plus or minus a number of years proportional to the distance of its vital risk and its disability to the average vital risk and the average disability of its age class *(see ref. [3]).* If years are added, ageing is "premature" ; if years are substracted, ageing is "delayed".

Thus, the ageing of members of unskilled workers' households is premature by 2.2 years, and that of trade and service employees by 1.9 year. At the other extreme, the ageing of members of households of top managers is delayed by 2.5 years *(see graph 3 and, in the appendices, table 6).*

Graph 3
Relative ageing and level of protection according to social background



Source : 10-yearly survey on health and medical care, 1991-92 (20,417 observations. Weighted data.)

The exemption of co-payment by social security is more frequent for backgrounds in which the state of health is the worst - skilled workers and trade and service employees -, which is coherent with the goal to enhance access to health care to those who suffer from a long and costly illness. On the other hand, protection through complementary coverage linked to the employment status or subscribed to voluntarily, on the condition of prepayments, is maximum for groups with the highest revenues and the best health - top managers and intermediary professions.

All things considered, and taking complementary coverage and exemptions of co-payment into account, groups whose state of health is worst are the least covered groups as well as the ones with the lowest rate of reimbursement *(see graph 3).*

2. MEDICAL CONSUMPTION

The term "medical consumption" is understood in its economic meaning and refers to the expense created by the acquisition of medical services or goods, whoever finances them - social security, the patient, the mutual insurance, the insurance, etc.

The information is taken from the ten-yearly survey of households on health and medical care *(see frame 1 in the appendices).* The expenses analyzed are relative to physicians' care (GPs and specialists are considered separately), dental care, medical auxiliaries, prescribed drugs, tests and hospitalization. Additionally to expenses, the percentages of consumers of these different categories of care are determined over three months.

The objective is to evaluate the impact of the different rates of reimbursement on discrepancies of medical consumption according to social background[5]. People protected by specific schemes that ensure a better reimbursement of health care (scheme in Alsace-Lorraine, SNCF, etc.) are excluded from the scope of the study.

The sample analyzed finally gathered 17,321 people representative of those who benefit from the coverage of the general scheme of social security or from an equivalent scheme.

We will analyze three aggregates of medical consumption.

- The GP's care : for those visits, the average price is about 10% higher than the tariff[6] ; this additional part of the fee is the same whether exempt from co-payment or not, for those who benefit from a complementary coverage and for those who do not. The consumption of GP care is much higher for those exempt from co-payment. On the other hand, it increases weakly with the existence of a complementary coverage *(see table 7 in the appendices).*
- Specialists' care : the additional fee is of 25% on average and is higher both for those not exempt from co-payment and for those who have complementary coverage ; this consumption is higher for those not exempt from co-payment, and mostly for those who have complementary coverage.
- Dental care (including false teeth) : the price is very remotely linked to tariffs and does not depend on exemption from co-payment, but strongly depends on complementary coverage. The level of this consumption is independent from exemption from co-payment, but is much higher for those protected by complementary coverage.

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5 *Defined by the profession, or last profession, of the reference person.*

6 *Additionally to the additional part of the fee, this percentage includes certain travelling expenses and supplements for night or sunday visits.*

Expenses relative to these consumptions are very dispersed and the average values are therefore relatively random. For that reason, the proportion of consumers, more stable because dichotomic, is analyzed additionally to the average expense.

2.1. The proportion of consumers

We adjusted logistically the rate of consumers, the explanatory variables being age (six classes) and gender, the existence or the absence of a complementary coverage, the social background (eight categories) and the exemption or non-exemption of co-payment :

rate of consumers = function (age, gender, social background, complementary coverage, exemption of co-payment)

All things being equal, and assuming that the hypotheses of the logit analysis are verified,

- the proportion of GP care follows a U curve depending on age - strong for chidren and the elderly, minimal for people of age 16 to 39 ; men are less frequent consumers than women ; the reference group as concerns social background is that of intermediary professions ; top managers and independent workers rarely resort to this type of care, very frequent for unskilled workers ; those protected by complementary coverage, and those exempt from co-payment to an even greater extent, very often resort to this type of care *(see table 8 in the appendices),*
- the proportion of specialist care varies also with age, but the elderly rarely resort to it after age 80 ; men are less frequent consumers than women ; the groups resorting most frequently to that type of care are top managers and intermediary professions, whereas unskilled workers and farmers forsake it ; those protected by complementary coverage and those exempt from co-payment are frequent consumers of this type of care,
- dental care is mostly consumed by young adults, before age 65 ; men are less frequent consumers than women ; top managers are the most frequent consumers of this type of care, whereas workers rarely resort to it, particularly those unskilled ; those protected by complementary coverage are frequent consumers of this type of care, whereas exemption from co-payment does not impact this type of care.

Such discrepancies where already acknowledged in previous surveys (*see ref. [1]*). We strive to go further than these results by evaluating the impact of complementary coverage on disparity of access to care. In order to do so, we adjusted logistically the same exogenous variables separately for those with complementary coverage and for those deprived of it *(see tables 9 and 10 in the appendices).* The exogenous variables are now age, gender, social background and exemption or non-exemption of co-payment,

Rate of consumers = function (age, gender, social background, exemption of co-payment)

and the inter-group dispersion (standard-deviation) is calculated according to the social background.

Under the hypotheses of the logistical analysis, the inter-group standard-deviation can be compared for the three categories of care under consideration for the subgroups with or without complementary coverage : for GP and dental care, disparity of access to care according to the social background is higher for the group without complementary coverage than for the group with complementary coverage. As concerns specialist care, dispersion is comparable *(see table 2).*

Table 2
Inter-group variation of the logit Adjustment
according to social background, complementary coverage, type of care

	Inter-group standard-deviation of the logistic Adjustment according to social background	
	Model applied strictly to people exempt of co-payment	
	With complementary coverage	Without complementary coverage
GP	0.20	0.27
Specialist	0.24	0.32
Dentist	0.18	0.34
	Model applied to the total sample with distinction between exemption and no exemption from the co-payment	
	With complementary coverage	Without complementary coverage
GP	0.12	0.29
Specialist	0.24	0.29
Dentist	0.18	0.50

Source : Ten-yearly survey on health and medical care, 1991-92 (17,321 observations. Weighted data).

2.2. The average consumption

Given the very strong impact of age and gender on most medical consumption, one must strive to compare social groups by eliminating the differences only due to differences in demographic structures. For example, 33% of people belonging to farmers' households are age 65 or more, which is the case for only 9% of the top managers' and intermediary professions' households (*see frame 2 in the appendices).*

The expenditure of those without complementary coverage is lower than average for all types of care, except for hospitalization and for GP visits at the patient's home *(see table 11 in the appendices).* Their expenditure at GPs is 24% lower than that of people with complementary coverage. The gap is of 22% for specialist care and of 19% for dental care. After standardization, the gaps are at the same level : respectively 24%, 23% and 18% *(see table 3).*

Table 3
Annual expense per person according to the type of care and the complementary coverage
french francs 91 - standardized index by age and gender

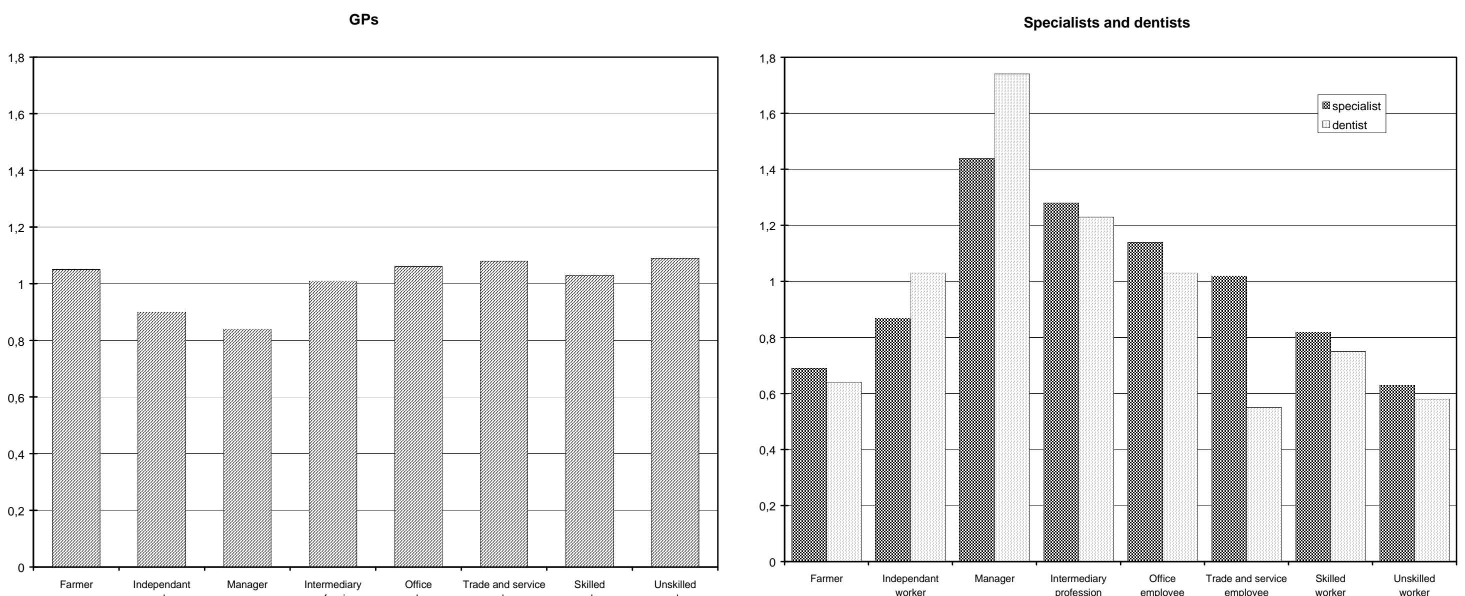
	With complementary cover.		**Without compl. coverage**		**Total**	
	Expense	**Index**	**Expense**	**Index**	**Expense**	**Index**
GP	508	1.04	387	0.79	489	1.00
Specialist	723	1.04	561	0.80	698	1.00
Dentist	559	1.03	454	0.84	543	1.00

Source : Ten-yearly survey on health and medical care, 1991-92 (17,321 observations. Weighted data).

Discrepancies according to social background reveal more clearly the opposition between GPs and specialists. Among wage earners for example, the GP care consumption of unskilled workers is 40% higher than that of top managers (30% with standardized index). Inversely, the specialist care consumption of the latter is 145% higher than that of unskilled workers (129% with standardized index) and the dental care consumption is 189% higher (200% with standardized index). Considering all physicians together, top managers' resort to them is 45% higher with observed values, and 51% higher with standardized index, than that of unskilled workers.

Top managers are the biggest consumers of specialist and dental care. Unskilled workers are the biggest consumers of GP care. Farmers have a low consumption of dental care *(see graph 4 and table 12 in the appendices).*

Graph 4
Annual expense per person according to type of care and social back ground
standardized index by age and gender



Source : Ten-yearly survey on health and medical care, 1991-92 (17,321 observations. Weighted data).

To evaluate the impact of sickness protection on access to care, discrepancies between social backgrounds (inter-group standard-deviation) are compared with and without exemption from co-payment. This variable will be introduced in the analysis because of the interference of an eventual exemption of co-payment with payments *(see table 13 in the appendices).*

If one disregards prepayment *(see the three last lines of table 4),* consumption discrepancies are always higher for those who are not protected by a complementary coverage than for those who are : the inter-group standard-deviation of the standardized index by age and gender are respectively of 0.16 and 0.08 as concerns GPs, 1.09 and 0.25 as concerns specialists, and 1.28 and 0.33 as concerns dental care.

As concerns the group that is not exempt from co-payment, the dispersions among social backgrounds depending on the absence or the presence of a complementary coverage are even more distant : 0.20 and 0.08 for GPs, 1.43 and 0.27 for specialists, 1.35 and 0.31 fo dental care.

As planned, the exemption from co-payment doubly perturbs this relation. On the one hand, exempt people are more severely ill on average, and suffer from affections that require a greater amount of care. On the other hand, they do not pay the co-payment (at least for the heaviest part of their treatment) : the impact of the complementary coverage is less important for them and the gaps between the variation coefficients are lessened, if not inverted.

One most, however, note that the number of people exempt from co-payment is low (1,524 people in total), given the necessity to distribute them according to complementary coverage. The smallest group, that of people exempt from co-payment and deprived of complementary coverage, only counts 427 people that need to be distributed again according to social background. The groups thus set up contain less than 100 people. The inter-group variation is therefore subject to a strong random factor.

Table 4
Inter-group standard-deviation (among social backgrounds)
according to the exemption from co-payment and to the complementary coverage
(calculated with standardized index by age and gender)

	GP	Specialist	Dentist
Non-exempt of co-payment			
With complementary coverage	0.08	0.27	0.31
Without complementary coverage	0.20	1.43	1.35
Together	0.07	0.33	0.36
Exempt of co-payment			
With complementary coverage	0.09	0.29	0.72
Without complementary coverage	0.09	0.40	1.16
Together	0.06	0.30	0.66
Total			
With complementary coverage	0.08	0.25	0.33
Without complementary coverage	0.16	1.09	1.28
Together	0.07	0.28	0.38

Source : Ten-yearly survey on health and medical care, 1991-92 (17,321 observations. Weighted data).

CONCLUSION

It clearly appears that a better social minimum fare of medical expenses, that is to say a higher rate of reimbursement, while giving access to care to all social groups, also reduces discrepancies in medical consumption in a very systematic way. This reduction takes place both globally and for each type of care : the type of care more consumed in privileged social groups as well as the type of care more consumed in less privileged social groups. As a consequence, not only do discrepancies reduce, but consumption structures converge.

Simultaneoulsy, it can be concluded that the impact of complementary coverage decreases as the social level increases and that access to care is already generalized. Can the conclusion be drawn that medical protection does not foster"medical superconsumption" ?

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Appendices

Chart nr. 1

The ten-yearly survey on health and medical care 1991-1992

The survey was conducted by the INSEE, and in collaboration with the CREDES as concerns medical aspects. The sample of 7,701 households (20,417 people) is representative of the body of ordinary households in metropolitan France. The survey was conducted over four periods of three months between April 1991 and March 1992. The complete participation rate is of 84 %.

Data gathering combined interviews with medical care records. Each household is observed during 12 weeks and is visited five times every three weeks. Between the visits, the household keeps up its medical care records.

All medical consumption is thus recorded during the three-month observation (hospitalization, physician's care, medical auxiliary, drugs, biology ...). Each medical consumption is discussed and analyzed during the following interview (the maximum delay between consumption and the interview is of three weeks), in order to gather information (precise nature of consumption and of the producer, medical justification, content, exact place, circuit of the patient, conditions and level of payment ...).

Morbidity is determined in several complementary ways ; at the start of the survey, declaration with a mnemonic list : morbidity (illnesses, disability, various benefits and motive...), reasons for present or recent hospitalization, reasons for exemption from co-payment ; during the survey, reasons for medical consumption, for confinment to bed, for absenteism, for diverse benefits, whether monetary or in kind, answers to questions from physicians (during the information gathering, the file is analyzed by a physician who can request that one or several tailored questions be asked to complete or deepen medical information).

An important part of the information deals with the family and socio-cultural environment, sickness coverage, hospitalizations during the past six months, treatments under way at the beginning of the survey, aid received...

The expenses brought about are evaluated whoever finances them and whether payment is immediate or put off.

Chart nr. 2

Standardization by age and gender

Comparing average consumptions of two or several subgroups requires performing a standardization by age and gender (standardization) if :

- consumption significantly varies with age and gender,
- demographic structures of the subgroups to be compared cannot be considered to be close.

These "structural" effects are corrected in order to obtain comparisons valid in case of "equal demographic structures". The index of a population for the same age and gender refers to the average distance between the average consumption profile according to age and gender of the group and that of the reference population (in general, the total population). The indicator of a supgroup Pi for the same age and gender is the consumption observed for Pi divided by the consumption that Pi would have had if the Pi people belonging to each age group and gender group had consumed identically to the people of the same demographic group belonging to the reference population.

Strictly speaking, this index makes sense only if :

- consumption profiles of the various subgroups according to age and sex are the same as, or relatively close to, that of the reference population,
- demographic structures of the subgroups to be compared are not too different from those of the reference population.

Table 5
Proportion of people without complementary coverage according to Social security's scheme

	Complementary coverage		Total
	Yes	No	
General scheme	85	15	64.4
Civil servants' scheme	97	3	8.3
Farmers' scheme	83	17	5.4
Craftmens' and shopkeepers' scheme	86	14	5.2
Agricultural wage-earners	81	19	2.6
Local authorities	93	7	2.2
Alsace - Lorraine	78	22	2.2
Students' scheme	86	14	2.0
The military	97	3	1.4
SNCF	76	24	1.3
Other scheme	71	29	4.9
Total	**85**	**15**	**100.0**

Source : 10-yearly survey on health and medical care, 1991-92 (20,417 observations. Weighted data.)

Table 6
Relative ageing and level of protection according to social back ground

						Without CC*		With CC*	
	VR*	without CC*	with CC*	exempt of CP*	non-exempt of CP*	exempt of CP*	non-exempt of CP*	exempt of CP*	non-exempt of CP*
Farmer	-1.5	19.0	81.0	15.9	84.1	5.7	13.3	10.3	70.8
Independent worker	-1.3	16.4	83.6	12.1	87.9	3.8	12.6	8.2	75.4
Manager	-2.4	9.0	91.0	7.5	92.5	1.0	8.0	6.5	84.6
Intermediary profession	-4.6	8.8	91.3	8.5	91.5	1.5	7.2	7.0	84.3
Office clerk	0.4	12.9	87.1	12.4	87.6	3.7	9.2	8.7	78.4
Trade and service employee	1.9	30.2	69.8	19.2	80.8	9.8	20.4	9.4	60.4
Skilled worker	0.8	18.7	81.3	11.0	89.0	3.6	15.1	7.4	74.0
Unskilled worker	2.2	30.9	69.1	17.1	82.9	8.1	22.8	9.0	60.1
Total	**-**	**16.7**	**83.3**	**11.6**	**88.5**	**3.8**	**12.9**	**7.8**	**75.6**

VR : relative ageing, CC = complementary coverage, CP = co-payment

Source : 10-yearly survey on health and medical care, 1991-92 (20,417 observations. Weighted data.)

Table 7
Price, supplementary cost and medical consumption of physicians and dental care

		Average cost for the visit *francs 91*	Average supplementary cost *francs 91*	% consumers	Average expense per person *francs 91*
GP	Exempt of co-payment	114	7	0.80	1,121
	Non-exempt of co-payment	112	11	0.47	423
	With complementary coverage	112	10	0.52	508
	Without complementary coverage	116	10	0.40	387
Specialist	Exempt of co-payment	234	44	0.46	1,528
(Radiologists non included)	Non-exempt of co-payment	201	47	0.26	611
	With complementary coverage	209	49	0.32	723
	Without complementary coverage	198	30	0.19	561

		Average cost *francs 91*	Average supplementary cost *francs 91*	% consumers	Average expense per person *francs 91*
Dentist	Exempt of co-payment	332	-	0.08	463
	Non-exempt of co-payment	243	-	0.09	551
	With complementary coverage	253	-	0.10	559
	Without complementary coverage	224	-	0.06	454

Source : 10-yearly survey on health and medical care, 1991-92, see ref. [5]
(17,321 observations. Weighted data.)

Table 8
Logistical analysis of the proportion of consumers of GPs', specialists, dental care according to social bagkground, age, sex,complementary coverage, exemption from co-payment
Adjustment, standard-deviation, probability

	GP			Specialist			Dentist		
Observed size of consumers	*8 649*			*5 061*			*2 295*		
	adjustment	standard-deviation	probability	adjustment	standard-deviation	probability	adjustment	standard-deviation	probability
Constante	0.51	0.07	0.0001	1.01	0.07	0.0001	1.98	0.10	0.0001
Farmer	-0.01	0.07	0.9400	0.57	0.08	0.0001	0.19	0.10	0.0600
Independent worker	0.27	0.08	0.0005	0.28	0.08	0.0005	0.10	0.10	0.3200
Manager	0.35	0.06	0.0001	-0.10	0.06	0.0950	-0.11	0.07	0.1200
Office clerk	-0.04	0.06	0.4600	0.17	0.06	0.0090	0.22	0.09	0.0100
Trade and service employee	-0.01	0.09	0.9000	0.40	0.10	0.0001	0.29	0.13	0.0200
Skilled worker	-0.04	0.05	0.3800	0.39	0.05	0.0001	0.34	0.07	0.0001
Unskilled worker	-0.11	0.06	0.0700	0.59	0.07	0.0001	0.52	0.09	0.0001
Without profession	-0.04	0.14	0.7700	0.13	0.15	0.3900	0.20	0.20	0.3200
Intermediary profession	0.00	-	-	0.00	-	-	0.00	-	-
Man	0.38	0.03	0.0001	0.59	0.04	0.0001	0.29	0.05	0.0001
Woman	0.00	-	-	0.00	-	-	0.00	-	-
< 2 years	-0.75	0.11	0.0001	-1.14	0.11	0.0001	2.74	0.51	0.0001
Years 2-15	0.02	0.05	0.6000	0.14	0.05	0.0070	-0.25	0.07	0.0001
Years 16-29	0.40	0.04	0.0001	0.15	0.04	0.0004	-0.15	0.06	0.0090
Years 30-64	0.00	-	-	0.00	-	-	0.00	-	-
Years 65-79	-0.87	0.06	0.0001	-0.07	0.06	0.2800	0.34	0.09	0.0002
80 years and over	-1.34	0.12	0.0001	0.31	0.10	0.0030	0.74	0.18	0.0001
With complementary coverage	-0.74	0.05	0.0001	-0.66	0.06	0.0001	-0.42	0.07	0.0001
Without complementary coverage	0.00	-	-	0.00	-	-	0.00	-	-
Exempt of co-payment	-1.28	0.07	0.0001	-0.99	0.06	0.0001	-0.09	0.09	0.2900
Non-exempt of co-payment	0.00	-	-	0.00	-	-	0.00	-	-

Source : 10-yearly survey on health and medical care, 1991-92 (17,321 observations. Weighted data.)

Table 9
Logistical analysis of the proportion of consumers of GPs', specialists, dental care according to social bagkground, age, sex,complementary coverage, exemption from co-payment
With complementary coverage
Adjustment, standard-deviation, probability

	GP			Specialist			Dentist		
Observed size of consumers	*7 660*			*4 549*			*2 086*		
	adjustment	standard-deviation	probability	adjustment	standard-deviation	probability	adjustment	standard-deviation	probability
Constante	-0.18	0.05	0.0002	0.35	0.05	0.0001	1.59	0.07	0.0001
Farmer	-0.05	0.08	0.5545	0.61	0.09	0.0001	0.16	0.11	0.1487
Independent worker	0.26	0.08	0.0015	0.27	0.09	0.0019	0.14	0.11	0.2113
Manager	0.29	0.06	0.0001	-0.09	0.06	0.1490	-0.11	0.08	0.1434
Office clerk	-0.09	0.06	0.1837	0.16	0.07	0.0140	0.18	0.09	0.0389
Trade and service employee	-0.12	0.10	0.2446	0.42	0.11	0.0001	0.33	0.15	0.0233
Skilled worker	-0.10	0.05	0.0527	0.38	0.05	0.0001	0.32	0.07	0.0001
Unskilled worker	-0.14	0.07	0.0471	0.59	0.08	0.0001	0.50	0.10	0.0001
Without profession	-0.10	0.17	0.5559	0.10	0.18	0.5548	0.42	0.25	0.0956
Intermediary profession	0.00	-	-	0.00	-	-	0.00	-	-
Man	0.37	0.03	0.0001	0.61	0.04	0.0001	0.29	0.05	0.0001
Woman	0.00	-	-	0.00	-	-	0.00	-	-
< 2 years	-0.63	0.12	0.0001	-1.09	0.11	0.0001	2.83	0.57	0.0001
Years 2-15	0.00	0.05	0.9331	0.14	0.06	0.0114	-0.29	0.07	0.0001
Years 16-29	0.40	0.04	0.0001	0.14	0.05	0.0017	-0.19	0.06	0.0010
Years 30-64	0.00	-	-	0.00	-	-	0.00	-	-
Years 65-79	-0.90	0.07	0.0001	-0.12	0.07	0.0576	0.26	0.10	0.0059
80 years and over	-1.23	0.14	0.0001	0.19	0.12	0.1170	0.94	0.22	0.0001
Exempt of co-payment	-1.18	0.08	0.0001	-1.01	0.07	0.0001	-0.04	0.10	0.6793
Non-exempt of co-payment	0.00	-	-	0.00	-	-	0.00	-	-

Source : 10-yearly survey on health and medical care, 1991-92 (17,321 observations. Weighted data.)

Table 10
Logistical analysis of the proportion of consumers of GPs', specialists, dental care according to social bagkground, age, sex,complementary coverage, exemption from co-payment
Without complementary coverage
Adjustment, standard-deviation, probability

	GP			Specialist			Dentist		
Observed size of consumers	*987*			*477*			*214*		
	adjustment	standard-deviation	probability	adjustment	standard-deviation	probability	adjustment	standard-deviation	probability
Constante	-0.02	0.16	0.8887	0.96	0.18	0.0010	1.62	0.234	0.0001
Farmer	0.51	0.21	0.0143	0.36	0.23	0.1275	0.53	0.33	0.1060
Independent worker	0.58	0.23	0.0111	0.42	0.26	0.1044	-0.09	0.31	0.7826
Manager	1.06	0.24	0.0001	-0.29	0.23	0.2035	-0.21	0.29	0.4713
Office clerk	0.51	0.21	0.0137	0.21	0.22	0.3462	0.67	0.33	0.0457
Trade and service employee	0.75	0.22	0.0008	0.37	0.24	0.1202	0.26	0.32	0.4030
Skilled worker	0.54	0.16	0.0005	0.54	0.18	0.0023	0.56	0.23	0.0158
Unskilled worker	0.31	0.17	0.0583	0.67	0.19	0.0006	0.67	0.26	0.0097
Without profession	0.48	0.29	0.0954	0.27	0.32	0.4072	-0.19	0.37	0.6136
Intermediary profession	0.00	-	-	0.00	-	-	0.00	-	-
Man	0.51	0.09	0.0001	0.41	0.10	0.0001	0.30	0.14	0.0310
Woman	0.00	-	-	0.00	-	-	0.00	-	-
< 2 years	-1.50	0.32	0.0001	-1.45	0.30	0.0001	2.17	1.21	0.0727
Years 2-15	0.19	0.14	0.1804	0.11	0.17	0.5148	0.06	0.22	0.7988
Years 16-29	0.42	0.12	0.0003	0.23	0.14	0.0908	0.26	0.18	0.1419
Years 30-64	0.00	-	-	0.00	-	-	0.00	-	-
Years 65-79	-0.72	0.16	0.0001	0.32	0.17	0.0670	0.98	0.29	0.0008
80 years and over	-1.55	0.24	0.0001	0.77	0.24	0.0012	0.47	0.32	0.1460
Exempt of co-payment	-1.52	0.13	0.0001	-1.04	0.14	0.0001	-0.25	0.20	0.2072
Non-exempt of co-payment	0.00	-	-	0.00	-	-	0.00	-	-

Source : 10-yearly survey on health and medical care, 1991-92 (17,321 observations. Weighted data.)

Table 11
Annual expense per person according to care and complementary coverage
french francs 91 and standardized index by age and gender

	With compl. coverage		Without compl. coverage		Total
	Expense	**Index**	**Expense**	**Index**	**Expense**
number	*2 493*		*14 828*		*17 321*
GP visits at patient's home	169	0.98	197	1.14	173
GP visits at consulting room	339	1.07	190	0.60	316
Total GP visits	508	1.04	387	0.79	489
Specialist visits	723	1.04	561	0.80	698
Total physician visits	1, 231	1.04	948	0.80	1, 187
Prescribed drugs	1, 202	1.03	974	0.84	1 ,166
Non-prescribed drugs	66	1.00	64	0.98	65
Total drugs	1 ,267	1.03	1, 038	0.84	1 ,232
Dental care	559	1.03	454	0.84	543
Total primary care	3 ,717	1.02	3, 221	0.89	3 ,640
Hospitalization	2 ,589	1.00	2, 526	0.98	2, 579
Total medicale expense	**6, 306**	**1.01**	**5, 748**	**0.92**	**6, 219**

Source : 10-yearly survey on health and medical care, 1991-92 (17,321 observations. Weighted data.)

Table 12
Annual expense per person according to type of care and social background
french francs 91 and standardized index by age and gender

	GP		Specialist		Dentist	
	Expense	**Index**	**Expense**	**Index**	**Expense**	**Index**
Farmer	615	1.05	529	0.69	397	0.64
Indépendant worker	458	0.90	654	0.87	585	1.03
Manager	392	0.84	976	1.44	953	1.74
Intermediary profession	472	1.01	893	1.28	661	1.23
Office clerk	541	1.06	836	1.14	574	1.03
Trade and service employee	605	1.08	779	1.02	325	0.55
Skilled worker	466	1.03	558	0.82	391	0.75
Unskilled worker	548	1.09	398	0.63	330	0.58
Average (total)	489	1.00	698	1.00	543	1.00
Standard-deviation	62	0.08	196	0.27	201	0.37

Source : 10-yearly survey on health and medical care, 1991-92 (17,321 observations. Weighted data.)

Table 13
Inter-group variation coefficient (background)
according to exemption from co-payment and complementary coverage (CC)

	Non-exempt to co-payment			Exempt to co-payment			Total		
	With CC	Without CC	Total	With CC	Without CC	Total	With CC	Without CC	Total
GP visits at patients home	0.16	0.35	0.16	0.17	0.23	0.15	0.17	0.25	0.17
GP visits at consulting room	0.07	0.25	0.08	0.29	0.24	0.19	0.07	0.20	0.08
Total GP visits	0.08	0.20	0.07	0.09	0.09	0.06	0.08	0.16	0.07
Specialist visits	0.27	1.43	0.33	0.29	0.40	0.30	0.25	1.09	0.28
Total physician visits	0.14	0.96	0.19	0.14	0.20	0.15	0.13	0.67	0.15
Prescribed drugs	0.07	0.18	0.06	0.14	0.16	0.14	0.07	0.17	0.08
Non-prescribed drugs	0.32	0.44	0.34	0.39	1.06	0.44	0.31	0.50	0.33
Total drugs	0.06	0.17	0.06	0.14	0.13	0.14	0.06	0.14	0.07
Dental care	0.31	1.35	0.36	0.72	1.16	0.66	0.33	1.28	0.38
Total ambulatory care	0.11	0.94	0.16	0.16	0.15	0.15	0.10	0.54	0.13
Hospitalization	0.35	1.88	0.35	0.33	1.60	0.33	0.28	0.52	0.25
Total	**0.09**	**0.87**	**0.13**	**0.22**	**0.72**	**0.23**	**0.11**	**0.43**	**0.11**

Source : 10-yearly survey on health and medical care, 1991-92 (17,321 observations. Weighted data.)

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Sickness coverage and social discrepancies of medical consumption

An essential part of the evaluation of a health system deals with its capacity to give access to medical care to all people who need it. 98.5% of the population living in France is protected by a compulsory scheme of sickness coverage that pays for 91% of hospitalization expenses, 56% of ambulatory care and 45% of medical goods. To cover all or part of the non-recovered expenses, 85% of people have complementary coverage. The least reimbursed medical expenses are specialists' and dental care. People belonging to the poorest categories of population - workers, wage earners, people without complementary coverage - have both a worse state of health and a weaker medical consumption. Both in terms of proportion of consumers (access to care) and average expense, it appears that a better social coverage of medical expenses (higher rate of reimbursement) reduces social disparities of medical consumption, whether in terms of level or in terms of structure.

Key-words : Social protection, complementary scheme, reimbursement, health expenditure, medical consumption, inequality in access to health care, SES, survey, France.

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