



International Association for the
Study of Insurance Economics

Health and Ageing

Research Programme on Health and Productive Ageing

Geneva Association Information Newsletter

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I. GUEST EDITORIAL

Mobility on the Private Supplementary Health Insurance Demand: The Critical Period of the Transition to Retirement

By Carine Franc*, Marc Perronnin and Aurélie Pierre

Introduction

Different studies realized in developed countries have shown that mobility on the private health insurance market is relatively low compared to what one can expect regarding the competition in such markets. In France, health insurance demand has recently been analysed: from a static point of view, Saliba and Ventelou (2007) studied individual determinants for subscribing or not subscribing to a supplementary health insurance contract and from a dynamic process, Grignon and Sitta (2003) studied switching behaviours and estimated the annual switching rate in the health insurance market at 12% (mobility between private health insurance operators). The two types of approach emphasise among other determinants of the demand of private health insurance the influence of socioeconomic status. In France, public health insurance is compulsory and universal and funds about 77% of health care expenditure, a share that has been quite stable over the past ten years. Its contribution is particularly high for hospital care (92%), lower for ambulatory care (66%) and rather poor for some specific types of care such as eyewear and dental prostheses (Couffinhal and Perronnin, 2004). Due to this heterogeneity of the public coverage there is room for private health insurance that funds around 13% of total health care expenditure. Indeed, over 90% of the population benefits from a private health insurance contract with one of the three types of organisations: mutual benefit society (M), provident institution (PI) or insurance companies (IC). The three types of operators differ in many respects: the nature of contracts they mainly offer (individual contracts represent 75% of the turnover for M, when compulsory group contracts represent 80% of the PIs' turnover), their organisational objectives, the share health represents in their respective overall portfolios, the way they are regulated, etc.

A supplementary health insurance contract can be purchased either individually or through the employer for in-work individuals (in 2003, 40% of French firms employing 72% of employees offered group contracts according to a French survey *PSCE*). Usually and whatever the type of operator, group contracts offer several advantages compared to individual contracts; on average, the warranties offered are much more generous than those available through individual contracts (Couffinhal and Perronnin, 2004) and, more generally, there are also a certain number of financial advantages: the employer's contribution (on average half of the premium), the lower loading fees due to scale economies associated with purchasing insurance through a group and the tax exemptions for employees' contributions to the residual premium for compulsory contracts. Moreover, community-rated premiums (systematically for compulsory contracts and almost systematically for optional contracts) offer an additional price benefit particularly to older employees.

These important financial advantages associated with group contracts raise the question of changes in the demand of health insurance during the transition to retirement. The transition to retirement, corresponding to a major change in socioeconomic status, appears to be a key period when several effects accumulate: price effects, measured by the potential loss of benefits of a group contract, and income effects due to the payment of a pension potentially lower than income. The switching behaviour of new retirees should be explained by the nature of former contracts. In the French context, the difference of magnitude of premiums increases at retirement between group and individual contracts, although limited by law (the "Evin Law" of 31 December 1989), and provides an opportunity to study the marginal price effect on switching behaviours. Thus the nature of the former contract (compulsory group contract, voluntary group contract and individual contract), prior to retirement, may be considered as an indirect measurement of the price effect.

A switching behaviour relatively common to new retirees

Based on the "*Health, Health Care and Insurance Survey*" (ESPS) carried out between 1994 and 2004 on French individuals covered by public insurance, Franc *et al.* (2008) analyse the behaviour

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of subscribers to a private supplementary health insurance contract who retired during this period. In this study, a switching behaviour represents a situation where an individual has decided to switch from one private operator to another and this is supposed to be the result of the individual trade-off. The database concerns 910 individuals who retired during the period with an average age of 59 years (Table 1); one out of three new retirees changed insurance operator over the same period.

Table 1: Switching rate

Switching behaviour	
Switch from one insurer to another	33%
No switch from one insurer to another	67%
Type of former contract	
Compulsory membership group contract	22%
Voluntary membership group contract	25%
Individual contract	49%
Unknown	4%
Type of insurer	
Commercial company	19%
Mutual benefit society	67%
Provident institution	14%

The analysis provides descriptive statistics about switching rates depending on the nature of the former contract on the one hand and depending on the type of the provider of this prior contract on the other hand (Table 1). Thus, 51% of individuals affiliated with a compulsory group contract switch at retirement compared to respectively only 39% and 23% of beneficiaries of voluntary group contracts and of individual contracts. These findings suggest that the switching behaviours are influenced by the nature of the former contract. However, the fact that the three types of providers supply different forms of contracts whether they target individual or collective demand may bias immediate interpretations of price effect based on these descriptive statistics. Indeed, mutual benefit societies and commercial insurance companies mainly intervene on individual contract supply (respectively 75% and 60% of their turnover), whereas provident institutions concentrate on group contracts (80% of their turnover). This specificity can be reflected by more frequent switching behaviours among those formerly insured by an insurance company (55%) versus those formerly covered by a provident institution (43%) and finally versus individuals formerly covered by a mutual benefit society (25%).

A high relevance of the nature of the former contract and operator in the mobility of new retirees

In addition, other variables such as individual characteristics (age, sex, health status, etc), well known as determinants of health insurance contract, are likely to influence the decisions to change the insurance operator. In order to analyse the price effect whose proxy is the nature of the contract efficiently, Franc *et al.* (2008) run a model controlling other factors.

Table 2: Partial results of the overall model estimating the marginal probability of switching behaviour. (Franc *et al.*, 2008)

	Variation of probability percentage points	Significance
Supplementary health insurance characteristics		
<i>Type of contract: individual contract</i>	<i>ref.</i>	<i>ref.</i>
Compulsory group contract	21	***
Voluntary group contract	13	***
Unknown	12	
<i>Provider: mutual benefit society</i>	<i>ref.</i>	<i>ref.</i>
Commercial company	26	***
Provident institution	6	

The effect of each characteristic on the dependent variable is given in percentage points with regard to the reference (Ref). [***], [**], and [*] indicate that the effect is significant at the 1% level, 5% level and 10% level; ns indicates no significance at these levels.

Thus, all factors being equal, switching probability is significantly higher for individuals enrolled in a group contract before retirement than for those who hold an individual contract, i.e. it is 13% higher for retirees formerly covered by a voluntary group contract and 21% higher for those previously covered by a compulsory contract. This higher switching rate can be explained by the various financial benefits available for employees enrolled in a group contract. Indeed, retirement may lead to potentially higher increases in premiums due to simultaneously the loss of pooled pricing and the loss of the employer's subsidy. The difference in estimated switching behaviour between policyholders formerly enrolled in a group contract and those formerly insured by an individual contract is in line with a price effect assumption by emphasising the expected rational behaviour of the individuals facing a high increase in prices.

Moreover, everything else being equal, policyholders covered by a commercial insurance company before retirement changed their insurer more frequently than those previously covered by a mutual benefit society (+26 pts). This confirms the descriptive analysis that already emphasised that among policyholders who decided to switch their provider at retirement, those formerly insured through a commercial insurance company are those who change most frequently and more than half of them also change their type of provider (mutual benefit society or PI). This higher probability is the result of two different switching behaviours: first, changes related to an anticipation of an increase in premiums (over time) due to a significant pricing risk often used by insurance company, may explain the selection of a mutual benefit society or an PI. Secondly, greater competition among insurance companies offering broader ranges of warranties (Martin-Houssart *et al.*, 2005) may also explain a higher switching rate within this type of operator.

Discussion: a mobility emphasising an evolution of new retirees needs?

The results of the study run by Franc *et al.* (2008) confirm that retirement appears to be a key period as the effects of both income and insurance premiums accumulate. Switching behaviours among new retirees or during the transition to retirement are relatively frequent since an average of one retiree in three decides to switch.

The difference of switching behaviour among policyholders formerly enrolled in a compulsory membership group contract or in a voluntary membership group contract is substantial (+21 pts versus +13 pts) whereas the reality of the market in terms of financial advantages between these two types of contract does highlight real difference in premiums variation. So, another way to explain the mobility gap is the fact that a voluntary membership group contract already reflected the decision to subscribe or not to a contract more or less adjusted to personal needs (utility), whereas in the case of a compulsory group contract, everything is already established and there is no more room for individual choice. Thus, switching behaviours cannot be explained only in terms of the addition of different price effects: for comparable levels of premium increases, policyholders enrolled in compulsory group contracts change more frequently than those enrolled in voluntary group contracts, probably to take advantage of the transition to retirement to build up a set of insurance warranties that suits them better.

New retirees are one of the most mobile population groups in the supplementary health insurance market. Considering the high level of saturation of this market, this group can be an attractive target for insurers. The downside is that new retirees are likely to be in a fragile position due to more difficult access to private health insurance and therefore to the health care system in general.

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II. INVITED ARTICLE I

Differences in Health Care Utilisation Due to Supplementary Private Health Insurance: A Switching Regression Analysis

By M^a Luz González Álvarez & Antonio Clavero Barranquero *

1. Introduction

Since 1986, the Spanish National Health System has guaranteed universal health coverage for visits to the general practitioner (hereafter GP) or paediatrician, consultations with specialists, hospitalisation and emergency treatment. The GP acts as gatekeeper to the health system and plays the role of the patient's agent when he/she comes to determining the need for visits to specialists. Amongst other reasons, the waiting lists which some patients must endure in order to receive specialist attention or to be admitted to hospital have produced a demand for supplementary private health cover, which permits free access to specialists. In Spain, this double health coverage is also related to a comfortable economic situation.

It is a well established empirical fact that having a private health insurance (PHI) affects the health care utilization (Pohlmeier & Ulrich, 1995; Vera-Hernández, 1999; Álvarez, 2001; Rodríguez & Stoyanova, 2004; Jones, Koolman & Van Doorslaer, 2005). The research about the number of GP visits and the consultations with specialists usually has been based on count data models; however, in this study we propose a count data model with endogenous switching.

The present study analyses the number of times that an individual has consulted a GP and a medical specialist during the past twelve months, distinguishing between two groups of insured individuals, double coverage (DC) and public coverage (PC), since it is suspected that the utilization of health services differs between them. We propose a new methodological alternative, whose objectives are: 1) to confirm the existence of differences in health care utilization caused by the double health insurance coverage, 2) to quantify to what extent such observed differences are due to the characteristics of individuals and to what degree they may be attributed to the type of health insurance coverage, and 3) to determine if individuals with the same characteristics overuse or underuse some medical treatment, purely as a result of the health insurance coverage they have.

2. Decomposition method of differences in dependent variable

The decomposition procedure proposed is based upon the methodology initially suggested by Oaxaca-Ransom (1994) for the analysis of labour market discrimination. This method has mainly been applied in the context of linear regression models. However, the relationship between health care utilization and their explanatory factors is non-linear. Therefore, we apply the approach of Bauer & Sinning (2006) who have generalised the Blinder-Oaxaca decomposition to other non-linear models.

It may be assumed that inequality in utilization resulting from the type of health insurance coverage may be due to the overutilization and/or the underutilization of some services on the part of one of the groups. Consequently, in order to decompose the differences in mean utilization, it is necessary to compare the observed visits with those considered non-discriminatory for each group, which in this case could be termed appropriate use.

These differences may be thought of as the sum of three components. The first of these shows the differences in utilization which can be explained by differences in endowments, and the second and third terms represent those due to the effects of these characteristics on the utilization, according to whether public or private coverage is possessed. Depending on the sign of the difference of coefficients, a conclusion can be reached as to whether a type of medical consultation is being overutilized or underutilized. In summary, if the differences in the mean number of visits merely reflect differences in the characteristics of each individual, it may be accepted that the type of health insurance coverage does not explain the inequality in health care use.

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A final question, but perhaps the most important one is to determine the above-mentioned appropriate use, since it is unobservable. On this point, Neumark (1988) considers that such utilization may be approximated by the structural parameters of the model for the entire sample.

3. Switching regression analysis

We have measured health care utilization by the number of GP and specialists visits. Although the negative binomial model is a standard econometric tool for the analysis of both variables, the application to the two groups of insurers would not bear in mind that to take out a private health insurance means an unobservable self-selection. For example, people may buy a private insurance simply because they want to access to a specialist any time and regard the double health insurance coverage as the proper manner for doing so.

The key advantage of using a switching model is that it allows the choice between double coverage and only publicly insurer to affect health care utilization in other ways. For example, the utilization of the two types of insurers may be influenced by their characteristics in different ways, which will be reflected in different parameters of last two equations. In addition, both groups may have very different observable characteristics, i.e., different values of explanatory variables in those two equations.

The estimation of count data models with endogenous switching is possible by Greene approach (Greene, 2001). This method is similar to Heckman's two-step procedure extended to the cases in which the dependent variable is observable in two regimes. The first step is to obtain a maximum-likelihood estimate of the probit switching equation and use the estimated parameters to compute the Inverse Mill's Ratio for every observation. In the second step, apply non-linear least squares to estimate the parameters of the model. If the ratio parameter is zero, it indicates null sample selection bias.

The explanatory factors included in the model are those that are approved in the literature because they are important in order to determine the degree of utility yielded by the utilization of health care.

4. Empirical results

The source of information which has enabled the present study to be undertaken is the European Community Household Panel (ECHP). In addition to providing longitudinal data, ECHP is also designed to provide representative cross-sectional pictures over time, for this reason we have used an extended sample of year 2000. The total number of observations of the selected sample has been 33,417 and the corresponding population percentages of publicly insured individuals and those with double coverage are 89.59% and 10.41%, respectively.

The descriptive analysis of the mean number of visits reveals a greater frequency of visits to the GP on the part of publicly insured individuals ($\Delta=0.8870$). However, the mean number of visits to a specialist is greater for the population group with double health insurance coverage ($\Delta=0.5825$). In both cases, the differences in mean are statistically significant at a confidence level of 99%.

4.1. Choice between public only or double coverage

The maximum likelihood estimation of the health coverage choice equation shows that individuals with poor or very poor health have a significantly lower probability of taking out private health insurance. However, the coefficients of the dummies representative of chronic illness or diseases that have hampered the daily activity are positive, indicating that these sick persons are more likely to choose double coverage. The age and gender are significant factors: male over 35 and female over 25, compared with younger men, are associated with a higher probability of buying additional insurance.

Regarding socioeconomic factors, higher income makes individuals more likely to opt for the double coverage. When the educational level is lower, the probability of choosing double coverage reduces significantly. In the same way, being unemployed, retired or other inactive, compared to employed, diminishes the possibilities to take out private health insurance. Ex-smokers and persons with body mass index <18.5 are more likely to choose double coverage.

Finally, living in the regions of Cantabria, Basque Country, Madrid, Castile-Mancha, Catalonia and Balearic Islands, increases significantly the probability to buy private insurance.

4.2. Number of visits to GP

With regard to GP visits of both groups of insurees, it can be observed that the coefficients of fair or bad/very bad health are positive and significant, that is, the group with bad/very bad health consults more frequently than the individuals with very good health, although the differences are greater among individuals having double coverage. To declare that they suffer from some type of disease is only significant for publicly insured individuals. Similarly, the age and the gender do not affect the average number of GP visits made by those having double coverage.

Concerning socio-economic characteristics, the income is negatively and significantly correlated with the use of the GP for double coverage group, and the effect is insignificant for public insurees. The number of visits decreases as the educational level rises, although the differences with regard to university graduates are greater between those who have double coverage. The influence of the activity status of a person is different for the two insured groups. In the case of the unemployed, it is only in the double coverage group where utilization is significantly higher than that of the employed; on the other hand, the number of consultations of house worker and other inactive is only greater among those who have no additional private health insurance. Although being student or retired affects the utilization of the two groups, the magnitude is higher for the double coverage group and the sign is opposite. In the former case, it is negative; while in the latter, it is positive, compared with the employed.

Lastly, the region of residence proves to be relevant for the publicly insured group, except Cantabria, Castile-León and Murcia. Furthermore, it is evident that all the regions display a greater utilization than the reference region (Extremadura) but Castile-Mancha. For those with double coverage, the number of significant regions is lower and the utilization made in the regions of Cantabria, Madrid, Castile-Mancha, Catalonia and Balearic Islands is lower than that in Extremadura.

4.3. Number of visits to specialists

When analysing the number of consultations with specialists, all coefficients of health variables are positive and significant. The demographic characteristics are only relevant for the publicly insured individuals, if age increases the specialist utilization diminishes and women consult more frequently.

With regard to socio-economic characteristics, the conclusion reached about the relevance of income coincides with that obtained in the case of GPs. The variable is only significant for individuals who have double coverage, but when income rises, the visits to specialists increase. Similarly, educational level affects the utilization of this service on the part of individuals with double health insurance coverage in such a way that the utilization decreases as educational level is minor. When relating to the influence of the activity status of individuals there exist certain divergences; while in the publicly insured group the only significant differences correspond to the retired and other inactive who make more visits than the employed, in the case of those who have double coverage, the conclusion reached is that the differences are only relevant for the unemployed and other inactive, who consult specialists less frequently.

To conclude, the number of zones of residence relevant is minor that obtained in the case of GPs. In the publicly insured group, only Asturias and Balearic Islands show significant differences with regard to Extremadura; in the case of those having double insurance, such differences are only relevant in the Basque Country, Madrid, Catalonia and Balearic Islands, indicative of a higher utilization.

The values of the ratio parameter are significant in the GP and specialist model for the double coverage sample, although the signs are opposite. It is logical, because the positive coefficient suggests that people waiting for more specialist visits are more likely to choose double coverage, while the negative sign means that the individuals with higher probability of choosing double coverage would visit the GP less frequently.

5. Decomposition of the health care utilization differential

Once the model has been estimated for each group, we proceeded to quantify whether the differences in utilization are due to the specific characteristics of the population in each group, or whether a difference exists which the endowments cannot explain and which must be attributed to inequality in the utilization of health care produced by the type of health insurance coverage.

The actual gap in utilization made by the two groups of insurees and the results of the estimated means are shown in the first two rows of Table 1. The negative sign indicates that the difference in the use of GP favours the publicly insured group, while the positive sign of the difference in number of specialist consults represents a situation favourable to individuals with double coverage. This conclusion may be justified by the divergences in access to specialists between the two groups, since those who have double coverage and choose a private provider usually go to the specialist directly, while the GP acts as gatekeeper to the rest of health services provide by the Spanish National Health Service.

Table 1. Oaxaca-Ransom decomposition.

	GP	Specialist
Actual mean differences	- 0.8875***	0.5825***
Estimated mean differences	-0.9854	0.3115
Endowments differences	- 0.7793 (79.08%)	0.0165 (5.30%)
Marginal effects differences (DC-Appropriate)	- 0.1971 (20.00%)	0.2274 (73.00%)
Marginal effects differences (Appropriate-PC)	- 0.0090 (0.92%)	0.0676 (21.70%)

*** Significant 1 per cent.

It is expected that the decomposition proposed in the present study will establish the causes which explain the differences in the number of estimated visits. Regarding the GP, the majority of the gaps in visits is attributable to the endowments of the individuals in each group (79%). The underutilization of the GP on the part of individuals with double coverage explains 20% of the differences and the remaining percentage is attributed to the overutilization of the publicly insured group.

The conclusions relating to the causes of the observed gap in the number of visits to a specialist are interesting. The decomposition demonstrates the importance of the marginal effects of accounting for utilization differentials by health insurance coverage type (95%). The main reason is that the individuals who take out additional private health insurance make more visits to the specialist than the number of consultations proposed as appropriate, that figure represents 73% of the observed differential. However, the publicly insured underutilize this medical service; this fact explains 22% of the gap. The remaining percentage is attributed to the endowments of individuals (5%).

6. Conclusions

One of the objectives of the present study consists of the comparison of the behaviour patterns for the utilization of GPs and specialists made by two extremely heterogeneous groups of insured individuals, i.e. those who only have health coverage provided by the National Health System and others who, in addition, take out a supplementary health insurance policy. This latter collective represents 10% of individuals nationwide, although in certain regions, it represents a considerable proportion of the population.

The adaptation of Oaxaca and Ransom decomposition of the health field, which constitutes a new contribution to the study of inequalities, specifically attempts to decompose the differences in the number of medical visits between the two population groups into three summands: one summand is attributable to the characteristics of individuals, and the remaining two to the overutilization and/or underutilization of one of the services on the part of one of the groups, measured by the marginal effects of explanatory factors on utilization.

In order to obtain consistent and efficient parameters, we have estimated count data models within an endogenous switching framework. In the empirical results we find a significant effect of the socio-economic variables and richer regions on the choice to have double coverage. With regard to the estimation of the marginal effects of each of the factors included as explanatory variables of the GP utilization, the number of relevant variables is higher for the publicly insured. The effects of the health status and age/gender are greater in the case of this collective, while the influence of socio-economic variables is stronger for those with double coverage. In the case of specialists, these factors only indicate a significant effect on the health care for those who take out additional private

insurance. The figures of the ratio parameter indicate that the self-selection bias cannot be ignored when analysing the decision of health care utilization for individuals who have double coverage.

Finally, data from the ECHP have confirmed the conclusion that the utilization of health care made by the two insured groups is different. Concerning visits to the GP, this inequality in favour of those protected by the public system is explained, fundamentally, by the endowments of that collective, and furthermore by an underutilization of this service on the part of individuals who have double coverage. With regard to consultations with specialists, the inequality in favour of the latter collective, by contrast, is principally due to their overutilization of the service and the underuse of the group of publicly insurers.

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III. INVITED ARTICLE II

What is the Impact of Duplicate Coverage on the Demand for Health Care in Germany?: A Summary

By M. H. Vargas* and M. Elhewaihi

1. Introduction

The public health care system of Germany is based on nonprofit sickness funds that receive money from members and pay health care providers, but not everyone is insured through this system. Some parts of the population have private insurance too or they have an additional private coverage, they have duplicate coverage. By considering the increase in the costs of health care and the increase in the cost of living in Germany, the study of the relation of duplicate coverage and the demand for health care are more important than ever before.

Given the potential simultaneity of the choices to take out additional private health insurance coverage and the number of visits, it is necessary to use special econometric techniques to measure this impact by controlling some simultaneity well known in the literature.

In recent years, the tendency was to explain the demand for health care as a induced demand, in simple words: the physician has great influence on the number of visits (Pohlmeier *et al.*, 1995). This approach, together with the fact that some econometric methods as instrumental variables,

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gave confused conclusions about the impact of health insurance policy on the demand for health services, and left this topic out of the table of researchers.

Using data from the German Institute for Economic Research, we try to investigate the impact of duplicate coverage on the demand for health care (measured in number of visits to doctors).

Today with the recent developments in economic theory about the impact of risk in these models (Dardanoni *et al.*, 1990; Koç, 2004) and new econometric methods to threat endogeneity between discrete and count variables (Terza *et al.*, 2007), we have enough tools to deal with the relation between health insurance and health care demand.

The results show that there is a positive difference on the level of health services requested when there is duplicate coverage. We found also that there is evidence to think that in Germany there is a feedback between duplicate coverage and the demand of health services.

2. The German System

Although private insurance companies pay health care providers about twice the amount paid by the primary sickness funds, private insurance is often cheaper than statutory health insurance, especially for policyholders without dependents. As is the case for members of sickness funds, employees who have private insurance have half their premiums paid by their employers. German private health insurance is unusual in that whatever the insured person's age, his or her premium will remain the same for his or her age cohort when the policy was initially taken. Premiums rise only according to increases in overall health care costs. Policyholders generally stay with their original policy because if they change companies, they will pay the higher rates of an older age cohort.

The German health system is a two-tier system. While around 86% of the population is covered by the public health insurance (also called statutory), about 11% is covered by the private health insurance (PHI) provided by about 40 for-profit insurance carriers. The approximately remaining 3% is covered by other governmental insurance schemes (such as military and police officers), a good portion of those choosing private insurance are civil servants who want insurance to cover the roughly 50% of their medical bills not covered by the government (Busse *et al.*, 2004).

Some sickness-fund members buy additional private insurance to secure such extras as a private room or a choice of physicians while in a hospital. Otherwise, the medical care provided to the publicly and privately insured is identical, and the same medical facilities are used, and members of a sickness fund who leave it for a private insurance carrier will generally not be allowed to return to public insurance.

Contributions to the Social Health Insurance (SHI) sector depend on income, while in the PHI sector they depend on individual health risks. In general, individuals have the possibility to obtain healthcare for free through the statutory insurance sector, alternatively they can pay for health care services or purchase PHI, in particular, for services that are not completely covered by the public insurance such as psychological and some dental care.

Statutory insurance is compulsory for employees, whose gross annual income does not exceed some amount around 43,000 Euro (income ceiling limit changed every year). Tenured civil servants, self-employed and employees whose gross annual income is above the income ceiling limit are allowed to switch to the private insurance sector (Colombo *et al.*, 2004).

Remuneration of physicians shows some differences between the two insurance sectors. Although the fee-for-services are quite the same within both sectors, physicians are allowed to charge up to 3.5 times if an individual holds private insurance policy and the health problem is complicated (Rohweder, 1996). This motivates physicians to first serve privately insured individuals. Individuals seek private coverage for several reasons; 1) overcome the restrictions that are put by the statutory insurance sector such as limited choice of doctors 2) avoid longer waiting times and lists 3) the perceived quality of both sectors are different. Some individuals perceive comfortable waiting rooms and the friendly treatment of medical personal as better quality.

3. Duplicate Coverage and Health Care Demand

Past studies concluded that, while in the first stage, it is the patient who decides whether to visit a physician or not, in the second stage, it is the physician who determines the number of subsequent visits (Pohlmeier *et al.*, 1995) and some of them found a positive effect of the additional coverage on the demand of the health services without considering the endogeneity that emerges in the duplicate coverage (Jochmann *et al.*, 2004).

In Germany individuals have a compulsory health insurance that covers a limited set of health problems and to cover the other relevant issues, they need to buy a duplicate coverage (supplementary insurance coverage¹).

To analyse the impact of the duplicate coverage *DC* on the health care demand *V* (measured as number of visits to the doctor) we used a sub-sample of people, who are older than 16 years (this sub-sample is estimated to be 10,327 observations). We also run some econometric models, by assuming exogeneity and endogeneity between *DC* and *V*.

Table 1. Impact of duplicate coverage under different econometric specifications (RHO shows the correlation between errors in the ES model, other variables are included but not showed here, * significant at 5%)

MODEL	NB2	POIS	ES
DC	0.112*	0.116*	0.739*
RHO			-0.615*

The results of three regressions show that *DC* has a significant positive impact on the demand for health care, we also cannot reject the hypothesis of exogeneity.

4. Discussion

Using count data models, the determinants of the demand for medical services as measured by the number of visits to physicians (general practitioners and specialists) in one quarter are estimated. The results show that duplicate coverage has a positive impact on the demand for health services, the acquisition of a duplicate coverage increases the number of visits.

More studies are important to see if the increase of cost in health care and the limited services covered for the public system don't derivate in inequalities in health given that the existence of duplicate coverage increases the use of such services.

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¹ Supplemental health insurance is a type of insurance policy designed to cover the gaps that the regular/compulsory health insurance may have.

IV. INVITED ARTICLE III

Incentives and Compensation in Medical Networks with Capitated Gatekeepers and Case Managers

By Petra Schumacher*

Introduction

Ageing societies due to demographic changes challenge established health care institutions. Changed disease patterns often oblige therapies that require a coordination of different medical suppliers. Integrated Delivery Systems (IDS) and medical networks in health care address these issues and should guarantee a holistic, sound and economically efficient medical supply by implementing novel organisational and managerial approaches. Physicians, hospitals and other medical suppliers organise in networks and, thus, synergies due to information exchange and multidisciplinary can be exploited. Correspondingly, the process of medical treatment should be coordinated – particularly if more than one medical supplier is involved. It has often been argued that the management and coordination of patients in the health care sector should be carried out by gatekeepers, case managers and disease management programmes. These methods of guiding patients through the medical care process and integrating health care have been in the focus of many papers on health care delivery systems. Schneider *et al.* (2004) examine the primary care case management and argue that quality of primary care case management is much less reviewed than the quality of other health plans. Burns/Pauly (2002) analyse typical mistakes made so far in integrating health care and point out that the coexistence of disease and case management can generate more efficient health care. However, an incentive compatible compensation scheme is important in every health care delivery system in order to obtain quality and cost-effective medical care.²

In this article, the impact of capitation on medical suppliers is examined when they can abuse their authorisation to refer patients within a medical network. A special focus is laid on how capitation influences the coordination of medical services and, thus, the optimal health care process. Different possibilities of mitigating unwanted incentives from the compensation are discussed.

Assignment of Patients to One Case Manager or Gatekeeper

In this analysis, the focus is laid on medical suppliers who are responsible for guiding of patients in a medical network but at the same time still offer health care treatments themselves, i.e. case managers and gatekeepers.³ It is assumed that case managers are compensated via capitation, as this is a very common way of reimbursing them and since it induces case managers to treat their patients in an economic way. If the case manager is reimbursed by capitation he/she bears the whole health insurance risk. In that case, the case manager can gain most by undersupplying his/her patients. Yet, it has to be pointed out that the case manager can indirectly select risks by referring patients and, thus, transfer costs to other medical suppliers. Yet, this will only take place if the reimbursement of the case manager is independent of the compensation of the other medical suppliers.

To avoid such passing on of patients, a compensation-scheme can be implemented such that the treatments carried out by other medical suppliers directly reduce the capitation payment⁴ of the case manager. In that case, the case manager does not only control the process of the therapy but is also responsible for the whole reimbursement together with the medical attendance. From an

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² E.g., Hellinger (1996) finds that financial incentives are essential when reducing utilization of medical services in health care networks.

³ For simplification, these medical suppliers are referred to as “case managers” and not to as “case managers and gatekeepers” in the course of this article. Yet, the whole analysis can be adapted to gatekeepers as well.

⁴ The capitation must, of course, be higher than in the case where the case manager only pays for his own expenses.

insurance point of view, the case manager bears the whole health insurance risk for all medical services available to the patient. Thus, there might be some additional risk bearing costs if it is assumed that the case manager is more risk-averse than the medical network or the health insurer. In addition, the case manager has a very prominent impact on how much medical care is allocated to a patient. Therefore, he/she can draw ample profit by undersupplying patients. This profit can be gained on the one hand by neglecting treatments that he/she is responsible for. On the other hand, the case manager could also refrain from referring patients to other medical suppliers. This might be particularly relevant in the case of expensive treatment from other suppliers such as surgery or other therapies that require hospitalisation. In this respect, it might be problematic if the case manager must compensate for all other involved medical suppliers. Yet, it is necessary to point out that a global budget for a case manager can also have some positive network effects. For example, in the case of no global budget, a case manager could refrain from some medical services if he/she alone must pay the cost while only other medical suppliers benefit from those services.⁵

If the case manager is reimbursed via capitation but does not have to compensate for the health care services of other medical suppliers, he/she has a significant incentive to simply transfer patients rather than treat them. Hence, it should be examined if a capitation could be combined with other incentives to ensure a decline in passed-on patients.

A negative financial incentive for a capitated case manager in the case of referral could reduce the inducement of the case manager to refer patients unjustifiedly. Ideally, these “referral costs“ should make the case manager indifferent between referring the patient and treating him on his own from a financial point of view. Attention should be paid to the fact that a case manager might have a higher incentive to undersupply his/her patients if he/she cannot refer them free of charge anymore. Therefore, a quality incentive should be provided, e.g. by a performance-related component of the compensation that is adjusted to quality of care aspects.

Pressure of Competition Among Different Case Managers

If patients are free to choose a case manager, the competition among different case managers could increase the pressure to perform well. Thus, it will be examined in the following how the existence of several competing case managers will improve the quality and the cost effectiveness of medical care. As the case manager is responsible for referring patients, he/she has comparative advantages if cooperating with other well-performing medical suppliers.

If a case manager is compensated by capitation, he/she will prefer patients that rarely need medical care, i.e. the low risks from an insurance point of view. Hence, if a low risk requires health care, the case manager will provide high-quality care. He/she will not undersupply health care or simply refer to other medical suppliers because he/she does not want to lose low risks to other case managers. Yet, if high risks (i.e. those risks that cause health care costs frequently) consult the case manager, he/she can try to dissatisfy the high risks and, thus, to pursue indirect risk selection by a low quality of care. Since other case managers are not interested in high risks as well, they will not try to attract them through a better quality of care. In conclusion, high risks do not receive a better medical care even if they have a possibility of choosing among different case managers. Thus, a quality incentive as discussed in the section before should be added to the case manager’s compensation.

As case managers will be the first consulted medical supplier, except in cases of emergency, he/she will be held responsible for the health care of the medical suppliers. If the case manager cannot influence the performance of the other medical suppliers he/she refers his/her patients to, the case manager might be induced to rather treat profitable patients on his/her own. Otherwise he/she might fear that the treatment of the other medical suppliers could dissatisfy his/her profitable patients. He/she has to trade off what his/her patients disapprove more – either to be treated by the case manager even if he/she should refer them or to be treated by the efficient expert who only provides a low quality. Thus, the case manager should be able to influence the behaviour of the other medical suppliers if he/she is held responsible for their treatment by the patients. The case manager can influence the other medical suppliers if he/she has the responsibility for the budget and can set financial incentives for other medical suppliers to treat profitable patients well. But in

⁵ Such externalities can occur if, for example, the case manager is a general practitioner and should carry out prophylaxis for some diseases where the case manager is not involved in the treatment in case of an outbreak of the disease.

that case there is – as discussed in the section on capitation – a strong incentive that non-profitable patients do not receive the required amount of care. Furthermore, the case manager can also influence the behaviour of other medical suppliers if he/she has the possibility to choose among them. Yet, the other medical suppliers must be reimbursed in a way such that they suffer financial penalties if only few patients consult them.⁶ However, if a case manager signals a profitable patient, the medical supplier who the patient is referred to will try to treat the patient to the patient's satisfaction in order to ensure that the case manager will refer more patients to him/her. It remains questionable what happens if a case manager also signals non-profitable patients to other medical suppliers. The other medical suppliers could be induced by such a signal to dissatisfy the non-profitable patients and to help the case manager to pursue risk selection.

In conclusion, it can be pointed out that the pressure of competition among different case managers diminishes the incentives to undersupply and to simply pass on patients but only in cases of profitable patients. Since non-profitable patients are not attractive for all case managers, competition pressure will not change anything in the way they are treated medically.

Conclusion

Integrated Delivery Systems and medical networks are often regarded as possibilities to improve quality and cost-effectiveness of medical care and, thus, as a solution for problems of the German health care system. However, under the realistic assumption that medical suppliers have their own interests such as, e.g. financial objectives, it has been shown that they might be induced to depart from the optimal way of treating patients.

The focus of this paper is a medical care network where the guidance of patients is done centrally by a case manager. It was discussed that capitation will induce case managers to treat their patients economically, yet undesired behaviour might occur such as malpractice concerning referrals and insufficient supply of medical care. In addition, it was illustrated that pressure of competition among case managers will induce them to treat some patients – the low risks – better. Unfortunately, competition cannot improve conditions for high risks.

While implementing a medical network with case management and gatekeeping, it is very important to adjust the chosen reimbursement scheme to the aims of the network. Apparently, there is a trade-off between cost and quality incentives. Therefore, the operators of a medical care network must decide whether they rather want to aim for a cost or for a quality effective network or a mixture. Yet, in practical implementation of medical networks, one should not act from the assumption that a carefully chosen compensation system averts divergent behavior of case managers at all times. Nevertheless, it would still be advisable to try to eliminate as many objectionable financial incentives as possible while designing the reimbursement in a medical network.

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⁶ Such a negative utility does not occur when the case manager is, for example, reimbursed by a salary.

V. INVITED ARTICLE IV

How a Pensioner Should Invest, Consume, Annuitise and Bequeath

By David Schiess*

Introduction

Consumption and portfolio optimisation during retirement has not received as much attention in financial research as optimisation prior to retirement. However, retirement planning is becoming more and more relevant for several reasons: rising conditional life expectancies, growing number of defined contribution pension plans in many countries and continuing wealth concentration among pensioners. In addition to the aforementioned statistical reasons there is of course academic interest in a good understanding of the end of the life cycle because this can be used as an input to economic models focusing on the labour phase.

The present article attempts to give a brief, non-technical summary of Schiess (2008) who studies the optimisation problem of a pensioner in a continuous time model. The agent of interest is a pensioner in the sense that he does not receive any stochastic labour income. Basically, a pensioner in the mentioned sense faces two main sources of uncertainty: longevity risk and investment risk. Consequently, we introduce a financial and an annuity market⁷. On the one hand, the pensioner has to find the optimal time to annuitise his wealth (optimal stopping part). On the other hand, he should consume and invest optimally in the pre-annuitisation phase (optimal control part). Furthermore, these two problems are tightly connected through wealth. Thus, we solve a combined optimal stopping and optimal control problem (COSOCP). However, a pensioner derives utility not only from a stream of consumption or an annuity but also from bequeathing wealth to his heirs. The important inclusion of a bequest motive is the main difference between us and related literature as the two interesting articles of Stabile (2006) and Milevsky *et al.* (2007).

The Importance of a Bequest Motive

To keep the mentioned COSOCP tractable, we assume an all-or-nothing framework. This means that the pensioner under investigation is allowed to annuitise his entire remaining wealth at one (future) point in time (stopping time).⁸ Furthermore, we assume power and subsistence level utility functions and the exponential mortality law. In the no-bequest case, he finds that the optimal annuitisation time is now-or-never: depending on the model parameters, the pensioner either annuitises now or never. However, we obtain an absurd strong tendency for the annuity market: it is optimal for the pensioner to annuitise his wealth immediately in almost all realistic situations. There are only very few situations where the pensioner chooses to stay in the financial market. This is *ceteris paribus* the case when one assumes a high enough Sharpe ratio (attractive financial market) and/or a low enough subjective life expectancy (pensioner's perception towards his life expectancy) relative to the objective life expectancy (insurer's perception towards the pensioner's life expectancy) which implies an unattractive annuity market. This absurd strong tendency for the annuity market is absolutely inconsistent with the pensioners' decisions observed in reality.⁹ However, the obtained tendency is not surprising as we have not taken into account yet that people tend to leave a substantial part of their wealth at death. Indeed, things change dramatically if we introduce a bequest motive, since annuitisation is in clear conflict with bequests. Technically, the COSOCP with a bequest motive is much more involved.¹⁰ We find that the absurd strong tendency for the annuity market converts into a slight tendency for the financial market with the important inclusion of a bequest motive. Moreover, the annuitisation decision is normally not of the now-or-never type anymore but becomes wealth-dependent: it is optimal for the pensioner to annuitise as

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⁷ The annuitisation decision is modelled as irreversible due to adverse selection issues.

⁸ In contrast, Milevsky *et al.* (2007) allows that the pensioner annuitises any fraction of his wealth anytime. However, they do not allow for a bequest motive.

⁹ See for instance Milevsky *et al.* (2007).

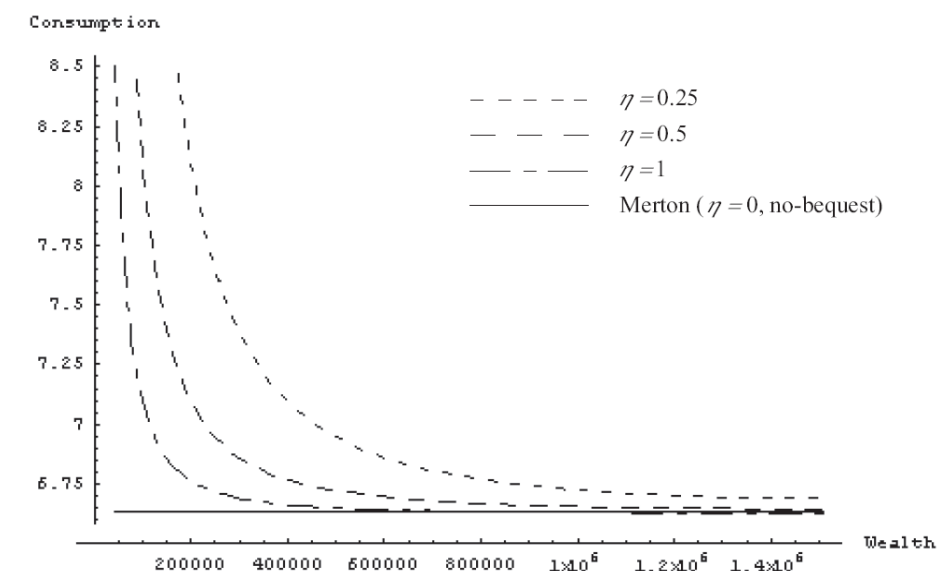
¹⁰ Schiess (2008) uses duality arguments to simplify the optimisation problem and develops an iterative algorithm to solve the resulting problem.

soon as his wealth level falls below some threshold. The dependence of this threshold on the model parameters is very natural. For instance, a higher level of priorly existing life insurance leads to a higher threshold and therefore increases the attractiveness of the annuity market. This is intuitive because the pensioner only bequeathes prior life insurance after annuitisation. On the other hand, a stronger bequest motive decreases the threshold and therefore decreases the attractiveness of the annuity market.

Longevity Risk Matters Very Much

Another main result concerns the relevance of longevity risk. Clearly, annuitisation is in conflict with bequests, as there is only prior life insurance that will be bequeathed after annuitisation. But even in the bequest-case there are many realistic situations where the pensioner chooses to annuitise his wealth. Thus, there are many realistic parameter settings (especially for rather risk-averse pensioners) where the pensioner is willing to eliminate his longevity risk by annuitising his wealth. Hence, the pensioner often prefers to guarantee for himself the consumption of the annuity during his remaining lifetime to the alternative of staying in the financial market which gives him the chance of bequeathing more than prior life insurance to his heirs but also the risk of outliving his assets.¹¹ This highlights the importance of longevity risk and, in combination with the intergenerational risk transfer argument discussed in Baumann *et al.* (2008), it provides a legitimation for pension funds. Furthermore, this result is in line with the empirical observations in the Swiss pension funds that the majority of the insured prefer the lifelong pension (which at least partially¹² eliminates their longevity risk) to the capital option.¹³ Lastly, the possibility to annuitise his wealth naturally affects the pensioner's consumption and investment rule even if he chooses to (at least for the moment) stay in the financial market. We show that the additional option of the annuity market leads to heavy consumption smoothing which is in contrast to the constant Merton consumption fraction. Moreover, it makes the pensioner more aggressive compared to the Merton investor for whom no annuity market exists at all. Figures 1 and 2 display the pensioner's wealth-dependent optimal consumption and investment rules for different values of the bequest motive¹⁴ η .

Figure 1: Optimal consumption as a fraction of wealth for different values of the bequest motive η assuming prior life insurance net of subsistence level of bequests of 500, a relative risk aversion level of 2, an identical subjective and objective life expectancy of 20 years, an identical subjective and objective discount parameter of 0.035 and finally, a drift parameter of 0.08 and a diffusion parameter of 0.2 for the evolution of the risky asset (geometric Brownian motion).



¹¹ Furthermore, the pensioner of course keeps the flexibility of adjusting his consumption level and his investment strategy by staying in the financial market.

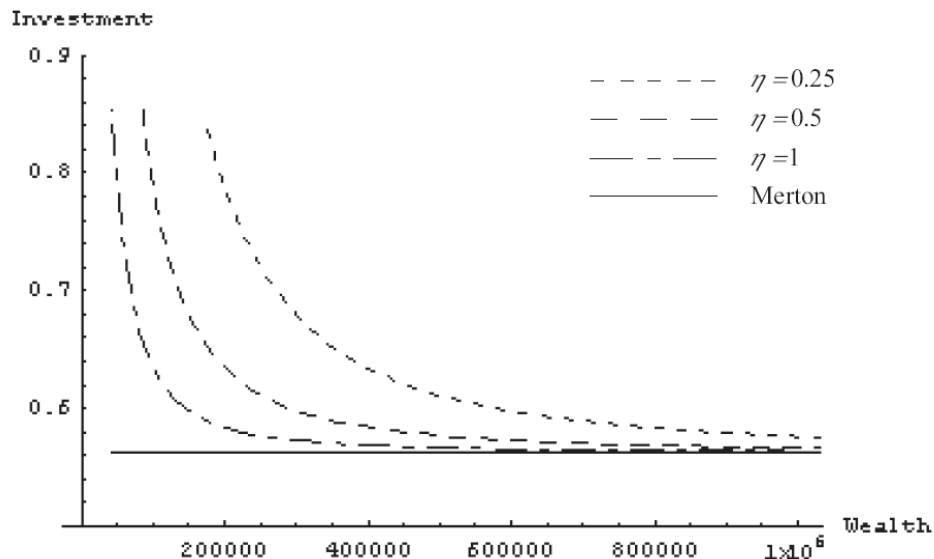
¹² In contrast to the model studied by Schiess (2008), an individual of course has other wealth components besides the second pillar in reality.

¹³ The interested reader is referred to Büttler *et al.* (2007).

¹⁴ Technically, η is simply the coefficient of all bequest utility terms in the indirect utility function. The case $\eta = 0$ therefore corresponds to the no-bequest case while $\eta = 1$ means that the pensioner is altruistic in some sense.

In Figure 2 we exhibit the Merton investment rule (fraction of wealth invested in the risky asset) for comparison. This constant investment rule (straight line) is naturally independent of the bequest parameter, as we use identical relative risk aversion for all utility functions. Specifically, the Merton investment strategy is given by $\frac{1}{\gamma} \frac{\mu - r}{\sigma^2} = \frac{1}{2} \frac{0.08 - 0.035}{0.2^2} = 0.5625$.

Figure 2: Optimal investment in the risky asset for different values of the bequest motive η assuming prior life insurance net of subsistence level of bequests of 500, a relative risk aversion level of 2, an identical subjective and objective life expectancy of 20 years, an identical subjective and objective discount parameter of 0.035 and finally, a drift parameter of 0.08 and a diffusion parameter of 0.2 for the evolution of the risky asset (geometric Brownian motion).



Main Conclusions

The task of finding optimal consumption, asset allocation and the optimal annuitisation time for a pensioner leads to a combined optimal stopping and optimal control problem (COSOCP). In the no-bequest case it is optimal for the pensioner to annuitise immediately or never depending on the parameters of the model. However, there is an absurd strong tendency for the annuity market which can be eliminated with the inclusion of a bequest motive. Allowing for a bequest motive and consequently, for prior life insurance and a subsistence level of bequests, makes the optimisation problem technically quite involved and normally leads to a wealth-dependent annuitisation decision rule. The pensioner annuitises as soon as his wealth level falls below some threshold which exhibits a very natural parameter dependence. The main result is clearly that the essential inclusion of a bequest motive turns the very strong tendency for the annuity market into a slight tendency for the financial market. But even in the bequest case there are many realistic situations where the pensioner chooses the annuity market. This highlights the importance of longevity risk and, in combination with the intergenerational risk transfer argument discussed in Baumann *et al.* (2008), it provides a legitimation for pension funds.

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VI. INVITED ARTICLE V

Health Insurance and Household Response to Health Care Funding Problem in Cameroon

By Marcel René Gouenet*

Introduction

This paper focuses on the major issue of whether the affiliation of a household to a structure of health care insurance improves the access to health care in Cameroon. As in most other countries in Sub-Saharan Africa, there are in this country quite a number of structures aiming at providing health insurance, namely the health insurance system which is part of the social security system, the private health insurance systems, the solidarity associations, the mutual health insurance and the prepayment systems. Their development has been fuelled by the hope that being local structures and more prone to proximity, they would take into account the weakness and instability of household income. But a number of elements raise a doubt on the real impact of these structures of social insurance on the access to health care for households in Cameroon. The extent of poverty excludes de facto most households from insurance coverage and especially most of the rural ones given the traditional management of their health capital and being known for reimbursement default. All these factors combined can lower the possibility of insurance coverage and thus result in a loss of credibility for insurance structures themselves. A sample of households from a survey in rural and urban areas in Cameroon reveals that insurance significantly improves access to modern health care only for wealthy households – those that are in the fifth income quintile. The poorest households – in the first quintile – which barely join the insurance structures are doubly penalized by a premium and a co-payment which are unsuited to their purchasing power.

Health, Health Care and Insurance

For any country, the state of health of its population occupies an important place among the indicators of well-being, as well as in its process of economic development. The United Nations (UN) has identified health as a right. Thus, "every human being has the right to a level of health and welfare (food, clothing, housing and medical care) in agreement with his dignity and personal development". But the satisfaction of health needs is far from being achieved. Inequalities in access¹⁵ to health care are increasingly highlighted throughout the world and access to health care of required quality remains a permanent challenge for developing countries.

The study of Kunst *et al.* (2005) conducted on the use of health care in Estonia shows that people living in rural areas were more likely to consult a general practitioner or to consult by telephone, but rather less likely to consult a specialist. The OECD study on equal access to health (Van Doorslaer *et al.*, 2004) shows that in all OECD countries, regardless of needs, low income groups are more likely to use the services of a doctor than groups with more income. On the contrary, the group at the bottom of the income scale, have a higher probability of being admitted to hospital and of staying there longer in almost all OECD countries.

According to a 2002 report on living conditions and poverty profile in Cameroon, the number of visits to health centres has significantly declined. On the whole, among the number of people who reported being sick in 2001, less than 48.7% were able to afford medical care in a health centre, while among the most vulnerable populations, only 36.1% were able to reach a modern health centre. As for health care expenditure on *per se*, the amount spent per year per person is FCFA¹⁶ 13,000 or FCFA 5,600 per person in poor households as compared to FCFA 37,000 in others (DSCN, 2002). The share of the family income spent on health was thus estimated to be between one and five per cent. Health care supply is very deficient in all its components namely human

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¹⁵ The concept of access to health care in this paper considers the fact that an individual with a predisposition to consume care or who has a need to consume, according to his state of health, will make his latent demand for care more or less according to the obstacles he encounters.

¹⁶ FCFA refers to Franc Communauté Financière Africaine. 1 euro = 650 FCFA.

resources, infrastructure and equipment. Regarding drugs and essential medical devices, while their availability is becoming more satisfactory, their accessibility, due to cost, is still weak. There are many constraints related to provision, distribution, illegal sales, rational use and the behaviour of prescribers. A study by "Défi Santé Publique" also reveals that the wealthy have access to more modern therapy while the poor go to more traditional and/or informal care providers (supply of medication on the street). This situation demonstrates the need for the examination of the link between health insurance and access to health care in Cameroon.

The health insurance structures in Cameroon's health system are various:

Social security health insurance is a form of compulsory health protection provided by the government and is intended primarily for civil servants and workers of the formal sector;

Private health insurance systems, for commercial corporations offering health insurance to individuals or groups. In this case the premiums are determined by actuarial analysis based on risk characteristics of individuals and groups and guarantee rules for the choice of risk;

Solidarity funds or associations of solidarity are generally restricted to members of a sociological group: workers of a service, for a company or extended to workers of the same area of activity living in the same district or members of an ethnic group;

Mutual health insurance organisation is generally defined as a voluntary association of persons (free membership), non-profit whose base of operation is solidarity among all members;

Pre-payment systems are offered by hospitals and health centres. They consist of a periodic pre-payment which guarantees access to health care during the year or on preferential terms.

The literature on the link between health insurance and access to care does not cut short the debate in giving unanimous results. Studying the impact of public or private insurance on recourse to health care, Weinick *et al.* (1997) and Berk and Schur (1998) show that the uninsured, *ceteris paribus* are less likely to report having a "usual place of care". Jutting (2001) in a study on the impact of health insurance on access to care in rural areas in developing countries, shows that members of insurance structures have a high probability of treatment in hospital services, as opposed to non-members and they pay substantially lower costs for their care. Kasper *et al.* (2000) have used the natural experiment which is that of changing health insurance, which is very common in the United States. They seek to evaluate the impact of health insurance on health status by measuring the effect of the loss or gain of Medicaid public health insurance on the one hand, and private insurance on the other, on access to care and development of health status. They show that the proportion of people in poor health (subjective assessment) is not increasing significantly with the loss of insurance, whether public or private, despite a positive effect of insurance on the consumption of health care.

Leytourmy (2005) lists three reasons that make health insurance a factor facilitating the access of households to health care: 1) health insurance is justified as a substitute for direct individual payment of care in the context of household participation in financing; 2) it contributes to lowering the financial barrier to health care access and 3) it contributes to the stability of health resources.

Dourgnon *et al.* (2001) present a study that consisted of randomly assigning individuals to insurance contracts and then comparing their consumption of health care. The study shows that the people with complete coverage spend 30 to 40% more than those bearing 95% of the cost of care. In addition, the effect of insurance is significantly higher for the poorest. Kenkel (2008) shows that the lack of insurance also decreases the use of preventive care: among women assigned to the plan without payment from the patient, 3% more benefited from a medical examination compared to women in other plans.

In contrast, Currie (2000) shows that access to insurance does not always guarantee access to all care. The insured may be subject to public rationing on the supply of care, if the insurance provides opposing tariffs lower than those for other patients, as in the context of Medicaid in the United States. This concern was also reflected in the work of Tobin (1970) which stresses that health insurance does not correct the inequalities in access to care. He has two reasons to support his thesis:

- people whose health is damaged must pay more than those who are healthy in order to be treated or insured;

- for a given level of risk, the less affluent must devote a greater share of their resources in order to get insurance coverage or to have access to treatment.

The practical reality also shows that poor people are often excluded from health insurance systems, as well as quality health care. In Cameroon, beyond their bad credibility, the formal insurance structures do not get involved in the coverage of people in rural areas. The practice of co-payments designed in other countries to limit the moral hazard behaviour on the consumption of care provided by insurance, in a context of poverty, limits access to health care for low-income people. In this paper we examine the important question: does the household status of a member of a health insurance structure improve his access to health care in Cameroon?

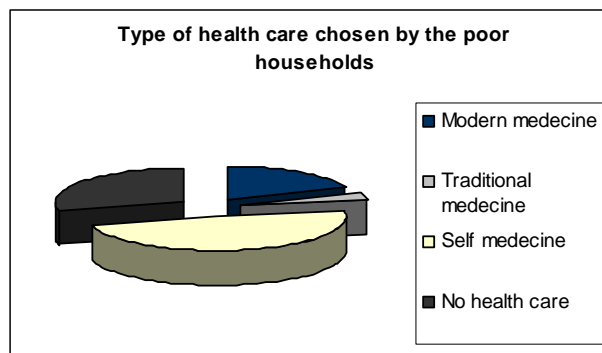
Methodology

A sample of 2,000 households from a survey in rural and urban areas in Cameroon has permitted us to make a statistical evaluation of access to health care of household members according to their belonging or not to a structure of health insurance. A proportion of the sample (800) focused on households at home while the other proportion (1,200) was directed to the population encountered in hospitals. Through a well-focused questionnaire, we sought to evaluate the influence of adherence to an insurance structure, on the demand for health care of the insured households and finally, the influence of the pro rata share of expenses on the care and access to health care for low-income households.

Results

With regard to access to modern health care globally considered, the survey among households presents revealing results.

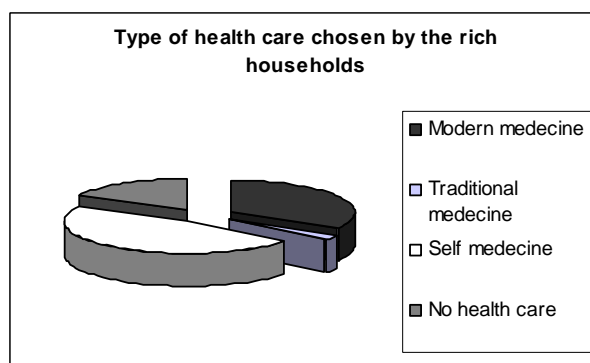
Figure 1: Type of health care chosen by low-income households (households in the first income quintile)



Source: Author's calculation

These statistics confirm the sad reality that poor households are opting mostly for self medication, if they do not simply do without it. In contrast, among households in the fifth quintile of income, even if self medication remains in the forefront, the use of modern medicine is increasingly becoming a significant proportion (second choice following the order of priority) as illustrated by the graph below.

Figure 2: Type of health care chosen by rich households (the household situated on the fifth income quintile) regardless of insurance.



Source: Author's calculation

Conclusion

The influence of health insurance remains mixed: among low-income households, only 15% of respondents said they had joined a health insurance plan, compared with 45% for households in the top quintile of income. Among members of an insurance structure, only 21.5% of poor households had access to modern health care. The non-consumption of modern health care by this part of households despite an insurance coverage is explained by the time-consuming administrative procedures of insurance and the very high participation that the households are required to pay in order to be covered by the insurance, when they attend modern structures of health care. In contrast, among adherents of the fifth quintile of income, 63.4% of the consumption of health care is justified by their status of membership of an insurance structure. Non-members justify their insurance option by the high cost of the insurance premium, poor credibility in relation to reimbursement and the remoteness of these insurance structures.

Ultimately, even if insurance significantly improves the consumption of quality care among the richest households, its influence on the poorest remains very insignificant. This is due to the high level of the required co-payment, which is seen as poorly adapted to their income level as well as to the type of pathology they frequently endure. For health insurance to contribute to the reduction of inequalities in access to care, it must combine its traditional and inherent objective of efficiency in the pooling of risks with a second objective, but nevertheless contradictory, of equity.

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VII. 5TH GENEVA ASSOCIATION HEALTH & AGEING CONFERENCE

5th Geneva Association Health & Ageing Conference

Long Term Care - Risk Profiles, Determinants and Financing

6-7 November 2008, London

hosted by BUPA

Venue:

Jury's Great Russell Street Hotel
16-22 Great Russell Street
London WC1B 3NN

Many industrialised countries are faced with growing expectations of their populations for access to better quality long-term care services at affordable costs. When the cohorts of the baby-boom generation will reach the oldest age groups over the next three decades, demand for long-term care will rise steeply. Long-term care brings together a range of services for persons who are dependent on help with basic activities of daily living over an extended period of time. At the same time, the number of informal caregivers is decreasing and low rates of public long-term care coverage suggest that the financial consequences of dependency could be catastrophic for a number of elderly people and their family. Also, private insurance and other financial tools have developed in many countries to cover the financial risks linked to the need for long-term care.

This conference will deal with the following topics:

- the nature and composition of long-term care;
- the risk factors and the ways to prevent the need for long-term care;
- the role of insurance companies in providing long-term care;
- the market for long-term care insurance;
- other financial products to cover LTC risks.

For more information, please contact Christophe Courbage at:

christophe_courbage@genevaassociation.org

Programme

6 November 2008

10.00 Welcome / Opening Remarks

10.30 - 12.30 Session 1. Individual risk profiles and their impact on LTC

- *Individual risk profiles and their impact on LTC*
Prof. Jean-Pierre Michel, Director, Department of Geriatrics and Rehabilitation, University Hospital of Geneva
- *On the determinants of LTC with reference to dementia*
Prof. Jean-François Dartigues, Institute of Public Health, University of Bordeaux
- *Prevention and individual risk profiles*
Christine Hancock, European Director, Oxford Health Alliance, London

12.30 - 13.30 Lunch Break

13.30 - 15.30 Session 2. A focus on the economics of LTC

- *The economics of long-term care*
Prof. Peter Zweifel, Socioeconomic Institute of the University of Zurich
- *Population and health care expenditure: is long-term care different?*
Prof. Stefan Felder, Chair of Health Economics, Duisburg-Essen University
- *Financing long-term care in Europe: how will the public-private mix evolve?*
Dr. Manfred Huber, Director Health and Care, European Centre for Social Welfare Policy and Research, Vienna

15.30 - 16.00 Coffee Break

16.00 - 18.00 Session 3. LTC providers

- *BUPA's experience as a leading operator of care homes across the globe*
Dr. Clive Bowman, Medical Director, BUPA Care Services Business, London
- *Long-term care: decisions and dilemmas for individuals and their families*
Dr. Gillian Dalley, Chief Executive, The Relatives & Residents Association, London
- *Long-term care in the European Union: the Open Method of Coordination (OMC) on social protection*
Dimitris Theodorakis, European Commission, DG Employment, Social Affairs and Equal Opportunities, Brussels

19.30 Conference Dinner (Bertorelli, 19 Charlotte Street, London W1T 1RL)

7 November 2008**8.30 - 10.30 Session 4. Long-term care insurance**

- *Long-term care insurance: a U.S. Perspective*
Loida R. Abraham, Senior Vice-President, LTC, Swiss Re Life & Health America Inc, New-York
- *Long-term care insurance: French and international perspectives*
Pierre-Yves Le Corre, Senior Partner, SCOR, Paris
- *Characteristics and background of long-term care insurance products in Austria*
Elisabeth Stadler, Member of the Board, UNIQA Versicherungen AG, Vienna

10.30 - 11.00 Coffee Break

11.00 - 13.00 Session 5. Covering LTC

- *Funding systems for long-term care services: a U.K. Perspective*
Dr. Jose-Luis Fernandez, Deputy Director, PSSRU, London School of Economics, London
- *Will adult children buy long-term care insurance for their parents?*
Tian Zhou-Richter, Research Associate, Dr. Wolfgang Schieren-Chair for Insurance and Risk Management, Humboldt-Universität zu Berlin
- *Reverse mortgages and long-term care risks coverage*
Roger Hillier, Head of Equity Release and Protection Product Development, Partnership, London

13.00 Farewell buffet lunch

VIII. SPECIAL ISSUE ON HEALTH OF THE GENEVA PAPERS

The Geneva Association is pleased to announce a special issue on health of

The Geneva Papers on Risk and Insurance *Issues and Practice*

Vol. 33 - N°4 - October 2008

SPECIAL ISSUE ON HEALTH

Editorial

Christophe Courbage

Community Rating, Entry-Age Rating and Adverse Selection in Private Health Insurance in Australia

Thomas Buchmueller

Private Supplementary Health Insurance: Retirees' Demand

Carine Franc, Marc Perronnin and Aurélie Pierre.

Health Insurance and Life Style Choice: Identifying the Ex Ante Moral Hazard in the U.S. Market

Anderson Stanciole

Empirical Evidence of Long-Term Care Insurance Purchase in France

Christophe Courbage and Nolwenn Roudaut

Long-Term Care: Risk Description of a Spanish Portfolio and Economic Analysis of the Timing of Insurance Purchase

Montserrat Guillén and Jean Pinquet

Relative Income and Attitudes towards Long-Term Care Financing

Joan Costa-font Anna Garcia-Gonzalez Montserrat Font-Vilalta

An Empirical Analysis of Patterns in the Japanese Long-Term Care Insurance System

Olivia S. Mitchell, John Piggott and Satoshi Shimizutani

Does the Age Profile of Health Care Expenditure Really Steepen over Time? New Evidence from Swiss Cantons

Stefan Felder and Andreas Werblow

Re-estimating the Demographic Impact on Health Care Expenditure: Evidence from Taiwan, by

Yung-Ming Shiu and Mei-Ching Chiu

The Cost Incidence of the UK's NHS System

Paul Klumpes and Liyan Tang

For further information on the *Geneva Papers*, please visit <http://www.palgrave-journals.com/gpp/index.html>

IX. PUBLICATIONS ON HEALTH ISSUES

Caring for People with Chronic Conditions: A Health System Perspective, edited by Ellen Nolte and Martin McKee, published by the Open University Press, 2008, ISBN 978-0-335-23370-0. The book systematically examines some of the key issues involved in the care of those with chronic diseases. It synthesises the evidence on what we know works (or does not) in different circumstances. From an international perspective, it addresses the prerequisites for effective policies and management of chronic disease.

Anti-Ageing Medicine: Myths and Chance, by Astrid Stuckelberger, published by vdf Hochschulverlag, 2008, ISBN 978-3-7281-3195-9. Anti-ageing medicine aims at slowing, arresting, and reversing phenomena associated with ageing by merging biotechnological innovation and engineered solution. Anti-ageing medicine holds promises but also significant risks and safety issues which are addressed in this book. It presents the latest scientific evidence on what works or does not work. It also provides public policy recommendations to ensure the protection of consumers and their rights while encouraging research and development.

Ensuring Value for Money in Health Care: The Role of Health Technology Assessment in the European Union, by Corinna Sorenson, Michael Drummond and Panos Kanavos, published by the European on Health Systems and Policy, 2008, ISBN 978 92 890 7183 3. This book provides a detailed review of the role of health technology assessment (HTA) in the European Union. It examines related methodological and process issues in the prioritisation and financing of modern health care, and presents extensive case studies on the situation in Sweden, the Netherlands, Finland, France, Germany and the United Kingdom.

Health and the National Health Service, by John Carrier and Ian Kendall, published by Routledge, 2008, ISBN 978-1-904385-14-1. Reviewing recent health care policy in the NHS, this book locates the NHS in the context of the welfare state. Setting health policy in both a historical and modern context, the authors weigh up the successes and failures of the NHS in the UK and examine the conflicts which have driven the Health Service for over fifty years.

Assuring Quality of Care in the European Union, by Helena Legido-Quigley, Martin McKee, Ellen Nolte, Irene A. Glinos, published by the European on Health Systems and Policy, 2008, ISBN 978 92 890 7193 2. This book examines, for the first time, quality assurance systems put in place in all of the European Union's 27 Member States. Some have well-developed systems, setting standards based on the best available evidence, monitoring care, and taking action where it falls short. Others need to overcome significant obstacles. Full text available for download at: <http://www.euro.who.int/document/E91397.pdf>

Health Micro Insurance Schemes – Monitoring and Evaluation Guide, published by the International Labour Office, 2007, ISBN 978-92-2-119669-3. The guide mainly aims at supporting MHIS managers and support structures to monitor and assess the viability and performance of Health Microinsurance schemes. The proposed methodology relies on the use of a series of quantitative and qualitative indicators. Evaluation of viability is considered in turn from an administrative, technical, functional, financial and economic standpoint.

Health Economics – An International Perspective, by Barabara McPake and Charles Normand, published by Routledge, 2007, ISBN 978-0-415-39129-0. The book begins by looking at simple models of supply and demand within health care, before moving on to techniques of cost-benefit analysis and comparing differing health care systems around the world.

Is There a Doctor In the House? Market Signals and Tomorrow's Supply of Doctors, by Richard M. Scheffler, published by Stanford University Press, 2008, ISBN 080470032X. Using his economist's perspective to define what it means to find "the right number of doctors," Scheffler places questions about the supply and demand of doctors in the framework of the market—showing how shifts in market power underlie workforce changes. The author shows how today's health care system is the product of economic and financial influences in both the policy realm and on the ground, in the offices of hospitals, insurers, and physicians throughout America.

X. GENEVA ASSOCIATION PUBLICATIONS

The Geneva Papers on Risk and Insurance – Issues and Practice

Vol. 33 – No. 3 / July 2008

DISTRIBUTION

- Bancassurance: Tapping into the Banking Strength, *by Mark Teunissen*
- Why Are Insurance Companies Different? The Limits of Convergence Among Financial Institutions, *by Andrea Beltratti and Giuseppe Corvino*
- Reasons for the Coexistence of Different Distribution Channels: An Empirical Test for the German Insurance Market, *by Lucinda Trigo-Gamarra*

FINANCE

- The Swiss Solvency Test and its Market Implications, *by Martin Eling, Nadine Gatzert and Hato Schmeiser*
- The Relevance of Portfolio Management Action for Solvency Measurement, *by Alexander König and Axel Brohm*
- Why Insurers Fail: The Dynamics of Property and Casualty Insurance Insolvency in Canada, *by Darrell Leadbetter and Suela Dibra*

OTHER

- The Chinese Insurance Market: Estimating its Long-Term Growth and Size, *by Wei Zheng, Yongdong Liu, and Gerry Dickinson*
- Global Climate Change in the Wider Context of Sustainability, *by Walter R. Stahel*
- The Emergence of Cross-Border Insurance Groups within Europe with Centralised Risk Management, *by Dirk Schoenmaker, Sander Oosterloo, and Otto Winkels*
- Deposit Insurance and Banking Supervision in China: The Agenda Ahead, *by Haibo Yan and Ying Huang*
- Demutualization and Demand for Reinsurance, *by Jennifer L. Wang, Vincent Y. Chang, Gene C. Lai and Larry Y. Tzeng*

The Geneva Risk and Insurance Review (formerly the Geneva Papers on Risk and Insurance Theory until March 2005)

Vol. 33 – No. 1 / June 2008

EGRIE KEYNOTE ADDRESS

- On Optimal Insurance in the Presence of Moral Hazard, *by Edi Karni*

ARTICLES

- Intergenerational Effects of Guaranteed Pension Contracts, *by Trond M. Døskeland and Helge A. Nordahl*
- The Effect of Pre-commitment and Past-Experience on Insurance Choices: An Experimental Study, *by Thomas Papon*

Recent Working Papers Series “Etudes et Dossiers”

No. 346 / October 2008

The M.O.R.E. 22 – Seminar of The Geneva Association
Munich, 18-19 September 2008

&

The 6th Annual Round Table of Chief Risk Officers, 2008
Ballerup, 21-22 April 2008

No. 345 / June 2008

4th Liability Regimes Conference
Paris, 7-9 November 2007

No. 344 / April 2008

The 24th PROGRES International Seminar
Towards a Global Architecture for Insurance Regulations and Supervision
Geneva, 3-4 April 2008

XI. CONFERENCES ORGANISED AND/OR SPONSORED BY THE GENEVA ASSOCIATION

2008

October

- 6-7 Istanbul **Istanbul International Insurance Conference**, organised by AKSigorta and The Geneva Association
- 10 Rome **AXA/MPS Vita Annual Forum**, organised by AXA/Montepaschi Vita and The Geneva Association

November

- 6-7 Zurich **5th Liability Regimes Conference**, hosted by Swiss Re, Zurich Financial Services and co-organised by The Geneva Association
- 6-7 London **5th Health & Ageing Conference on Long-Term Care – Risk Profiles, Future Determinants and Financing**, jointly organised with BUPA
- 20-21 Munich **4th CRO Assembly** jointly organised with Munich Re

December

- 8-9 London **5th International Insurance and Finance Seminar** of The Geneva Association
- 11-12 Rome **6th Meeting of The Geneva Association's Chief Communications Officers** hosted by Assicurazioni Generali

2009

January

- 13 New York **Joint Industry Forum for P&C Insurance Industry**, co-sponsored by The Geneva Association
- 16 Paris **2nd Meeting of Chief Investment Officers in Insurance**, hosted by AXA (*CIO members only*)

February

- 5-6 Amsterdam **11th Meeting of the Amsterdam Circle of Chief Economists**, hosted by ING (*ACCE members only*)

April

- 6-7 Montreux **25th PROGRES Seminar on Insurance Regulation and Supervision**

May

- 11-12 Milan **13th joint Seminar of the European Association of Law & Economics (EALE) and The Geneva Association**
- 27-30 Kyoto **36th General Assembly of The Geneva Association** (*members only*)

September

- 21-23 Bergen **36th Seminar of the European Group of Risk and Insurance Economists**