Equity in the Finance of Healthcare:
Summary

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Equity in health and in the consumption and finance of medical care is considered an important research field, both nationally and internationally (World Bank, 2000, World Health Organisation, 2000, EU Projects ECUITY I, II, and III). But while much is already known about some aspects of this issue, others are yet to be studied in greater depth. Research into equity in healthcare is relatively old. Belgian and international studies indicate unanimously that sickness and mortality are more prevalent in the lower socio-economic strata (see among others De Graeve and Duchesne, 1997, Van Doorslaer, et al 1997). This means that the need for medical care is greater among these groups, and that consequently the issue of accessibility is more pertinent. However, research into the determinants of consumption of medical care, especially among the lower income groups, indicates that equity in healthcare consumption is not really problematic in most European healthcare systems, including Belgium's (Van Doorslaer, et al 2000, De Graeve and Duchesne, 1997, Adriaenssen and De Graeve, 2000, Van Ourti, 2002). Out-of-pocket contributions, for example, have a negative impact on the consumption of medical care, especially among the lower income groups. Still, if these contributions are limited and/or income-related, as is the case in Europe, then the differential impact according to income is more or less neutralised. Likewise, it appears that, if one takes adequate account of other determining factors, the impact of (household) income on medical consumption remains positive but relatively small. Generally speaking, there is little empirical evidence of inequity in the consumption of medical care in favour of the more affluent. Nevertheless, these results have yet to be confirmed for quality of care and for different types of care and medical conditions. They are, moreover, not detailed enough to provide accurate insight into the precarious situation of certain marginal population groups. Still, the tentative general conclusion is that the scope of consumption of medical care corresponds largely to the health of the individual in question.

On the basis of this evidence, concerns may be raised about the impact of the consumption of medical care on the allocation of household income. If sickness is concentrated mainly among the lower socio-economic groups, and if sickness in turn gives rise to medical consumption, then it is quite apparent that healthcare costs are not distributed evenly among the general population. Between 40 and 50% of total healthcare expenses are generated by 2% of the population (Socialistisch Ziekenfonds, 2000). Despite some socio-economic corrections (reduced out-of-pocket payments for vulnerable groups, income-based exemptions), out-of-pocket contributions are coupled with expenses on healthcare, and consequently exhibit a skewed distribution. Ten percent of the population, primarily lower socio-economic segments, account for roughly 50% of overall out-of-pocket contributions (Socialistisch Ziekenfonds, 1998). A Flemish study has shown that patients who have difficulties paying hospital bills face relatively high annual healthcare costs and belong disproportionately often to the lower socio-economic groups (Adriaenssen and De Graeve, 2001). Payment difficulties caused by high care costs are undesirable: the principle of a maximum co-payment amount was introduced precisely to protect everyone against an accumulation of medical costs. However, this system does not cover all costs (overbilling, category D drugs, …) and it is not applied equally for all (cf. self-employed persons). It therefore makes good sense to study more closely the issues involved in facing very high medical expenses. In addition, there is a broader concern with a just, equitable funding of healthcare, based primarily on people's ability to pay and not on levels of consumption. It is the intention not to make access to healthcare dependent on this

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ability to pay. Despite the importance that is attributed to the affordability of healthcare, remarkably little concrete information is available on this issue. This quite clearly hampers policymaking in relation to the affordability of the system.

The purpose of the present research effort is to provide an overview of information on the payment of healthcare costs and to analyse their distribution among private sociological families.

<u>Information about payments for healthcare costs at household level</u>

In Belgium, households contribute directly and indirectly to the funding of the healthcare system. The direct contributions are the costs that households bear when consuming medical care. These are mainly co-payments or supplements that are due on top of the share paid for by the sickness fund or payments for types of care that are not covered by sickness insurance. The indirect contributions consist of social security payment, and direct as well as indirect taxation.

In order to study all the distributive characteristics of these contribution components, we use data from the so-called household budget survey (HuishoudBudgetEnquête, henceforth HBE) of the National Institute of Statistics (NIS). In comparison to a purely administrative database, the HBE offers a value added if one wants to study the distributive characteristics of all the funding components. After all, it contains information on the total spending package and on the income of sociological households. The information on income allows one to calculate how much every household pays in direct taxes and social security contributions. On the basis of total spending, one can calculate the indirect taxes paid. As the HBE covers the entire spending package of households, this database also offers information on items that may be classified under the heading "healthcare" but that are not reimbursed under a mandatory or optional insurance scheme. Other, more administrative databases, do not contain information regarding spending on such items. For example, Belgium's National Institute for Sickness and Disability Insurance (RIZIV) does not have this data at its disposal, as it covers neither the consumption of healthcare that is not incorporated into the nationally established fee schedule nor the share that the patient might have to pay in addition to the official co-payment amounts. Moreover, the HBE contains (limited) information on the socio-economic characteristics of the households.

However, the HBE of the NIS also lacks a lot of information that is valuable in studying the distributive characteristics of the *various* funding components of Belgium's healthcare system. We shall briefly consider the most significant shortcomings of the HBE and how we have tried to resolve them. All data manipulations are discussed at length in De Graeve et al (2003, Chapter 5).

The *first problem* concerns the registration period. In the more recent HBEs, households were required to register all minor expenses (< BEF 1900), including on healthcare, during just a *single month*. This is too short a registration period, because it is precisely the accumulation of healthcare expenses over longer periods of time that can be problematic. The NIS calculates the annual figure by multiplying the amount obtained by 12. This is not a problem for periodic expenses (e.g. rent or utilities) or frequent expenses (e.g. food), but it is for healthcare costs, because for most households the latter occur sporadically. We have complemented the lacking data on household spending (i.e. the months in which no registration took place) on the basis of expenditures recorded by the most comparable household in a particular month. In this manner, we obtained an annual expenditure figure on (categories of) medical goods for the sociological household.

The *second problem* is that *not all healthcare expenses* by the household are *borne by the household itself*. Often, such costs are covered under the reimbursement scheme: the patient is required to pay initially, but is subsequently reimbursed by the sickness fund. Moreover, reimbursement can take the shape of a social and fiscal exemption (before 2001) or, as under the present system, that of a maximum co-payment amount. Although the HBE records data on reimbursements by the sickness funds, it is not immediately clear to what extent these reimbursements relate to spending for which no direct payments were registered. We have

therefore made some calculations that allow us to distinguish between reimbursements, co-payments and supplements. Further, compensations through tax exemptions, social exemptions on co-payments and the maximum co-payment amount were all simulated.

The *third problem* is that the HBE offers *no data on gross incomes* and *social security contributions.* These lacunas were filled in two ways. A first method encompassed a simulation model that allowed us to calculate gross incomes and social security contributions on the basis of net income data. The second involved another database that contains both gross and net incomes. This other database was linked up with the HBE data by means of a statistical matching method whereby a search was conducted in the two databases for observation units that resemble one another most closely in terms of the variables.

As the two methods provided slightly diverging values and no sound scientific reason could be put forward in favour of either the one or the other, we invariably used both techniques. In the remainder of this article we shall speak respectively of 'back calculation' and 'matching'.

Finally, the HBE lacks data on *indirect taxes* paid by the households. However, we do know what these households spent on various goods. To simulate indirect taxes for these expenses, the ASTER model was used. This model was conceived on the basis of the HBE (Decoster, A., Schokkaert, E. and Van Dongen, H., 1994).

All these calculations and simulations were conducted meticulously on the HBE of 1997-98. The supplemented survey thus contains an estimation for a sample of sociological households of all components that were used to finance healthcare costs. We consider this supplementation of the HBE 1997-98 to be an important contribution by the research project as a whole, as it makes it possible to study the distribution of out-of-pocket payments in Belgium during the period concerned.

Yet, although the supplementation of the HBE is useful for studying out-of-pocket payments, it cannot conceal the fact that the database has a number of limitations. After all, during this operation, certain hypotheses were formulated, some details were ignored, and choices were made between non-coherent figures. All these options have, however, been carefully documented.

In addition, one should take into account that the sample of respondents in the HBE is rather small (2,213 households) and that none of the respondents were institutionalised. This implies that a considerably large group of elderly persons and long-term hospitalised psychiatric patients are ignored. Moreover, the sample is not representative. We have tried to resolve this problem by means of sample weighting, but this cannot alter the fact that the HBE is too limited in scope to provide reliable information regarding specific vulnerable / marginal population groups.

Distributive characteristics of the various funding sources for healthcare in Belgium in international comparative perspective

Now that we have at our disposal data regarding the various payments for healthcare at household level in 1997-98, we can look at the *distributive characteristics (vertical equity, horizontal equity and the impact on income inequality) of these funding sources*. At international level, research has already been conducted into this matter. *Our analysis of the Belgian situation conforms to the international methodology, so that our results may be placed in international comparative perspective.* For a more extensive analysis, see De Graeve et al (2003, Chapter 3).

We first consider the aspect of *vertical equity*, i.e. the extent to which medical care is financed according to one's ability to pay. There appears to be a consensus among most people that vertical equity is desirable with regard to medical costs (Hurst, 1985, Wagstaff et al, 1999). More concretely, we look at how progressive or regressive this source of funding is. Progressiveness means that payments relating to healthcare increase proportionally with income. Regressiveness is the reverse relationship: the proportion paid becomes higher as income becomes smaller.

Whether or not healthcare is funded progressively depends on the progressiveness of the various funding sources and their relative share. Under the Belgian healthcare system, there are five funding sources, i.e. indirect and direct taxation, social security contributions, private insurance premiums and out-of-pocket payments. Public funding accounts for about 80% of total expenditures, whereby social security contributions on the one hand and direct and indirect taxes on the other are about equally important. This is atypical for Western Europe, as public funding is usually organised either primarily through taxation or mainly through social security contributions. The only country where the situation is similar to that in Belgium is Italy. In Belgium private funding happens mainly through out-of-pocket payments (the proportion accounted for by private insurance premiums is less than 4 percent). In comparison to other countries, the significance of private funding sources is rather modest, though its share is even smaller in Denmark, Germany, the UK and Sweden.

International data relating to vertical equity seems to suggest that there are three clusters of funding schemes in Europe and the US. First, there is the cluster of countries where healthcare is funded for an important part through taxes, which implies that the system is primarily progressive or even proportional (Denmark, Finland, Ireland, Portugal, the UK and Sweden). A second cluster consists of the US and Switzerland. They have funding systems that are very regressive in nature, because they rely heavily on indirect taxation. Finally, there is the group of countries encompassing France, Germany and the Netherlands, with a regressive system due to the exclusion of certain groups from social security or because amounts are limited (France is an exception). On the basis of the most recent data, we have been able to ascertain that –after Denmark[2], France, the US and Switzerland- Belgium has the most regressive out-of-pocket payments[3]. Still, it is quite noticeable how the entire Belgian system, i.e. the sum of all its funding sources, is modestly progressive (on the basis of back calculation) or proportional (on the basis of data matching). The Belgian system is more progressive than those in most other European countries. This implies that regressive private funding is compensated for by progressive public funding. In other words, the principle of funding according to ability to pay has been realised to a reasonable extent.

However, vertical equity is not the only issue. Equally important is the degree of horizontal equity. This term refers to the distribution of the actual payments within each income level, i.e. it concerns the extent to which individuals with the same ability to pay actually pay the same amounts for medical care. It might be the case, for example, that social security payments are horizontally inequitable as households on the same income pay different contributions because they fall under different schemes (the general scheme vs. the regime for the self-employed). This also holds for direct taxes: they may vary between households on the same income due to differences in social insurance status, differences in terms of choices with regard to private insurance and/or differences in the prevalence of illnesses. With regard to horizontal equity, empirical evidence from other European countries suggests that horizontal inequity is relatively insignificant if compared to vertical inequity. If one looks at the separate funding sources, one notices that horizontal inequities are, on the whole, more common in the case of private payments. This is in line with expectations, as it is primarily the state of people's health, not the size of their income, which determines how much they spend on medical care. The results for Belgium confirm that horizontal inequity is rather small. Moreover, in the case of Belgium, calculations show that the degree of horizontal inequity in private payments is also rather limited. This is probably due to the supplementation procedure that is used to switch from monthly data to annual figures, whereby figures relating to similar households are used.

Finally, we consider the redistributive effect of payments for medical care, i.e. we compare the difference in income inequality before and after such payments. The scope of this effect is

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2 This holds only for the figures based on the "Back calculation" in De Graeve et al (2003, Chapter 3).

3 Private insurance premiums in the US and Switzerland are distributed more progressively or regressively depending on whether one considers the figures for "Reimbursement" or "matching" in De Greave et al (2003, Chapter 3).

determined by the degree of progressiveness, the average share in the budget that is spent on healthcare, the horizontal inequalities in such payments and the changes that healthcare payments cause to the order of households according to income.

The results of our study into the redistributive effects confirm the analysis of the degree of progressiveness. For Belgium, we notice that the total redistributive impact is either to the benefit of the lower income categories (back calculation) or non-existent (matching). The out-of-pocket payments redistribute to the benefit of the higher income groups, but this effect is (more than) compensated for by the redistributive impact of the public funding sources to the benefit of the lower earning categories.

<u>Who is burdened under the present system by their out-of-pocket payments?</u>

Although in 1997-98, the current system of the maximum co-payment amount had not been introduced yet, we can calculate what the out-of-pocket contributions of the households would have been. Using estimated out-of-pocket payments by the sociological households, we outline a number of characteristics of the households with high and low out-of-pocket payments under the current system. For these households, we look at the total household income and a number of income components including earned income, self-employment income, replacement income and real estate. Besides these income data, we also study such household characteristics as household size, household age, region where the household lives and level of schooling of the household head or reference person. These variables are described by means of an absolute and a relative concept of out-of-pocket contributions. For an extensive description of the results, see De Graeve et al (2003, Chapter 4) and Schokkaert et al (2003). Some important observations:

- The connection between the *absolute amount in out-of-pocket payments* and household income is positive. Likewise, there is a positive relationship between all the income components and the absolute out-of-pocket costs. Further, higher absolute out-of-pocket payments correspond positively with bigger household size and higher level of training of the household reference person. There is no unequivocal relationship with the region where the household reference person resides, nor with the average household age.
- *Out-of-pocket* payments *as a percentage of household income* correlates negatively with household income. As this relative measure of out-of-pocket costs increases, so too does the significance of replacement income to overall household income. The out-of-pocket payments as a percentage of income correlate positively with the average household age and negatively with the level of training of the reference person. There is no unequivocal connection between the relative out-of-pocket costs and either household size or the region of residence.

Within the total population, the group whose out-of-pocket contribution as a percentage of household income is high is particularly vulnerable. The characteristics of this group were therefore considered in greater detail. As it is impossible to determine what are 'high' and what 'low' contributions, we first looked at the group whose out-of-pocket payments represented 5% of income or more. Subsequently we focused on the group whose out-of-pocket contributions as a percentage of income were 10% or more. For the present system, we may conclude the following:

- In comparison to the total population, households whose out-of-pocket contributions amount to 5% or more of income have a lower average income and a high proportion of replacement incomes in their overall income. These households are, on average, smaller, older and lower skilled than the average for the population as a whole.
- In the group of households whose out-of-pocket payments amount to 5% or more of income, the regions are represented more or less proportionally. In the group whose out-of-pocket contributions amount to 10% or more of income, there are relatively many households from the Walloon region and few from Flanders.
- The proportion of replacement incomes in total household income is relatively high throughout the deciles of these 5% and 10% groups. The other household characteristics exhibit no unequivocal pattern throughout these deciles.

- There is clearly a relationship between the average household characteristics of the two groups and those of the population as a whole. Within each group, there is however no clear connection between these characteristics and the share of household income that is spent on out-of-pocket payments.

The out-of-pocket payments on which all the previous conclusions are based represent only one aspect of the private expenses on healthcare costs. For the sociological households in the HBE9798, we also observe the premiums that are paid for insurance against certain health risks. These premiums are distributed unevenly among households. Whether or not these are brought into account could thus affect the above conclusions. All previous variables were reconsidered for out-of-pocket contributions plus premiums paid. However, the conclusions are no different from those drawn on the basis of out-of-pocket payments only.

<u>Simulation of possible reforms of the healthcare system: an evaluation of the effect of out-of-pocket contributions</u>

The affordability of healthcare for individuals or for a household has always been considered an important issue in our healthcare system. For this reason, our country opted for a mandatory social insurance with particularly favourable conditions for weak socio-economic groups. This is also why the maximum co-payment amounts were introduced. On the other hand, the system has had to contend with cost control problems for many years. That is why co-payment amounts have been increased on various occasions and why calls are frequently heard to reform the system. We shall try to ascertain what might be the consequences in terms of equity of a number of policy options as compared to the existing system (described in the previous paragraph) with a maximum co-payment amount. We shall consider four options: 1) a (re)introduction of fiscal and social exemptions; 2) an abolition of the preferential regulation combined with an allocation of the newly available funds to the lowering of the ceilings of the maximum co-payment amount; 3) an expansion of the regulation within the general scheme to all those insured, and 4) the scrapping of minor risks from compulsory insurance.

On the basis of the comparison between out-of-pocket payments under the current system and under the simulated reforms, a picture emerges of the possible winners and losers of a transition from the simulated to the present system. The winners and losers are determined in relative terms, i.e. in terms of the difference between the two systems in out-of-pocket payments as a percentage of income. For an extensive description of the findings, see De Graeve et al (2003, Chapter 4) and Schokkaert et al (2003).

First, we simulate the *system before the introduction of the maximum co-payment amount*. Under this system, there were no co-payment compensations at the level of the sociological household and drugs were not taken into account for the exemption on co-payments. Those who gained from the introduction of the maximum co-payment amount appear to be households with a lower-than-average income and a relatively high proportion of replacement incomes. The average size and age of these households is higher than that of the total population. Among those who gained, there are relatively many households from Wallonia and relatively few from Flanders. Switching back from a maximum co-payment amount to a social and fiscal exemption would thus imply a marked deterioration in the circumstances of a considerable number of households, especially among the high-risk groups.

Under a second scenario, the *increased reimbursements are abolished*. This is compensated for by a lowering of the co-payment thresholds and by a systematic application of co-payment compensations at the level of the sociological household. The losers under this assumption turned out mainly to be low-income households with a high proportion of replacement incomes, but the other household characteristics differ very little with the overall averages. It appeared from a comparison between winners and losers that the households who stand to lose from an abolition of increased reimbursements are more vulnerable than the households who stand to gain from lower co-payment thresholds and a transition from the 'mutualist' household concept to the sociological household. This means that the existing system of increased reimbursements clearly fulfils a function and cannot simply be replaced with a further expansion of the system of the maximum co-payment amount.

Under a third scenario, the *distinction between beneficiaries under the scheme of the self-employed and beneficiaries under the general scheme is abolished*. In the simulated scenario, all those who were entitled or not entitled to increased reimbursement under the scheme of the self-employed, were treated as if they were entitled or not entitled to such reimbursements under the *general* scheme. The gainers of this equal treatment have an above-average income. For the rest, the household characteristics of these gainers are very similar to those of the overall average household. Thus, from a redistributive perspective, a harmonisation between the general scheme and the scheme of the self-employed is not a priority.

In the final scenario, it is assumed that *minor risks* are scrapped from the compulsory insurance of those falling under the general scheme. The biggest losers under such a measure would be households on a low income and a relatively important share of replacement incomes. In addition, the losses correlate negatively with level of schooling of the reference person and positively with average age. There is no unequivocal relationship between the losses on the one hand and household size or region on the other. Thus, reducing the protection offered under the general scheme of a mandatory health insurance by scrapping coverage of minor risk would have catastrophic distributive effects. The present high-risk groups would be severely hit by such a measure.

<u>Evolution of out-of-pocket payments for healthcare (1979-1997)</u>

Thus far, we have analysed the extent to which the present system is equitable and we have simulated the effects of a number of alternative policy measures. We can now look back further in time: how has households' financial burden associated with the consumption of healthcare and its distributive characteristics evolved? To this end, we use data from the HBEs of 1978-79, 1987-88 and 1997-98 obtained from the NIS.

As was explained in the first paragraph, the HBE data have some shortcomings. However, a number of additional problems arise in the context of an analysis over time, as the methodology of the survey was altered during the period considered. For 1997-98, extensive data manipulations were conducted to resolve this matter as satisfactorily as possible. However, the work involved proved to be so intensive that it could not be repeated for the two other surveys. In order to make the analyses consistent through time, a number of essential manipulations of the original data were carried out and documented in De Graeve et al (2003, Chapter 2). It should however be pointed out that the approaches put forward here are much cruder. In order to better guarantee consistency, the analyses have been limited to decile level rather than continuing on to the individual level. Nevertheless, much of the data needs to be treated with circumspection.

The information from the HBEs allowed us to draw up an indicator of household affluence, i.e. total spending on the part of the sociological household, and to relate this to the out-of-pocket payments for healthcare per sociological household, i.e. the sum of all co-payments, supplements and expenditures for medical goods/services that are not covered by mandatory health insurance. The construction of the two variables is a complex matter that is discussed in greater detail in De Graeve et al (2003, Chapter 2).

On the basis of the data calculated, we shall first try to ascertain how the average share of the budget that is spent on out-of-pocket contributions has evolved in the course of time. This factual information is important. A recent analysis of healthcare in Belgium indicates that the upper limit of out-of-pocket payments has been reached (Peers, 1999). This conclusion was probably based on qualitative insights. We might therefore be able to subscribe to it or reject it on quantitative grounds.

More specifically, we can ascertain what financial burden medical costs represent and to what extent this burden had become more substantial in 1997/98 than it had been during the previous 10 or 20 years. Figures show that the share in the budget increased between 1978/79 and 1997/98 from 2.1 to 3.4 percent.

Second, we shall ascertain whether the evolution was similar for the different socio-economic groups considered by means of an analysis of the average budget share per spending decile. The increase in the average budget share is comparable for the different deciles, except for deciles 7 and 10. The latter two deciles (encompassing relatively high incomes) experienced a more substantial increase, but we were unable to determine why.

Finally, we analysed the dispersion/inequality of the budget shares of out-of-pocket payments over the spending deciles and the evolution of this dispersion/inequality over time. To this end, we used two yardsticks. The first yardstick, for measuring the extent of vertical mobility, was the Kakwani Index. This index shows that the out-of-pocket payments are distributed regressively in each year. This means that the budget share of out-of-pocket contributions increases as total expenditure declines. As in the case of the detailed analysis for 1997, we find that, in relation to the out-of-pocket payments, the principle of contribution according to ability to pay does not apply. This is the case for the entire period considered. On the other hand, the regressiveness of the out-of-pocket payments becomes smaller through time. But this increase in inequality remains fairly constant. In sum, we can say that the average budget shares of out-of-pocket payments declined between 1978-1979 and 1997-98, so that the redistributive effect remained relatively constant throughout the period concerned.

Finally, we would like to emphasise that we did not try to find an explanation for the increase in budget share and decline in regressiveness. The interested reader may well regret this, but as far as we are aware, this is the very first study that strives to obtain systematic information on out-of-pocket payments for healthcare. We must also stress that passed evolutions have no predictive value. The analysis stops in 1997. Since then, the picture may have changed quite considerably.

<u>Summary</u>

The present study outlines the distributive characteristics of payments for healthcare up until 1998. It compares the situation in Belgium with that in other (European) countries, simulates the impact of policy alternatives on out-of-pocket payments, and briefly considers evolutions over time. The main conclusions are the following:

- The Belgian system for funding of healthcare –i.e. the sum of mandatory and voluntary payments for medical care- is proportional or slightly progressive. On average, all income groups spend a similar proportion of their income on healthcare. As such, the Belgian system is more progressive than that in most other countries. Still, the out-of-pocket payments of households (incl. co-payments, supplements and payments that are not covered by health insurance) are distributed more regeressively than in most other countries. This is, however, compensated for by a progressive public funding through social security contributions and taxes (the latter accounts for about 80% of funding, a much more significant share than that of out-of-pocket payments).
- The households whose out-of-pocket payments absorb a large share of income constitute a particularly vulnerable group. In comparison to the total population, households whose out-of-pocket contribution amounts to 5% or more of income have a lower-than-average income and they are more likely than average to receive a replacement income. These households are, on average, smaller, older and lower-skilled than other households.
- The share that the out-of-pocket payments represent increased between 1978-79 and 1997-98 from 2.1% to 3.4%. Also, these contributions appeared to have been slightly less regressively distributed in the final year than in the first.
- Simulations indicate that none of the proposed policy alternatives are to be recommended from a distributive perspective.
- Returning from the maximum co-payment amount to the old system of social and fiscal exemptions would lead to a deterioration in the circumstances of a considerable number of households, especially among the high-risk groups.
- A second simulation demonstrated that the existing system of increased reimbursements fulfils an important role in the protection of low-income households and that it can thus not be simply replaced with a further expansion of the system of the maximum co-payment amount.

- An abolition of the coverage for minor risks provided by mandatory insurance would have dire consequences for the present high-risk groups and it would also be a heavy burden on groups who are presently well-protected (primarily households on a low earned income).

Recommendations for further research

The greatest effort went, not into the analyses, but into preparing the data. Had we have had administrative data at our disposal, we would have been able to devote more time and effort to the content-related analyses, and, moreover, the results would have been more reliable. It is not clear to us at the present moment whether it is technically and legally possible to link up administrative data with the HBE. We briefly considered this option at the start of the project, but soon concluded that it was very likely that a successful linking of the HBE with administrative data within the timeframe of the project was virtually impossible. However, the great number of assumptions that needed to be made and the time-absorbing nature of our supplementation method do show quite clearly that future research into the distributive characteristics of the funding components of the Belgian healthcare system would benefit from a precise linkage between the HBE and a number of administrative databases.

Even with such a linkage, one could only study the general distribution of out-of-pocket payments for healthcare. Such general analyses would need to be supplemented with targeted research into the circumstances of high-risk groups, such as the very poor and the chronically ill, as these groups tend to be underrepresented in surveys.

We hope that this study will constitute a first step towards the collection of reliable data on out-of-pocket payments for healthcare. One cannot exclude the possibility that new data might suggest that some of our conclusions need reassessing. However, what is beyond doubt is that the microsimulation technique is vastly important, as it enables us to obtain a coherent picture of the distributive aspects of concrete policy measures.

References

Adriaenssen I. en De Graeve D. (2000), Socio-economische determinanten van medische consumptie. Analyse Gezondheidsenquête 1997, *Onderzoeksrapport UA*, Antwerpen: Universiteit Antwerpen.

Adriaenssen I. en De Graeve D. (2001), Wie valt er door de mazen van het net? Verkennend profiel van de patiënt met betalingsproblemen in het ziekenhuis, *Onderzoeksrapport UA*, Antwerpen: Universiteit Antwerpen.

Decoster, A., Schokkaert, E. en Van Dongen, H.(1994), Een Microsimulatiemodel voor Indirecte Belastingen in België, *Eindrapport Project PE/01/008*, Leuven: Katholieke Universiteit Leuven, Centrum voor Economische Studiën.

De Graeve D. and Duchesne I. (1997), Equity in health and in medical care consumption in Belgium, *Rapport 341*, Antwerpen: UFSIA, Studiecentrum voor Economisch en Sociaal Onderzoek.

De Graeve, D., Cantillon, B., Schokkaert, E., Kerstens, B., Van Camp, G., en Van Ourti, T. (2003), Billijkheid in de financiering van medische zorg, *Eindrapport DWTC-project SO/01/005*, Antwerpen: Universiteit Antwerpen. Op: http://www.ufsia.ac.be/csb/index.html

Hurst, (1985), Financing health services in the United States, Canada and Britain, London: King Edward's Hospital Fund.

Peers, J. (1999), Gezondheidszorg in België. Uitdagingen en opportuniteiten, (Health care in Belgium. Challenges and opportunities) 227 p.

Schokkaert, E., De Graeve, D., Van Camp, G., Van Ourti, T. en Van de Voorde, C. (2003), Maximumfactuur en kleine risico's: verdeling van de eigen bijdragen voor gezondheidszorg in België, Leuven: Katholieke Universiteit Leuven, Centrum voor Economische Studiën.

Socialistische Mutualiteit, (1998), Strijden voor een toegankelijke, betaalbare en kwaliteitsvolle sociale zekerheid, Schrift mutualistische verkiezingen 1998, 46 p.

Socialistische mutualiteiten, (2000), De Socialistische Mutualiteiten nu en morgen. Reflecties aan de vooravond van de eeuwwisseling, Schrift congreseditie 2000, 112 p.

Van Doorslaer, E, A Wagstaff, H Bleichrodt, et.al.(1997), Socioeconomic inequalities in health: some international comparisons, *Journal of Health Economics*, 16, 1, 93-112.

Van Doorslaer, E, A Wagstaff, H van der Burg, et al (2000), Equity in the delivery of health care in Europe and the US, *Journal of Health Economics,* 19, 5, 553-583.

Van Ourti, T, (2002), Measuring horizontal inequity in health care using Belgian panel data. *Onderzoeksrapport UA*, Antwerpen: Universiteit Antwerpen.

Wagstaff, A, E Van Doorslaer, S Calonge et al (1992), Equity in the finance of health care: some cross-country comparisons, *Journal of Health Economics*, 11, 4, 361-387.

Wagstaff, A, E Van Doorslaer, H Van der Burg et al, (1999), Equity in the finance of health care: some further international comparisons, *Journal of Health Economics*, vol 18, 263-290

World Bank (2000), *World Development report 2000/2001: Attacking Poverty*. Oxford: Oxford University Press.

World Health Organization (2000), *The World Health report 2000. Health Systems: Improving Performance*, Geneva: The World Health Organization.