



Belgium: risk adjustment and financial responsibility in a centralised system

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Abstract

Since 1995 Belgian sickness funds are partially financed through a risk adjustment system and are held partially financially responsible for the difference between their actual and their risk-adjusted expenditures. However, they did not get the necessary instruments for exerting a real influence on expenditures and the health insurance market has not been opened for new entrants. At the same time the sickness funds have powerful tools for risk selection, because they also dominate the market for supplementary health insurance. The present risk-adjustment system is based on the results of a regression analysis with aggregate data. The main proclaimed purpose of this system is to guarantee a fair treatment to all the sickness funds. Until now the danger of risk selection has not been taken seriously. Consumer mobility has remained rather low. However, since the degree of financial responsibility is programmed to increase in the near future, the potential profits from cream skimming will increase.

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1. Introduction

During the 1990s the Belgian system of health insurance has undergone a serious change. While before 1995 the sickness funds simply got all their expenditures reimbursed, since 1995 they get their financial means partially on the basis of a risk

adjustment system. Moreover, they are held -again partially- financially responsible for the difference between their actual and their so-called normative, i.e. risk-adjusted, expenditures. This reform has been introduced cautiously, because none of the important players in the system wanted to question the crucial importance of equity and equal access for all citizens.

Belgium has a rather atypical structure of health insurance. A few large sickness funds dominate the market of compulsory health insurance, which is completely closed for new entrants. Until now policy makers have been extremely reluctant to

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introduce market competition in the compulsory system and in all negotiations with the providers sickness funds act as a cartel. At the same time there is growing competition, mainly between the same sickness funds, on the market of supplementary health insurance. All this makes the Belgian system a rather hybrid combination of on the one hand centralisation and government regulation and on the other hand more or less competing sickness funds. One could have expected that the introduction in this hybrid structure of individual financial responsibility would have led to an open debate on the pros and cons of regulated competition. How to square individual financial responsibility with cartel behaviour in the compulsory system? What about the danger of cream skimming made possible by the presence of the competitive supplementary insurance market? However, this debate has not yet taken place and the objectives of the reform have remained somewhat ambiguous.

In this paper, we analyse the main reforms of the Belgian health insurance system with special attention for the specific features of the risk adjustment system (Section 3) and the possibly growing danger of risk selection (Section 4). However, before we turn to these more specific issues we will first describe the general characteristics of the hybrid Belgian structure (Section 2).

2. The structure of Belgian health insurance

Belgium has a system of compulsory insurance, covering the entire population and with a very broad benefits package¹. While membership of a

¹ Only for some categories of the self-employed and their dependents (about 10% of the population), the benefits package is more restricted in that it does not include the so-called minor risks (such as ambulatory care, medicines, dental care). However, the sickness funds offer voluntary insurance for these minor risks. This voluntary insurance is taken by about two thirds of the self-employed concerned (and covers about 75% of the population at risk, when we include their dependents). The sickness funds get a government subsidy for their activities on this market and recently a risk-adjustment system has been introduced to allocate this subsidy. In this paper, we only comment on the compulsory system.

sickness fund is compulsory, every individual can enrol in the sickness fund of her choice. There are about 100 (non-governmental non-profit) local sickness funds, varying in size from a minimum of about 400 members to a maximum of almost half a million members. These sickness funds historically developed along political and religious lines and are grouped at the national level in five associations². The two most important ones, the Christian Mutualities and the Socialist Mutualities, insure together about 75% of the population. In addition there is one public fund mainly acting as a kind of ‘insurer of last resort’. The market shares of the sickness funds (1998) are as follows:

Employees	44.5	3.8	28.7	5.8	14.8	0.7	1.8
Self-employed	48.9	5.5	13.9	8.3	23.0	0.3	–

The sixth fund is the (small) insurer of last resort. The seventh fund is a specific fund, created for the railway workers.

Given this structure, each individual can basically choose among six competing funds (although eventually there may even be some competition between local sickness funds of the same national association). By law the compulsory health insurance market is completely closed for new entrants. Since 1995 the organisation of Belgian health insurance is at first sight very close to the standard textbook model of regulated competition. However, there are some crucial lacunae. We will first describe the overall structure of the system, then turn to the determination of the benefits package and finally comment on the relations between the regulator, the sickness funds and the providers and on the (non) existence of a competition policy.

² In the Belgian legal jargon, the term ‘sickness fund’ is reserved for the *local* funds. In practice, however, the term is also used for the National Associations. As we will see, the National Associations bear the financial responsibility in the compulsory health insurance system. The local branches remain responsible (and act rather independently) on the supplementary insurance market. We will use the term ‘sickness fund’ for both. If confusion is possible we add an explicit reference to ‘national association’ or ‘local fund’.

2.1. General financing structure

Since 1995³ the formal structure of the Belgian health insurance system can be described with the familiar figure of regulated competition with a central fund (see Fig. 1). In this paper, we will use the terminology which is common in Belgium. This terminology differs from the one introduced in [8] and used in the comparison article. The following table shows the relation between the various terms:

Terminology in this paper (Belgium)	Terminology in comparison paper
Social (security) contributions (flat rate) premium	Solidarity contributions
Risk-adjusted distribution of health care budget	
Premium contribution	
Risk-adjusted premium subsidies	

Hence in this paper the term ‘premium’ will only be used for the direct payment of the insured to its sickness fund (eventually incorporating the supplementary insurance). We will use no specific term for the sum of the premium contribution and the premium subsidy which is called the ‘premium’ in the comparison article. The role of the central fund is played by the National Institute for Sickness and Disability Insurance RIZIV/INAMI (Rijksinstituut voor Ziekte- en Invaliditeitsverzekering, Institut National d’Assurance Maladie et Invalidité). This is a semi-public semi-private institution directed by a General Council in which one finds representatives of the Government, the trade unions and the employer’s associations (seen as co-financiers of the system), the providers and the largest national associations of sickness funds. Each year the government fixes the health care budget a priori, mainly extrapolating the budget of

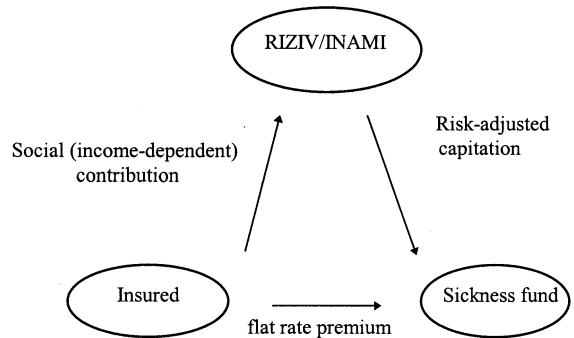


Fig. 1. Regulated competition.

the previous year with a fixed growth rate. In 1999, the total budget amounted to about 12.5 billion Euros (about 5.3% of GDP).

The two main sources of funding the compulsory system are social security contributions and government subsidies from general tax revenue. Social security contributions are proportional to gross wages and do not depend on the health risks of the insured. High-income pensioners and the self-employed also pay a fixed proportion of their income⁴. The compulsory insurance cover offered and the social contribution rates levied are identical for all funds. Since the mid-1990s social security contributions for different programs (such as unemployment, retirement pensions and health care) are no longer earmarked but collected in one general institution. The funds are then distributed over the different programs, mainly on the basis of projected needs (e.g. the projected number of unemployed and retired people). For health care expenditures, the government subsidy from general taxes closes the gap between the revenue obtained from these social security contributions and the fixed (a priori determined) total budget.

The total budget is distributed by RIZIV/INAMI over the different national associations of sickness funds according to a partially prospective (risk adjusted) and partially retrospective system. We will go into the details of the risk adjustment mechanism in Section 3. These cen-

³ Legally, the sickness funds were already responsible for their financial results since 1963. However, the practice did not follow the law and the sickness funds got basically all their expenditures reimbursed. Some of them created large ‘theoretical debts’ and others had large ‘theoretical surpluses’. This situation has had a large influence on the introduction of the new system. See [1] for a description of the influence of the past on the new system. See also [2,3] for more information on the pre-1995 system.

⁴ For the self-employed, contributions are only due on the income below a ceiling.

trally obtained means cover the large bulk of medical expenditures. The flat rate premium, which is paid directly to the sickness fund, is extremely small: only about 2.5 Euros per year. It is the same for all members of a given national association of sickness funds (premium differentiation is legally forbidden), but possibly different for the different funds. Clearly, this premium is too small to influence the choice of the insured. As we will see, the sickness funds rather compete for new members by offering additional optional insurance for which a separate premium is charged, by the speed of settling claims and by the quality of their customer service. It is worthwhile emphasising that the national associations of sickness funds play the central role in the compulsory system: they bear the financial responsibility and negotiate with the providers and the policy-makers.

2.2. *Benefits package and supplementary insurance*

The benefit package in the compulsory cover is very broad, including e.g. ambulatory and dental care. Contrary to many other countries, it also includes the so-called catastrophic risks of long run medical care for the chronically ill and the very aged⁵. The package is explicitly defined through negotiations between the national associations of sickness funds and the organisations of providers in the context of the RIZIV/INAMI. At regular times forms of treatment that have become obsolete are removed from the cover to make room for new treatments. There is a general feeling that this process goes too slowly and the Ministry of Social Affairs tries to play a proactive role in this regard. For pharmaceuticals there is a more complicated procedure, involving also the Ministry of Economic Affairs. In all these negotiations the sickness funds act as a cartel. The law imposes that the compulsory insurance cover is identical

for all sickness funds, so as to avoid it being used as an instrument for competition.

Given the lag between medical innovation and inclusion in the compulsory cover, some innovative treatments only become part of the benefits package with some delay. Other items that are not included are the supplements to be paid in the hospitals if one takes a one-patient room (specialists then are allowed to ask higher fees), orthodontics, a part of physiotherapy and non-traditional therapies such as acupuncture and homeopathy. However, patients can take a supplementary insurance for these treatments⁶. Supplementary insurance is offered by the sickness funds and by private insurers but the market is dominated by the sickness funds. If patients take that supplementary insurance with a sickness fund, they are forced by law to register as a member of that same fund for the compulsory cover. As a matter of fact, while the national associations of sickness funds bear the financial responsibility in the compulsory system, the local branches are financially responsible on the supplementary insurance market. There is much variation in policies offered between the different local sickness funds, even when they belong to the same national association. Premiums are differentiated according to age and social characteristics of the insured. A specialised government agency controls the structure of the premiums and the advantages offered and it watches the financial equilibrium of the local sickness funds. Some sickness funds compel their members to subscribe to some supplementary insurance. Of course, even in this ‘mandatory’ situation, the legal accounting rules impose a strict separation between expenditures in the compulsory cover (financed through RIZIV/INAMI) and the additional expenditures in the supplementary cover. Sickness funds are controlled so that they

⁵ Sick leave payments are also covered by the compulsory system, but they are handled by a separate administration. In 1995, it was decided not to introduce any financial responsibility of the sickness funds for these payments. Therefore, they obviously do not play any role in the risk adjustment system.

⁶ The total expenses covered by the supplementary insurance offered by the sickness funds amount to about 2% of total expenses under the compulsory cover. More than 90% of the members of the sickness funds have some form of supplementary insurance. Reinsurance of the copayments from the compulsory system is possible in principle, but is very exceptional.

cannot transfer financial means from one system to the other.

2.3. *The role of the sickness funds in cost-containment*

Compulsory health insurance is combined with independent medical practice. Patients are completely free to consult either a general practitioner or a specialist for a primary consultation⁷ and remuneration is mainly fee-for-service. At the same time, the physician/population ratio is one of the highest of the industrialised countries (34.4 doctors per 10 000 inhabitants in 1995). All this seems to create the ideal conditions for supply-induced demand. Patients pay the physicians directly for most ambulatory care and are reimbursed partially by their sickness funds on submission of the bill. The residual co-insurance payment to be paid by the patient is relatively high according to international standards. This may to a certain extent counteract the tendency towards supply-inducement⁸.

Hospital care is provided either by private non-profit hospitals or by public hospitals. Specific treatments, the cost of consumables and the fees of the doctors are fully integrated into the system of health insurance and are covered by the sickness funds (mostly within a third-payer arrangement). The general hospital costs (including, e.g. costs of equipment and nursing staff) are financed through a per diem system, partly on a prospective basis making use of a DRG-grouping. The health insurance system covers 75% of these costs and the remainder is financed directly by the Government. The latter plays the major role in setting the rules for the system of hospital financing.

Government and RIZIV/INAMI together have the major responsibility for managing the care and for containing the costs. The national associations

of sickness funds play a crucial role in the collective negotiation process about fees, insurance coverage and regulatory structure. In all these negotiations they are seen as a kind of representatives for the patients and they act as a cartel. As said before, the government fixes the total yearly budget a priori. During the year the development of expenditures is closely monitored and if there is a danger of transgressing the budget, negotiations start between government, providers and sickness funds to change the regulatory structure, including the fee schedule and the individual co-payments. If there is a clear indication that the original estimate of the budget was unrealistically low, it can still be adjusted during these negotiations. In that case the additional financing comes from the government.

In practice the individual sickness funds can exert hardly any influence on the level of their own expenditures. They have to reimburse without further questioning all the medical expenditures that are conform to the legal rules. Their main competence is precisely the control of conformity with the legal rules. In some cases their power goes somewhat further. In principle, some treatments are not reimbursed if there has not been an a priori approval by the so-called advisory physicians of the sickness funds. Moreover, to a certain extent these advisory physicians can question the length of hospital stays, the prescription of expensive pharmaceuticals and the ascription of patients to the various classes of the Katz-scale (relevant for the financing of long-term care). However, in practice these opportunities to influence expenditures are hardly exploited.

Sickness funds are not allowed to selectively contract with providers within the compulsory system. HMO-type organisations do not exist. It is true that historically the largest sickness funds (Christians and Socialists) have played some role in the organisation of (non-profit) hospitals and in the exploitation of pharmacies. There may still exist privileged relations between ideologically coloured institutions and the corresponding sickness funds. In some exceptional cases sickness funds have even remained the legal owners of a non-profit hospital. However, the financial administration of the hospital is completely separated from the financial accounts of the sickness fund.

⁷ This large degree of freedom is the most likely explanation for the high degree of satisfaction of the Belgian population with their health care system [4].

⁸ In 1997, official co-payments amounted to about 11% of total reimbursements in the compulsory system. See [5] for an empirical analysis of the effects of copayments on medical expenditures in the Belgian system.

Moreover, in the political discussion the feeling seems to dominate that this situation is an ideological relic of the past and that the links between providers and sickness funds should be weakened. The idea that the existing situation could be a starting point for the development in the direction of HMO's is not at all present in the debate and would be rejected by an overwhelming majority of players in the field.

The local sickness funds have much more room to act on the costs in the domain of supplementary insurance. In this domain there are more and more examples of managed care and, more specifically, of selective contracting with respect to innovative treatments and orthodontics. As emphasised already, these decisions are taken at the level of the local sickness funds and there is significant variation in the services offered. Competition has become stronger in recent years. As we will see, this variation of the services offered in the supplementary insurance schemes is the most important tool for risk selection. This is the more true because patients who take their supplementary insurance with a sickness fund are legally compelled to become member of that same fund in the compulsory system.

2.4. *Competition policy*

Given that the official position of the government and of most of the sickness funds is that there is no competition and that there should be no competition, there is not a real competition policy. Private insurers cannot enter the market for compulsory insurance. Although private insurers are active on the supplementary insurance market, traditional sickness funds have huge informational and scale advantages because of their position in the compulsory system. Therefore, the private market share has remained rather small and private insurers mainly focus on the higher-income market segments. At the same time, the provider markets are free and each patient can go to the provider or hospital of his/her own choice. As said before, payment is mainly fee-for-service and minimal fees are set in negotiations between providers' organisations and the cartel of sickness funds. While downwards price competition on

these provider markets is forbidden there is fierce quality competition. This is the more so because there is a relative abundance of supply. Physician/population ratios are high and there are no waiting lists.

3. Risk adjustment mechanism

Before 1995 the sickness funds got all their expenditures reimbursed. Therefore the large differences in the risk profiles of their membership were fully compensated. There was not the slightest incentive for risk selection and all funds were motivated to guarantee equal access to all citizens. In fact, the larger their membership—and whatever its costs—the more influence they could exert on the political decision making process. Recently the politicians in charge grew more aware of the inefficiencies entailed by the system and they wanted to introduce some financial responsibility in order to keep the increasing costs under control. However, equal access for everybody has remained one of the most popular values of the Belgian population. Therefore changes were implemented slowly and cautiously. In 1995 a mixed reimbursement formula was introduced for distributing the resources among the national associations of sickness funds. We first explain the structure of that formula, we then go in more detail into the definition of the so-called 'normative' (i.e. risk adjusted) expenditures and we finally discuss some implementation problems.

Before we turn to these technicalities it is important to emphasise that there has always been an ambiguity in the Belgian way of introducing the so-called financial responsibility of the sickness funds. Although the institutional structure is very close to the theoretical framework of Fig. 1, there has never been a real debate about the pros and cons of a model of regulated competition. In fact, the words 'competition' and 'managed care' are still largely taboo. Some sickness funds are very keen in emphasising that the regulatory role must be played mainly or even exclusively by the government, because they fear that even a limited stepping-back of the government necessarily would open the door for a system of open

competition. This lack of consensus explains why individual sickness funds at this stage have hardly any instrument to influence the medical expenditures of their members. At the same time the proclaimed objective of the introduction of financial responsibility was to give the sickness funds incentives to help containing the costs. Yet all they can do is to be tougher in the collective negotiations with the providers. These negotiations at a national level do not give the sickness funds any opportunity to exploit their superior information on local situations and the collective nature of the negotiation process dilutes the relevant incentives. We will return to these ambiguities in the next section.

3.1. The gradual introduction of a mixed reimbursement formula

Since 1995 the financial means of the sickness funds are computed as a weighted average of normative and actual expenditures. The general structure of the financing system can be represented as follows:

$$F_i = \left(\frac{N_i}{\sum N_i} \right) r\omega + \frac{E_i}{\sum E_i} (1-r)\omega$$

where F_i are the total financial means received by sickness fund i from RIZIV/INAMI, ω is the total (a priori fixed) health budget to be divided (and hence $\sum_i F_i = \omega$), N_i are the so-called normative expenditures of sickness fund i (defined such that $\sum_i N_i = \omega$), E_i are the actual expenditures of that sickness fund and r is a weighting parameter (with $0 < r < 1$).

The easiest way to understand this expression is to start from the a priori given budget ω . This budget is first divided in two parts on the basis of the parameter r , which acts as a kind of risk sharing parameter. The first part of the budget, $r\omega$, is distributed over the sickness funds in proportion to their share in the normative expenditures. This part is therefore prospective. The second part is distributed in proportion to the share of the sickness funds in actual expenditures and is retrospective. Therefore the final values of

F_i can only be calculated ex post⁹. If r were equal to 1, one would have a fully prospective financing system. If r were equal to 0 we would be back in the pre-1995 practice except for the introduction of the global a priori budget. Indeed, it is important to see that actual expenditures enter as a share in the division rule. It is definitely not the case that each sickness fund simply receives its own real expenditures, as this would imply that, if total expenditures exceed the budgetary objective, the revenues of all sickness funds also would exceed that budget.

The weight r determines the part of a priori financing in the global distribution of the budget. Since the authorities wanted to introduce the financial responsibility of the sickness funds in a cautious way, r was set at a very low value (0.10) in the beginning. However, the law also prescribed that r would gradually increase over time to a maximum of 0.40 from the year 2003 onwards¹⁰ (see Table 1).

Once the revenues are divided among the sickness funds, the financial result of each sickness fund can be calculated as the difference ($F_i - E_i$) between its individual revenue and the total medical expenditures of its members. At this stage the decision makers have built in a second limitation on the financial responsibility of the sickness

Table 1
Evolution of risk sharing parameters over time

	r (Weight of normative expenditures)	f (Individual financial responsibility)
1995–1997	10	15
1998–2000	20	20
2001–2002	30	25
2003	40	25

⁹ During the year advances are given on the basis of the budget of the previous year.

¹⁰ The law provided the possibility to prolong each of the different periods by maximally 1 year. This opportunity has been exploited in the past. Table 1 gives the values of the parameters in the most recent application of the law.

funds in addition to the risk sharing parameter r . Each sickness funds' individual responsibility is limited to a fraction f of its financial result. As with the weight of normative expenditures, there is some dynamics introduced in the system. In the first period the degree of individual financial responsibility was only 15% but the law prescribed it to grow gradually over time. From 2001 onwards, it has become 25% (see Table 1).

If a sickness fund has a surplus, it must set $f\%$ of this surplus aside in a reserve fund. If it runs a deficit, it must finance $f\%$ of that deficit by drawing from its reserves or by raising its members' flat rate premium. The other $(1-f)\%$ of the deficits of all sickness funds will be borne by 'solidarity between the sickness funds', i.e. by $(1-f)\%$ of the surplus of the sickness funds with surpluses¹¹. Moreover, the Law has made an exception to this rule, which can be seen as a third limitation on the financial responsibility. If total expenses exceed the global budget by more than 2%, the deficit of each sickness fund is limited to a maximum of 2%. The remainder is covered by the government. The logic of this rule is to prevent the sickness funds having to bear all responsibility for an underestimation of the global budget. On the other hand, given the considerable market share of the largest sickness funds they alone make up a large part of that global budget. Therefore the 2%-limitation weakens their incentives to control their expenditures.

Given the central role of RIZIV/INAMI, patients do not really run any risk if a sickness fund were to accumulate deficits. In that case all expenditures would still be reimbursed, with the sickness fund building up a debt towards RIZIV/INAMI. The strict financial control described in the law, including a minimum amount in the reserve fund, guarantees that remedying actions will be taken well before there is a real problem. Moreover, the sickness funds are not allowed to

engage in any other risk-bearing activities, except for the supply of supplementary insurance and the exploitation of pharmacies. In 1995 all sickness funds had to raise a fixed premium in order to set up a reserve fund to cover future deficits. If this reserve fund does not suffice, they are legally forced to increase their flat rate premium. Recently, this has led to some small variation in the premiums of different sickness funds (from about 1.5 to about 5 Euro per year). However, since these premiums remain very low, it is unlikely that they influence consumer choice.

3.2. Systems of risk adjustment and risk sharing

The focus on equity and equal access in Belgium has led to the introduction of a rather complicated risk adjustment system, or, to use the Belgian terminology, a complicated definition of normative expenditures. An extensive list of demographic and socio-economic variables is used in the computation of the risk adjustment system (see the Appendix A). Given the long list of potential risk adjusters, including some continuous variables, it seemed logical to derive the weights of the different variables from a regression analysis. In the first stage this regression analysis had to be based on data at an aggregate level, i.e. at the level of the local sickness funds¹². Direct information on morbidity was not available.

The selection of the risk adjusters has led to a difficult political discussion. While everybody agreed that it does not make sense to include variables that have no significant effect on expenditures, there was more disagreement about the question whether all significant explanatory variables should be taken up in the definition of the normative expenditures. The discussion focused mainly on medical supply. Medical supply variables (number of providers, number of hospital beds) turned out to be very significant in the regressions. At the same time it was felt by many that the sickness funds should not be compensated

¹¹ If total expenditures are exactly equal to the a priori given budget, the individual 'responsibility' of the sickness fund (i.e. its 'transaction' with the reserve fund) amounts to $rf(F_i - E_i)$. This simple rule of thumb can help to interpret the joint effect of the numbers in Table 1.

¹² The first results and the methodology to go from the regression results to the definition of normative expenditures have been described in [6,7], respectively.

for differences in expenditures following from differences in medical supply. As noted before, provider density is very high in Belgium and there is a supposition that the phenomenon of supply-induced demand is common. In addition, there is some regional differentiation and these interregional differences are a hot topic in the policy debate. After some deliberation it was decided not to include medical supply in the risk adjustment system, although it was significant in the regressions. Note, however, that this ‘cleaning’ for medical supply was only applied to the so-called ‘normative expenditures’ in the reimbursement formula. The term E_i in the risk-sharing mechanism refers to the total of legally reimbursable expenditures without any correction for the medical supply effect.

3.3. Implementing and adjusting the risk adjustment system

As shown in Table 1, the whole process of gradually implementing the risk adjustment/risk sharing-system has been described in the law. This gradual increase in the rates of financial responsibility is supposed to go together with the regular updating and improvement of the risk adjustment formula. The changes in the risk adjustment-formula are mainly determined by the yearly advice of two university teams that have a contract with RIZIV/INAMI. The data have to be obtained from the sickness funds. Although in general the latter take a rather co-operative stance, the process of data collection and control has turned out to be extremely difficult and slow. On the other hand, the use and interpretation of results from linear regressions has never created any problem, so that rather complex formulae could be implemented rather easily. This is made possible by the high quality of the RIZIV/INAMI administrators, who basically have to translate the advice from the university team in legal texts.

However, the university teams are supposed to give only technical advice. The decisions about the specific features of the risk adjustment-mechanism are taken in the General Council of RIZIV/INAMI. This implies that the changes result from negotiations between (the national associa-

tions of) sickness funds, providers of care, financiers of the system and the government on the basis of the advice from the teams. These negotiations are not always transparent, the more so because there has never really been a consensus about the basic rationale of the introduction of the financial responsibility of the sickness funds and about the basic option of regulated competition. Therefore, the criteria to evaluate the risk adjustment formula are not explicitly defined. The main proclaimed objective is ‘a fair treatment of the different sickness funds’, but this remains of course rather vague. Although there has been some discussion about issues such as explanatory power, manipulability and controllability of the potential risk adjusters, the problem of risk selection is not really taken seriously. Nor has there been a deep discussion on the basic question of what instruments should be given to the funds for influencing the medical expenditures. As a consequence, each round of adjusting the system reflects a complex and for outsiders somewhat mysterious mixture of technical and ideological considerations. The situation is the more difficult because the two largest sickness funds with opposing views have a large influence on the concrete decisions.

At this stage, it seems highly probable that future developments will follow the path described in Table 1. However, in the near future the risk adjustment-formula will hopefully undergo drastic changes, as the university teams now have started working with individual data. They have drawn from the administrative datasets of the sickness funds a representative sample of 500 000 individuals with detailed information on medical expenditures and socio-economic characteristics¹³. There cannot be any doubt that the use of this richer information will make it possible to improve considerably the definition of normative expenditures.

¹³ At this stage, the information on medical expenditures does not include ambulatory drugs. Information on drugs use is only available at the aggregate level of the sickness funds, because financing is through a third-payer system and not all the sickness funds kept the individualised information. However, this problem should also be solved in the future.

There is a real danger of political blockade, however. Some sickness funds object to the use of these individual data instead of the aggregate data used until now. They claim that regressions with individual data do not explain sufficient variation at the aggregate level and should only be used if complete diagnostic information is available. They do not worry very much about individual risk selection but rather emphasise the requirement of treating the different funds in an ‘equitable’ way. Other sickness funds take the position that the use of individual data is always an improvement and that morbidity data should be corrected for the possibility of manipulation and supply-inducement before being introduced in the risk adjustment-formula. The collection of DRG-type information is under way, but because of the fundamental differences in the opinions about regulated competition, it is not easy to reach consensus about the procedure to define and analyse these data. The discussion between the sickness funds and within RIZIV/INAMI concerning their adequate use and interpretation is at the moment completely blocked. The whole situation illustrates how even apparently technical problems of data collection and interpretation are heavily influenced by the basic political options on the future organisation of the Belgian health insurance system. At this moment it is difficult to predict what will happen in the near future.

4. Consumer mobility and risk selection

One of the main concerns with the model of regulated competition—or with introducing financial responsibility of individual insurers—is the creation of incentives for risk selection or cream-skimming [8–10]. Whether this danger actually will realise depends on the structure of the insurance market, on the degree of consumer mobility, on the objectives of the sickness funds and on the instruments they have at their disposal. We will briefly summarise the main elements of the Belgian situation in a first section. In the second section we will go deeper into the new incentives created by the increase in the financial responsibility of the sickness funds.

4.1. Consumer mobility and instruments for risk selection

Legally, consumers may change sickness fund each quarter¹⁴. Compared with other countries, this is a very short period. However, until now consumer mobility has been rather low (about 1% of the members moving in 1 year). There is some casual evidence that the traditional family-based membership structure—which is still dominating—, becomes less important and that more and more consumers make a deliberate choice on the basis of the conditions offered by different funds. Mobility seems to be increasing and the largest sickness funds are confronted with a (small) decrease in their membership. Since spouses usually are insured with the same sickness fund, many switches occur at the moment of a marriage between two consumers who were previously insured with different sickness funds. This might explain why funds that want to increase their membership focus their efforts on these specific age groups.

While the sickness funds cannot expel their already enrolled members, they do not have the duty to enrol all interested patients¹⁵. However, a sickness fund that would follow openly a discriminatory policy would be subject to heavy social and political pressure and reputation effects would most probably be disastrous. There can hardly be any competition on the compulsory segment of the health insurance market. As said before, until now there has been only minor variation in the flat rate premium, which anyway is too low to matter very much. The compulsory cover and the reimbursement rules are identical for all the sickness funds and set by the regulatory bodies after collective negotiations. This leaves the sickness funds only the simple tricks of being more or less friendly towards different client groups or of the selective location of offices. However, the local branches of

¹⁴ Sickness funds can object to a switching request if the potential switcher has not been previously enrolled for a period of at least 1 year.

¹⁵ There is one public sickness fund who plays the role of ‘insurer of last resort’ and has to accept all members.

the sickness funds have much more freedom on the market for supplementary insurance and the regulation on that market remains limited. By offering additional services they can really differentiate their policies for different consumer groups.

It is unknown how many sickness fund members are completely informed about the possibilities of changing sickness fund and about the differences between the different funds. While most of them probably know about the switching possibilities, transparent information for comparing the conditions offered by the different local sickness funds is difficult to get (even for researchers). However, although the lack of hard scientific evidence imposes some caution in drawing strong conclusions, all observers seem to agree that there has been an intensification of the competition on the market of supplementary health insurance and that managed care techniques play an increasing role on that market. While the ideological background of the largest funds (Christians and Socialists) leads to a business climate, which is opposed to risk selection, this is less the case for other sickness funds. Within the large sickness funds there is a growing feeling that ‘solidarity’ is threatened by cream skimming. There is indeed some evidence of selective advertising and of the creation of new supplemental services to attract younger and economically better off groups. However, it is not obvious that this is due to the financial incentives created by the risk adjustment system, nor even that there is a deliberate policy to focus on less expensive consumer groups. Young consumers, especially at their time of marriage, are the most mobile and any sickness fund that wants to increase its membership—even without any desire for cream skimming—obviously would concentrate its efforts on these groups.

4.2. Financial responsibility and incentives for risk selection

Until now, risk selection has not really been an issue in the health care policy debate in Belgium. In the discussions about the risk adjustment system the decision makers and the sickness funds were more explicitly interested in the ‘equitable’

treatment of the funds at an aggregate level, rather than in the removal of the incentives for individual risk selection. Given the historical background, this emphasis is easily understood. Moreover, as we have discussed in [Section 3](#), the actual risk adjustment mechanism introduced various ceilings on the degree of financial responsibility and hence on the financial incentives for risk selection.

At the same time, however, it has to be noted that the (relatively small) percentages of responsibility refer to a very broad insurance package, including also the catastrophic risks of long-term care. Moreover, the law provides a gradual increase in the percentages of financial responsibility (see [Table 1](#)). In our view therefore risk selection may become a real issue, if the improvement of the risk adjustment-formula through the use of individual data remains blocked. The current formula based on aggregate data and without any direct information on morbidity is insufficiently refined to remove the incentives for selecting specific groups. Even the correction for age remains extremely simple. Moreover, the sickness funds have efficient instruments for cream skimming. Since there is a very large degree of freedom on the supplementary insurance market and since people who take their supplementary insurance with a sickness fund must enrol with that same fund for their compulsory cover, the local sickness funds can easily differentiate their policies on the supplementary market in order to attract (or deter) new members who are attractive (or expensive) in the compulsory segment.

5. Future developments: when will there be a real debate?

While the introduction in 1995 of real individual financial responsibility for the sickness funds may be seen as a structural break with the past, until now the effects have been rather limited. The sickness funds did not get any additional instruments to control health care costs. At the same time there were so many limitations imposed on the degree of financial responsibility that its overall percentage remains rather low. Therefore, its only effect probably has been that the sickness

funds have taken a somewhat tougher stance in the collective negotiations with providers.

However, this situation may change in the near future. Sickness funds are slowly adapting their behaviour to the new rules of the game. The present risk adjustment/risk sharing system creates clear incentives for cream skimming that will get stronger when the degree of financial responsibility increases. The large freedom on the market of supplementary insurance, together with the (legal) link between the supplementary and the compulsory market create a powerful instrument for risk selection. One observes already a development towards fiercer competition on the supplementary market, although it is not altogether clear that this is linked to the changing conditions on the compulsory market.

At this moment the danger of risk selection is not taken seriously by the policy makers and by at least some of the sickness funds. They evaluate the risk adjustment system exclusively on its potential to predict expenditures at an aggregate level and therefore argue against the use of individual data. In our view this is a dangerous and short-sighted position. Given the gradual increase in the degree of financial responsibility, improving the risk adjustment system is urgently needed. Moreover, since the compulsory cover in Belgium includes also catastrophic risks, it seems necessary to think about the introduction of more refined systems of high risk pooling [11].

While all these measures aim at weakening the incentives for cream skimming, they do not solve the other basic weakness of the Belgian system: the fact that the regulatory role is played mainly by the government and that the individual sickness funds have almost no instruments at their disposal to control the costs. It is not easy to reconcile this situation with the introduction of individual financial responsibility. At this moment there is absolutely no consensus about the future development of the system. It cannot even be excluded that the reluctance towards any form of competition will lead the politicians to diminish again the degree of individual financial responsibility, i.e. to return in the direction of the pre-1995 situation. In the light of sharply increasing costs, this could be a historic mistake. If sickness funds can only com-

pete for members through the quality of their services, they have strong incentives to increase the costs. As a matter of fact, it is hard to see what can be the *raison d'être* for individual sickness funds in a completely centralised system. Rather than returning to the pre-1995 situation, it seems therefore advisable to strengthen gradually the regulatory role played by the sickness funds. This requires that policy makers start thinking about what instruments for cost containment could be given to the individual sickness funds. In a society where equality of access is a dominating value, steps in the direction of some competition must be taken cautiously and the introduction of new instruments should go hand in hand with the refinement of the risk adjustment formula. But not taking these steps is like 'pouring out a glass of water and then refusing to drink' ([12], in a very different context).

Appendix A

Two university teams (from Kuleuven and Dulbea, Brussels) were contracted to fix the weights to be applied to the different risk adjusters. Use was made of regression analysis. After the first stage (see Table 1) the risk adjustment system has been revised, but the basic methodology (a regression with aggregate data) remained the same.

The global a priori budget is first divided over different social groups in proportion to the actual expenditures of these groups. For the allocation of the financial means over the different sickness funds within each social group the following risk adjusters are used:

For the employees:

- active population: gender, age (40–99), unemployment, working in the public sector, mortality, invalidity, urbanisation (density), urbanisation (quality of housing);
- invalids: number of dependent persons, mortality;
- pensioners: number of dependent persons, mortality, urbanisation (quality of housing);

- widow(er)s and orphans: age (70–99), mortality.

For the self-employed:

- active self-employed: number of dependent persons, income, mortality, urbanisation (density), urbanisation (quality of housing);
- invalid self-employed: age (70–99), income;
- retired self-employed: age (70–99), number of dependent persons, urbanisation (density);
- self-employed widow(er)s and orphans: age (80–99), mortality.

As described in the text, the decision was taken not to include medical supply as a risk adjuster, although it turned out to be significant in the regression model. As a matter of fact, the university teams proposed a methodology to go from the explanatory model to the definition of normative expenditures [7]. The application of this methodology required the list of explanatory variables to be partitioned in two subvectors: those for which the sickness funds would remain responsible (the so-called *R*-variables) and those for which they should be compensated (the so-called *C*-variables)¹⁶. Different views on the optimal organisation of the health insurance system and on the regulatory role to be played by the sickness funds may lead to different views on this partitioning. Since the partitioning reflects a basic policy choice, it was not made by the university teams themselves. The decision had to be taken in the General Council of RIZIV/INAMI and later confirmed by the Minister of Social Affairs.

Once the partitioning of the explanatory variables in ‘compensation’ and ‘responsibility’ factors has been completed, normative expenditures are computed with the following formula (for each social group separately):

$$N_i = \frac{n_i}{n} \omega^S + n_i \sum_{j \in C} \alpha^{cj} (x_i^{cj} - \bar{x}^{cj})$$

¹⁶ This distinction is the same as the one between *N*- and *S*-variables in [8]. However, the *C*-*R* notation is well established in the Belgian discussion and even used in some official documents.

where n_i is the number of members of sickness fund i , n is the total number of members of that social group over all sickness funds, ω^S is the budget allocated to the social group, the α ’s are the coefficients from the regression equation, and the x ’s refer to the risk adjusters (cfr supra): x_i^{cj} is the (mean) value of risk adjuster j for sickness fund i and \bar{x}^{cj} is the national average of x_i^{cj} over all sickness funds. The notation ($j \in C$) indicates that we sum only over the variables for which we want to compensate the sickness funds. We illustrate the concrete working of the formula for three sickness funds and for one social group: the active employees and their dependents (Table 2).

The starting point for the formula is a simple equal per capita distribution of the budget. Of course such an equal distribution does not correct for differences in the risk profile. Therefore the second part of the formula is a ‘correction term’, capturing the effect of the different compensation variables. For each variable one computes the product of the coefficient from the regression equation given in the first column (the effect of the variable on medical expenditures¹⁷) and the deviation of the mean of that variable for the sickness fund from the overall mean. Hence, a variable will have a large effect on the correction term for a sickness fund if (a) that variable has a large effect on medical expenditures and (b) the profile of the sickness fund for that variable is very different from the average profile of all the other funds. The overall correction term is then the simple sum of the effects of the different individual compensation variables. The last two rows in Table 2 show the implications of the decision to treat medical supply as a *R*-variable. In the system, which is applied (the last row), sickness fund C gets less per member than the equal per capita amount, i.e. it has a negative correction term. However if medical supply had been included in the risk-adjustment system, its normative expenditures would have been above average. The reason for this result is obvious from the table: the membership of this sickness fund is heavily con-

¹⁷ See [1] for more detailed statistical information on the estimation results.

Table 2
Calculation of risk-adjusted capitation payments^a

	Coefficient α_j	Variable mean \bar{x}_i^j	Sickness fund A		Sickness fund B		Sickness fund C	
			Deviation from the global mean $x_i^j - \bar{x}_i^j$	Effect on the capi- tation payments (in BEF)	Deviation from the global mean $x_i^j - \bar{x}_i^j$	Effect on the capi- tation payments (in BEF)	Deviation from the global mean $x_i^j - \bar{x}_i^j$	Effect on the capi- tation payments (in BEF)
Women	24 377	0.4879	0.00084	20	0.00344	84	0.00685	167
Age 40–99	10 856	0.3102	–0.00207	–22	0.00382	41	–0.00793	–86
Unemployment	33 214	0.0780	–0.01237	–411	0.02355	782	–0.00255	–85
Civil servants	9919	0.0787	–0.00444	–44	–0.00868	–86	–0.00470	–47
Mortality	1 095 614	0.0016	–0.00015	–169	0.00029	314	–0.00012	–134
Incapacity to work	26 843	0.0459	–0.00223	–60	0.00978	263	–0.00800	–215
Urbanisation-quality	1163	–0.2774	–0.12055	–140	0.18258	212	–0.08253	–96
Urbanisation-density	334	0.5452	–0.25452	–85	0.14818	50	0.58652	196
Medical supply	1431	0.2511	–0.16842	–241	–0.01654	–24	0.55597	795
Correction term								
All variables	–	–	–	–1152	–	1636	–	496
All variables without medical supply	–	–	–	–911	–	1659	–	–299

^a All the numbers in the table are in Belgian Francs. The variables in the regression leading to the coefficients in the second column were also expressed in Belgian Francs and the table as such has played an important role in the Belgian debate. To convert Belgian Francs in Euro: 1 Euro = 40.3399 Belgian Francs.

centrated in regions with a high level of medical supply (see the deviation of its mean from the global mean).

The correction terms in [Table 2](#) are based on a regression with data for 1995. As long as this table is used, the correction terms are revised each year proportionally with the increase in the total budget. However, if the university teams give a new advice with new data (this happens regularly) the correction terms are adapted to the new information and the new regression results.

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