

equity orientation is rarely implemented in Hungarian HIA practice; a broader health and equity impact study could be a major advocacy tool for a more equity oriented public policy in Hungary.

Improved care management

Not only the distribution but also the management of care for non communicable diseases must be improved if access to high quality and appropriate care is to be ensured, at the right time, and in the right place. Better understanding of the drivers of health inequalities as well as modelling of the specific interventions needed to reduce them has also shown that greater access to cheap and effective treatment, for example the management of hypertension, could have significant impact in narrowing the gap between those living in the most deprived and least deprived areas. Such activities might be contained within a compilation of well-evaluated examples of good practice. Quality-development oriented financing would also enable communities and regions to consider innovative action and different options for tackling inequalities in health as a priority even in times of economic crisis.

Urgent tasks

The most urgent tasks for the research and policy making communities in Hungary include the collection of evidence on the impact of the economic crisis on socio-economic determinants and health. There is also a need to develop tailor-made innovative health programmes for the victims of the crisis. Research and information on the relationship between the economy and health status can be strengthened, including some focus on the difficult questions of effectiveness and efficiency and their often conflicting relationship with equity. Public health strategies will need to be rethought after analysis of the new economic, social and political circumstances emerging from crisis management in the post recession period. This will also mean that it is vital to reinvent our language of advocacy in light of the new situation.

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Morbidity-based risk adjustment in Germany

Long in coming, but worth the wait?

Matthew Gaskins and Reinhard Busse

Summary: Risk adjustment is nothing new to the German system of social health insurance (SHI). The key change introduced in January 2009 was the shift from a retrospective system based on sociodemographic criteria to a prospective regression scheme that employs direct measures of morbidity. This article summarises the history of risk adjustment in the German SHI system, explains the basic workings of the new scheme and touches upon some of the concerns voiced about its implementation.

Keywords: Germany, morbidity, Morbi-RSA, risk adjustment, sickness funds, social health insurance

The idea of adjusting for differences in the revenue and risk portfolios of sickness funds is nothing new to the German system of social health insurance (SHI). The key change introduced in January 2009 was the shift from a retrospective system of risk adjustment based on sociodemographic criteria to a prospective regression scheme that employs direct measures of morbidity. With much of the media attention focused, however, on the new central reallocation pool dubbed the *Gesundheitsfonds* (literally, ‘health fund’), the many years of research and careful preparation that preceded the introduction of the morbidity-based scheme went largely unnoticed by the general public.

Indeed, with the negative press surrounding the 2007 Act to Strengthen Competition in the Statutory Health Insurance System and related legislation, it almost seems as if people had forgotten the early 1990s in Germany, when the contribution rates paid by insured individuals

varied by some 8% and the ability to choose between (at least some) sickness funds was reserved principally for white-collar workers.^{1,2} It was mainly for these reasons – none of which were in keeping with the principle of solidarity so fundamental to Germany’s conception of itself as a social market economy – that the first risk-adjustment scheme was introduced in 1994, followed by an open enrolment requirement in 1996.³

The 1994 risk-adjustment scheme

The 1994 scheme used gender, age, and invalidity status as risk adjusters. It was also retrospective, relying upon actual expenditure from the previous year to estimate which sickness funds had a net surplus and which had a net deficit during the current year according to a nominal, SHI-wide contribution rate.^{4,5}

Unfortunately, the 1994 risk-adjustment scheme was far from perfect. To begin with, the sociodemographic risk adjusters were poor proxies for morbidity, leaving a number of incentives for sickness funds to seek good risks.⁶ This also meant that the chronically ill were no better off than they had been before 1994, as any sickness fund that gained a reputation for providing these patients with excellent service would have risked financial ruin.³ Another of the

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scheme's many shortcomings was its inability to take account of comorbidities due to its actuarial cell-based approach and lack of regression analysis.

In the first four years following the introduction of the open enrolment requirement, the differences in the sickness funds' revenue and risk portfolios continued to grow, as evidenced by the increasing proportion of SHI revenues reallocated through the risk-adjustment scheme.² Data indicate that it was predominantly healthier, younger, higher-earning individuals who were switching to sickness funds with lower contribution rates; at the same time, however, risk adjustment was able to compensate for much of these growing discrepancies, as reflected by a considerable narrowing in the range of contribution rates among the sickness funds.² In other words, risk adjustment was failing to prevent risk selection in the wake of the open enrolment requirement, but was succeeding in preventing even larger differences in contribution rates.

Planting the seeds for morbidity-based risk adjustment

The Risk-Adjustment Scheme Reform Act of 2001 introduced three measures to address the situation: a risk pool for high-cost cases; disease management programmes (DMPs) for patients with common chronic illnesses and the use of DMP enrolment as a risk adjuster;⁷ and preparations for the introduction in 2007 of a morbidity-based risk adjustment scheme, which is known in German as the *morbidityorientierter Risikostrukturausgleich*, or *Morbi-RSA* (literally, 'morbidity-oriented risk structure compensation'). To this effect, the German Ministry of Health commissioned an expert group to conduct an international comparison of morbidity-based risk-adjustment models.⁵

Out of the six models ultimately included in its empirical analysis, the expert group determined that the combined Inpatient Hierarchical Condition Categories (IPHCC) and RxGroups model, which was developed in the United States and relied on inpatient diagnoses and pharmacy claims, had the highest predictive accuracy and was well-suited for adaptation to the German context. The expert group proposed applying the model prospectively, dropping the use of DMP enrolment as a risk adjuster, and eliminating the risk pool altogether.⁸

Political gridlock and a difficult compromise

Although the expert report was supposed to be completed by the end of 2003, it was delayed by half a year due to poor data availability. By then, political gridlock in the Bundesrat and, subsequently, the vagaries of the 2005 election season precluded any further progress in implementing the third measure of the 2001 Reform Act.⁹

After the September 2005 elections, political realities left the Christian Democratic Union and Social Democratic Party with little choice but to form a so-called grand coalition. In terms of health care reform, this was a particularly awkward situation, since the parties had advocated fundamentally different approaches during their election campaigns.¹⁰

Ultimately, the two coalition partners decided that contributions would be gathered in a central reallocation pool called the *Gesundheitsfonds* to be introduced in January 2009 and administered by the German Federal Insurance Authority (GFIA). For each of its insured members, a sickness fund now receives from the pool a lump-sum amount that has been adjusted for risk using sociodemographic and morbidity-based criteria. In addition, lawmakers agreed that the sickness funds would no longer have the authority to determine their own contribution rates and that the government would set a uniform contribution rate as of January 2009.

As part of this political compromise, the introduction of morbidity-based risk adjustment was postponed from 2007 to 2009 to coincide with the introduction of the central reallocation pool, and a Scientific Advisory Board was appointed in May 2007 to aid in choosing an appropriate risk-adjustment model based on the proposals made by the earlier expert group.⁹ The board was also assigned the task of limiting the spectrum of morbidity considered by the new model to fifty to eighty cost-intensive chronic or severe diseases to ensure, according to the relevant act, 'a smooth introduction of direct measures of morbidity in the risk-adjustment scheme' and to provide 'the sickness funds with reliable basis for calculations and planning'.¹²

* The all-encounter HCC model is sometimes referred to in the literature and by its developers as the DCG/HCC model, presumably to emphasise its kinship with the DCG family of models, first developed in the 1980s by researchers from Boston University and Harvard Medical School.

By the time these and other compromises had been reached as part of the 2007 Act to Strengthen Competition in the Statutory Health Insurance System and related legislation, the recommendations made by the expert group in 2004 were several years old. It was thus unclear whether the proposed IPHCC+RxGroups model was still the best choice, especially considering lawmakers' new fifty-to-eighty-disease requirement.¹¹

In December 2007 the Scientific Advisory Board submitted its report, recommending an all-encounter hierarchical condition categories (HCC) model,¹³ which was also one of the six models tested by the original expert group. As its name implies, the all-encounter HCC model* relies on both inpatient and ambulatory-care diagnoses and belongs to the same family of proprietary models as the IPHCC component of the IPHCC+RxGroups model mentioned above.^{4,18} The Board also presented in the report its selection of 80 diseases for the new scheme.¹⁴

The Board's choice of diseases proved to be highly controversial, leading the representatives of the sickness funds and other key players in the SHI system to jockey for position in the months that followed. The GFIA's ultimate decision to give greater weight to disease prevalence and thus include several highly prevalent, but low-cost or preventable diseases, led to the resignation of the Board in March 2008. The Board's choice of the all-encounter HCC model was less contentious, however, and after performing a variety of simulations, the GFIA adopted it while adding a pharmacy-claim component to validate certain diagnoses under certain circumstances.¹¹

How the morbidity-based risk-adjustment scheme works

The GFIA first calculates a notional lump-sum payment, which is the same for all insured persons and equal to the average per capita expenditure of all sickness funds.¹⁵ This lump-sum payment is subsequently adjusted upwards or downwards for each insured person depending on his or her individual risk profile.

The first risk adjusters to be applied are gender and age. Based on these adjusters, a quantity is either added to or subtracted

from the lump-sum payment. With the exception of newborns and the very elderly, this step in the risk-adjustment scheme results in a subtraction from the lump-sum payment.

The second set of risk adjusters are based directly on morbidity. For insured persons with any of the eighty selected diseases, a quantity is added to the lump-sum payment. Because of the prospective nature of the scheme, the quantity added is not meant to cover current treatment expenses, but rather the average expenses caused by the disease during the subsequent year. Regression analysis is used to ensure that only those expenses are considered that are caused by the disease in question. Importantly, this also allows the scheme to take comorbidities into account, which had been impossible with the previous risk-adjustment mechanism.

In addition to the upward adjustments for insured persons with one or more of the eighty selected diseases, additional upward adjustments are made for insured persons receiving invalidity benefits. These individuals are divided into six groups according to age and gender. To be included in one of these groups, the insured person must have received invalidity benefits for more than 183 days during the previous year.

Altogether there are forty groups for age and gender (in five-year age brackets), 106 hierarchical morbidity groups (some of the eighty diseases are broken down into separate groups based on their severity, whereas others are grouped together because they require a similar level of care), and six groups for insured persons with invalidity benefits, leading to a total of 152 risk groups. It is important to note that the upward adjustment for patients assigned to several morbidity groups within the same hierarchy – i.e. who have more than one manifestation of the same disease – is based on the group that is highest in that particular hierarchy.¹⁵

Criticism of the new scheme

As can be expected, a major change like the switch to morbidity-based risk-adjustment has not been without its critics. Examining the many concerns voiced about the new scheme would go beyond the scope of this review; nevertheless, it may be helpful for the international reader to touch upon several of these concerns below.

The decision to limit the number of diseases considered by the scheme to eighty

has been criticised frequently in the literature. Because this number clearly cannot reflect the full spectrum of morbidity in Germany, it also seems realistic to assume that the new scheme will be unable to neutralise the differences in the risk portfolios of the various sickness funds and thus prevent risk selection.

The eighty-disease limit is also problematic from the perspective of patients. Individuals who happen to have a chronic disease that is not included in the new scheme are still a bad risk for their sickness fund. Although they are legally entitled to coverage and to all of the benefits defined in the statutory health benefits package, their sickness fund will nevertheless have little incentive to improve the quality of their care.¹³

Finally, it is unclear why an arbitrary limit placed on the spectrum of disease considered by the model should, in and of itself, provide the sickness funds with a more reliable basis for calculations and planning, especially if this limit has the potential to reduce the model's predictive accuracy.

Another concern is related to the potential susceptibility of the scheme to manipulation, in particular to the practice of upcoding. There have already been sporadic reports in the German press of ambulatory-care physicians receiving visits from sickness fund representatives offering to help them review their coding practices.^{16,17} Because the total funding amount for the central reallocation pool is set in advance for the year, it may be true that a general trend towards upcoding would lead to lower lump-sum payments for sickness funds participating in this type of practice.¹⁵ However, the payments they receive would still be higher than those made to the lone sickness funds that choose not to jump on the upcoding bandwagon.

A third, more fundamental, concern with the scheme is that incentives to attract young and healthy individuals will always remain because attracting people with diseases is, by its nature, a risky business. Indeed, the true risks of morbidity are notoriously difficult to predict, as are developments in medical treatment. Attracting young, healthy, low-risk individuals will likely always be the safest bet from the insurer's point of view.¹³

Concluding remarks

The new risk-adjustment scheme represents a major reorganisation of the

financial flows in the Germany SHI system, with almost half of the 168 billion euros gathered in the central reallocation pool in 2009 to be redistributed according to morbidity-based criteria.^{13,18} Although it is much too early to determine whether the new scheme will be more effective than its predecessor at preventing risk selection, the concerns voiced by critics, especially related to the eighty-disease limit, must be taken seriously. Nevertheless, there is little doubt among health economists that some form of morbidity-based risk-adjustment is necessary in SHI systems with multiple sickness funds and an open enrolment requirement. Even if the implementation of the new morbidity-based risk-adjustment scheme in Germany is disputed, evidence from past experience in this country's SHI system indicates that the fundamental switch from indirect to direct measures of morbidity was the best option available.

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Improving New Zealand's health system performance:

Challenges for the way forward

Robin Gauld

Summary: This article discusses New Zealand's present health system of publicly-funded District Health Boards, created in 2000. The system has a number of features that place it at the forefront of developed world nations. Yet, at the outset, there were suggestions that it could be too unwieldy for a country of four million people. Unfortunately, these suggestions have been borne out, with an increasingly complex set of structures that have failed to perform well. Compounding the complexity have been parallel developments such as introduction, from 2002, of new Primary Health Organisations. A new centre-right coalition government, elected in late-2008, faces several health policy challenges including health system performance, quality, information technology and workforce sustainability.

Keywords: New Zealand, health policy, decentralisation, primary care

New Zealand's health care system has several commonalities with selected European and Organisation for Economic Co-operation and Development (OECD) countries. Access to most services is universal and underwritten by government funding drawn from general taxes. This funding contributes almost 80% of total health care expenditure. Public hospitals dominate and are free of any patient charges. Private hospitals provide mainly elective procedures, occasionally on contract to the public system. Public hospital specialists are salaried, but most also work in private practice. In contrast, general

practitioners (GPs), who serve as gatekeepers within the system, are almost entirely in private practice. Since the 1930s, GPs have received substantial government subsidies to reduce direct patient charges. In 2008, health expenditure was around 9.2% of Gross Domestic Product (GDP). Over the past decade, real expenditure grew at 4.3% per annum, above the OECD average of 4%.¹

As discussed elsewhere, New Zealand's health system endured a succession of reforms commencing in the late-1980s. An unsuccessful attempt in the early-1990s to create a market-based system of competing purchasers and providers was followed, after the 1996 election, by installation of a single national purchaser. In 1999, a new Labour-led coalition government sought to distance itself from the market and

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