

## MANAGING RISK SELECTION INCENTIVES IN HEALTH SECTOR REFORMS

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### SUMMARY

The object of the paper is to review theoretical and empirical contributions to the optimal management of risk selection incentives ('cream skimming') in health sector reforms. The trade-off between efficiency and risk selection is fostered in health sector reforms by the introduction of competitive mechanisms such as price competition or prospective payment systems. The effects of two main forms of competition in health sector reforms are observed when health insurance is mandatory: competition in the market for health insurance, and in the market for health services. Market and government failures contribute to the assessment of the different forms of risk selection employed by insurers and providers, as the effects of selection incentives on efficiency and their proposed remedies to reduce the impact of these perverse incentives. Two European (Netherlands and Spain) and two Latin American (Chile and Colombia) case studies of health sector reforms are examined in order to observe selection incentives, their effects on efficiency and costs in the health system, and regulation policies implemented in each country to mitigate incentives to 'cream skim' good risks. Copyright © 1999 John Wiley & Sons, Ltd.

KEY WORDS: health systems reform; competition in health service markets; competition in health insurance markets; risk selection; cream skimming

### INTRODUCTION

Recent international experience in health sector reforms highlights three interesting observations from the point of view of their objectives, scope and evaluation. First, reforms are conducive to market forces playing a more significant role in health services in order to promote technically efficient production. Second, reforms involve a change in the form of public intervention in health care markets (re-regulation) which is heavily dependent on the degree of market incentives considered: in most countries regulation has attempted to simulate a (limited) fair competition environment for insurers and providers,

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frequently using prospective payment systems. Third, and somewhat surprisingly, many policy measures have been proposed and implemented with remarkable speed but with little reliance on theoretical and empirical evidence about the effects of promoting competition in health care markets, and without a single field trial, with the exception of the Rand Health Insurance Experiment.

In many developed and developing countries the sustainability of health care systems relies on the introduction of more (real or simulated) competition or market-style mechanisms which include instruments for encouraging limited or regulated provider and insurer competition, insurer/provider separation, consumers' freedom of choice, negotiated contracts, open bidding and, in general, a more important role for the pricing mechanism. Despite this, market provision does not mean free market provision: competition is subject to constraints imposed by public intervention to limit or regulate side effects of market incentives in the health care market. Giving the market a more fundamental role does not mean a full-market approach, since in most countries financing remains in public hands. With the notable exception of the United States, established market economies do not use market mechanics to govern their health care sectors (Evans *et al.*, 1994).

This paper proposes to examine and conceptualize health sector reforms from the economic point of view using two limited but complementary facets which address the key questions in reforming health systems. The first facet is the intensity of competition in health financing and provision introduced by reforms with a view to improving efficient ('value for money') and containing cost escalation. The second facet is represented by the nationally adopted institutional arrangements or responses to manage perverse incentives enhanced by promoting competition in the health care market, such as certain forms of risk selection ('cream skimming') of patients, services and/or quality by insurers or providers. This paper examines health reforms from the standpoint of how policies deal with the conflict between efficiency incentives promoted by (limited) competition.

Unfortunately, there is no evidence of extensive use of theoretical and empirical evidence in designing and implementing health sector reforms. Even in developed and experienced countries such as the United Kingdom or Sweden, economic and health policy researchers complain that reforms suffer from two notable deficiencies: (a) economic theory (market failures, government failures, principal-agent theory and institutional economics) predicted early on that many hastily adopted drastic reform policies were excessively optimistic about the benefits of increasing competition in health care; and (b) there is little evidence *ex ante* and *ex post* as to the effectiveness of reform policies (Propper and Söderlund, 1998), and (when evidence exists), evaluations tend to be biased by political interests and ideology (Söderlund *et al.*, 1997).

The object of the paper is to review theoretical and empirical contributions to the optimal management of risk selection incentives in health sector reforms. Two main forms of increased competition in health sector reforms are observed when health insurance is mandatory: (1) competition in the market for health insurance, and (2) competition in the market for health services. The paper is

organized as follows. The second section sets out the general framework for the theoretical and empirical diagnosis of the effects exerted on efficiency by competition between insurers and providers respectively, as the related policy instruments to mitigate incentives to cream skim good risks. Some illustrative case studies of how national health sector reforms deal with the trade-off between efficiency incentives induced by competition and selection incentives are reviewed in the third section, all of them describing reforms which involve mandatory insurance. The following European and Latin American reform case studies are analysed: the Netherlands, Spain, Chile and Colombia. The final section presents some conclusions.

#### THE CONFLICT BETWEEN EFFICIENCY INCENTIVES INDUCED BY COMPETITION AND RISK SELECTION

Stronger efficiency incentives may be injected into the health sector, allowing insurers to compete for patients in terms of the costs and the insurance they offer, as in the Dutch, German or Chilean reforms. Another form of enhancing efficiency incentives appears on the provider side, where public and private providers may compete to obtain contracts and patients, as happened in the reforms in the United Kingdom implemented from 1989. Some form of yardstick competition is also present in most health care reforms as a way of promoting efficiency in production. Yardstick competition may be defined as a regulatory pricing policy in which the average cost of all competing firms (as a proxy of the competitive price) is used to determine the price level of a product in order to induce the firms to engage in cost cutting innovations. The Prospective Payment System in the United States may be partially interpreted as an application of yardstick competition.

Can competition in the health care market contribute to raising efficiency, as it does in other markets? Provided that no market power problems exist, the answer to this question depends heavily on the trade-off between efficiency incentives induced by increased competition and selection incentives. Newhouse (1996b) defined (risk) *selection* as the actions of economic agents in the health market to exploit unpriced risk heterogeneity and break pooling arrangements. If there is one price for a heterogeneous product, insurers and providers have incentives to avoid those 'products' whose expected costs exceed what is paid. The strength of the incentive to select may depend on whether the firm operates for profit or not. A fully prospective payment for a bundle of services yields technically efficient production. However, if payments are uniform for heterogeneous groups of services, then firms have incentives to select good risks and avoid bad ones. Firms have stronger incentives than before to produce efficiently, as well as to select good risks.

Risk selection in the health insurance and the health care markets, as an undesirable outcome of unpriced risk heterogeneity, may take several forms. Given a fixed prospective price paid to the firms for a heterogeneous product, they may select 'good' risks on the basis of enrollees, patients, services and

quality (i.e. how much treatment is provided). Risk selection increases transaction costs as a result of the efforts to attract good risks. Risk selection also introduces the possibility of under-provision of services (termed stinting by Newhouse *et al.*, 1997; Newhouse, 1998) unless countervailing forces check this tendency. Both trends represent the efficiency cost of risk selection.

Uniformity of pricing for heterogeneous groups of services appears as inherently related to health care markets. Price or reimbursement regulation is at the root of the problem. Equity requires community rated or income related premiums (cross-subsidies between risk groups) in the insurance market. Premiums are regulated to prevent risk rating in order to keep premiums affordable for high risk and low income groups. Consequently, incentives to exploit unpriced risk heterogeneity are stronger under competitive pressures than under traditional retrospective reimbursement methods.

The existence of asymmetric and imperfect information in the agency relationship between insured and insurer and between purchaser and provider are at the root of the risk selection problem. Selection incentives would be minimized if insurers and providers were reimbursed at the exact patient cost. A uniform fully prospective payment for a heterogeneous group of persons gives insurers and providers the maximum incentive to compete in wasteful ways to select good risks and avoid bad ones. The more insurers and providers are exposed to competition, the greater will be their efforts to attract good financial risks. Thus, providing that there is no market power, risk selection should be the main reason for regulating or limiting the role of competition.

When market failures prevail, as it is in the case of health markets, there is great scope for cooperative institutions to improve efficiency and reduce incentives to select. Re-reforms that announce cooperative arrangements, such as those recently proposed in the United Kingdom and Sweden, would take advantage of the reputation and long-term relationship between the agents rather than open competition for short-term contracts. In the United Kingdom, the new Labour government announced that the internal market for delivering health services will be abolished and replaced with a system that will place less emphasis on competition and more on cooperation between the agents. Cooperation benefits are based on the agents' perception that future discounted benefits will be higher than short-term benefits from pursuing only self-interest (Stiglitz, 1997). From this point of view, cooperation is not the opposite of competition; rather, it represents a way to manage or regulate the perverse effects of market-style incentives in health markets, such as selection incentives, but maintaining some degree of competition stimulus to improve efficiency (mixing competition with cooperation).

#### *Competition between insurers*

Three forms of competition may be observed in the market for health insurance: competition in premiums, in entitlements and in services (Maarse and Paulus, 1998). Competition in premiums (price competition) is possible when insurers are free to set their own premiums. When insurers compete in entitlements, they

seek to attract new members by offering them a favourable package of entitlements which may differ in terms of the health services covered or the required copayments. In many cases where insurance is mandatory, premiums are fixed by the government or a central fund, and competition in entitlements does not play a central role because they are confined to private and complementary health insurance. Competition based on service may induce insurers to offer high quality and cost-effective services to attract enrollees and contain costs. Competition in service is possible to attract enrollees and contain costs. Competition in service is possible even in the absence of competition in premiums and entitlements. Central funds may pay to the insurer full or partial capitative premiums for each enrollee which do not coincide with the contribution paid by the insured; and, at the same time, the central government may determine the package of entitlements. The existence of competition between insurers based on service, and only partially in premiums but not in entitlements, is precisely the case of many health care systems in developing and developed countries with compulsory insurance, and that with which this paper is primarily concerned.

If the premium received by the insurer is a function of the average risk in a heterogeneous group, then insurers have an incentive to attract profitable patients and to avoid unprofitable ones. Identical premium for heterogeneous risks appears when only service competition between insurers is allowed and they are paid by a central fund. However, it may also appear when there is complete or partial premium competition but the insurer receives the same premium for all single individuals of a given firm (this could be the case in the United States), or the government in compulsory health insurance systems. Newhouse (1996b) observes that in groups and public insurance markets premium is always a function of the average risk in a heterogeneous group because transaction costs preclude insurers' pricing at an individual's expected cost. The result is that insurers under-serve unprofitable patients with a view to encouraging their withdrawal from the scheme, limiting the quantity and quality of services provided and thus reducing their welfare benefit. Prospective payment for heterogeneous risks is therefore not an optimal solution. In this case, those individuals with higher expected cost, i.e. chronically ill people, will face access problems.

With open enrollment and guaranteed renewal, high cost patients may be avoided by selection mechanisms such as targeted marketing using media more likely to reach better risks, site facilities calculated to appeal to better risks, more stringent protocols for referring patients, staff unattractive to persons with certain health care problems, not contracting with providers known for specializing in certain high risk conditions, and handling bad risks differently during contact with physicians.

Evidence of the existence and importance of risk selection in insurance markets has not received much attention in the literature. Newhouse (1994, 1996a, 1997b) has assessed the importance of risk selection in United States. Evidence suggests that Health Maintenance Organizations (HMOs) attempt to attract good risks among Medicare enrollees in order to exploit risk heterogeneity under uniform prices. It has been observed that those who choose to

Table 1. Policy measures to reduce risk selection in the health insurance market.

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I. PRO-COMPETITIVE MEASURES
Periodic open enrollment
Guaranteed renewal
Standardized benefits
Restrictions on supplemental benefits
Mandatory community rated high risk pooling
Serving the entire area
Approval for marketing arrangements
Publication of results of consumer satisfaction surveys
Ethical codes for insurers
II. PROSPECTIVE AND RETROSPECTIVE RISK ADJUSTERS
1. Prospective risk adjustment
—Age
—Gender
—Geography
—Self-reported measures of health status
—Chronic conditions
—Diagnostic information (Diagnostic Cost Groups and Ambulatory Diagnostic Groups)
—Prior utilization
2. Retrospective risk adjustment
—Actual utilization
III. OTHER MEASURES IN THE ABSENCE OF RISK ADJUSTING
Minimum (or maximum) number of enrollees in some risk groups
Mixed or blended payment
Mandatory high risk pooling

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join an HMO are those that used fewer Medicare covered services in the period before they joined the HMO. Medicare pays a premium to HMOs which amounts to 95 per cent of the adjusted average cost per capita under fee-for-service. Hill and Brown (1990) found that the adjusted expenditure of enrollees who joined an HMO was 23 per cent lower than that of those remaining in the fee-for-service scheme, there were 25 per cent fewer hospitalizations among HMO enrollees in the period before enrollment, and the adjusted mortality of HMO enrollees after joining the scheme was 25 per cent lower than the rest. Cutler (1994) showed that average risk varied substantially among integrated and non-integrated (i.e. less generous) insurance plans. Beck and Zweifel (1998) show that cream skinning was a common phenomenon during the early 1990s in Switzerland.

Policy measures to reduce risk selection incentives in the health insurance market are anti-selection or pro-competition mechanisms, risk adjustment of the payment formula, and other measures which may be used in the absence of risk adjustment (Table 1). Anti-selection measures commonly introduced to limit risk selection problems include: periodic open enrollment; standardized benefits; and guaranteed renewal. Other possible anti-selection measures which may be imposed on insurers are: restrictions on supplemental benefits; obligation to serve the entire area; approval of marketing arrangements; mandatory

community rated high risk pooling; publication of consumer satisfaction surveys; and ethical codes for insurers.

However, there is agreement that pro-competitive measures are not enough to guarantee that insurers cannot select enrollees. Thus, the mechanisms employed to limit risk selection may be classified as those that adjust the payment system for risk differences in a heterogeneous population, and those schemes that do not use risk adjustment. Risk adjustment represents the use of risk measures to adjust the premium paid on behalf of a group of enrollees in order to compensate for expenses that are expected to be lower or higher than average, based on the risk status of the enrollees.

Newhouse, Buntin and Chapman (1997) observe that an ideal risk adjuster should make the payment to an insurer closer to *expected* spending rather than to *actual* spending. The most important factor in the control of risk selection through risk adjustment is the capacity that an insurer has to predict in advance which insured might be more or less profitable. A good risk adjuster needs to predict individual expenditure as an insurer is able to predict *ex ante*. The literature uses the proportion of variance explained in *actual* expenses by risk adjusters as a measure of the effectiveness of risk adjustments. However, it may be noted that variance in expected spending will be lower because of the random error ('luck').

Risk adjustment may be prospective or retrospective. Prospective risk adjusters explain spending using only information from a past period. Traditional prospective adjusters are age, gender, and geographic location. To obtain more accurate spending predictions other specific information from past periods may be used for risk adjustment purposes: self-reported measures of health status; the presence of chronic conditions, diagnostic information; and prior utilization. Using diagnostic information from prior hospitalizations as an adjustment factor increases predictive capability, but there are incentives to manipulate diagnostic information and to increase inappropriate hospital admissions and days (Lamers and Vliet, 1996). Perverse incentives from adjustments based on prior costs could be even worse. A retrospective adjustment employs diagnostic information from the current period. Retrospective adjustments provide more accurate predictions of actual spending because they include the effect of random variations. But if the insurer cannot predict random variation *ex ante*, as mentioned above, there is little point in introducing such refinements.

Prior and actual utilization as risk adjusters have very similar effects because prior utilization differs from current utilization by a discount factor. In this sense both could be considered as retrospective. Thus, incentive effects will not differ significantly. The use of prior or actual utilization converts the payment system into a mixed or *blended* system which combines prospective and retrospective components. The use of prior or actual utilization in the payment formula increases the predicted variance but it also reduces incentives to productive efficiency. However, if not actual use adjuster is employed, there remains a major incentive to under-serve because the marginal revenue for doing something is zero. A mix of prospective and retrospective adjustment is likely to be optimal. However, the optimal combination is not known.

The application of risk adjusters in the payment systems shows some significant limitations. First, they are highly information demanding. In many situations accurate or precise information about adjusters as iso-resource diagnostic groups or prior utilization cannot be available, even in developed countries. Second, adjusters only explain a small part of the variation in actual spending. However, expenses are highly concentrated in a small proportion of high cost patients, which makes selection profitability non-linear: major profits may result from avoiding a less healthy patient drawn from the same group. Third, risk adjusters are necessarily calibrated in comparison to observed treatment and diagnostic patterns, which embodies judgements on how patients should be treated. This means that if variation in the clinical management of patients is possible, there is no reason not to accept any risk adjustment weight as appropriate.

When risk adjustment is not possible because information is either unavailable or considered inadequate (Hsiao, 1994), some complementary mechanisms may be applied. These measures may include: required minimum (or maximum) number of enrollees in some risk groups, mixed or blended payment systems, and mandatory high risk pooling. A proportion of the payment varying with actual use, to be determined by experience, would be a mixed or blended system, which is precisely the case of partial adjustment by actual use. Van Barneveld *et al.* (1996) found that if 4 per cent of the Dutch cases in 1993 (selected on the basis of their cost in 1992) were ceded in advance to a mandatory high risk pooling scheme, 24.5 per cent of spending in any given year would be covered by the pool.

#### *Competition between providers*

Publicly financed health systems have promoted the use of market-style incentives in the market for health services through two complementary types of measures: first, through the separation of third-party payers (public or quasi-public) from providers and, second, by the use of prospective payment systems that replaced former retrospective arrangements.

In many developed and developing countries reforms are drawing a distinction between funders and purchasers and, at the same time, public sector providers are being made more independent and having their ownership role clarified. The aim of the reforms is to introduce (simulated) competition between public and private providers for funds. Providers are encouraged to compete for public or private funds on the basis of price, patients and/or quality. Funding and delivery split facilitates a more market-oriented form of resource allocation implemented by the reform of payment systems.

The most common associated problems in the literature concerning competition between providers arise from the existence of market power, the increase in transaction costs, and the capacity to induce demand. Market power in the health service sector may be the result of the lack of alternatives (local monopolies). It may also come from a situation in which a provider is long-established and in a safe market position (monopolistic competition or

oligopoly). Price competition will not exist under these conditions. Competition will be centered on those aspects of quality which are observable by the patient, which could have a negative impact on costs and efficiency. If market power is significant, a few dominant providers can use their monopoly power to raise prices and to lower the quantity or quality of the services they provide.

Purchasers and patients lack information about short- and long-term treatment outcomes for specific diagnostics and specific providers and about how to make adjustments for the previous general health state of the treated patients. Purchasers are less informed about costs and quality than the providers. Thus, providers competing in prices may exploit informational asymmetries and engage in risk selection and under-treatment of patients rather than improve efficiency. The use of prospective payments when there is patient heterogeneity (case mix variation within each group which is not easily observable by the purchaser) gives incentives to providers to select low risk patients. Furthermore, even in the case of perfect risk adjustment, under fully prospective payment systems the providers have incentives to under-treat all patients (as providers receive the same payment for each patient in the same group, they have an incentive to avoid high cost patients grouped together).

Policy measures aimed at reducing incentives to select may be classified into two groups. First, measures designed to produce and convey information about prices and outcomes. Second, blended or mixed payment systems, in unknown proportions, which are more suitable than full prospectivity. When the provider is able to select patients and treatment intensity, *cost sharing* (mixed or blended systems) may be a better formula for controlling expenditure without avoiding or under-treating high cost patients. Cost sharing is a measure that allows the provider to share production costs with the purchaser. Cost sharing arrangements may be prospective or retrospective. Payment in prospective cost sharing varies depending on observed cost differences, which may be predicted from patient characteristics identified at the beginning of the treatment. In retrospective cost sharing, the payment to the provider is a function of the decisions taken with regard to treatment or resources used, given observed patient characteristics. Retrospective cost sharing makes the 'supply side moral hazard problem' more important, and incentives for cost minimization are lower. Cost sharing or blended systems involve the reimbursement of a portion of current costs to the provider. Purchaser and provider share the risk of an unexpected increase in costs; incentives for both selection and efficiency are reduced. Prospective payments result in an incentive to reduce costs, but it could be more efficient to relax the incentive for cost reduction in order to obtain an appropriate intensity of treatment.

## CASE STUDIES OF HEALTH SECTOR REFORMS

### *The Netherlands: adjusting for risk and limiting financial responsibility*

The Dutch health care system is characterized by a mix of public and private funding, with a high proportion of voluntary private insurance, and a mix of

public funding and private provision of services. About two thirds of the population are covered under the mandatory sickness fund insurance, and one third opt to take private insurance.

The most important health reform scheme during the 1980s was the Dekker Committee proposal of 1987. The Dekker proposals included a compulsory basic insurance package covering the basic health needs of the population. The basic health insurance scheme would cover about 85 per cent of total health expenditure for the entire population. Legal measures should be taken to outlaw exclusion of patients with pre-existing conditions from health plans. Individuals may purchase a supplementary package on a voluntary basis, covering deductibles and copayments. Insurers would be paid by a central fund on a per capita basis adjusted according to age, gender and health status which would not vary from insurer to insurer. Both schemes would be implemented by sickness funds and private health insurers alike, thus eliminating the traditional dividing line between them. The Dekker proposals meant integrating the existing funding streams into one mandatory health insurance scheme for the entire population.

The introduction of competition between insurance organizations and between health care providers with a view to ensuring greater consumer choice was one of the Dekker proposals. Insurers should act as purchasers of health services and compete for patients on the basis of price (premiums) and quality of services offered (Besley and Gouveia, 1994). The revenues from the central fund are less than the insurers' health care costs. The payment received by insurers from the central fund would be equal to the predicted per capita costs within the individual's risk group, minus a fixed amount. This fixed amount would be the same for everyone and was intended to be about 10 per cent of the average predicted per capita costs of compulsory health insurance. Thus insurers would be allowed to apply a competitive flat-rate premium to cover the deficit, which introduces price competition in the compulsory basic health insurance scheme and hence constitutes an incentive for insurers to be efficient (Maarse and Paulus, 1998).

The Dekker proposals were postponed and only partially implemented in the reforms of the Dutch health care system. At the end of 1994 neither the compulsory health insurance nor regulated competition had been implemented. The scope of the Dekker reforms was restricted to the sickness fund sector in 1994 after the general elections. The new government stopped the integration of the social health insurance with private insurance into a single basic health insurance scheme. Instead, health insurance was divided into three components. The most important difference in the Dutch reform process is the reduction in the role attributed to market competition. Price competition is not allowed in the market for long-term care and global budgets are applied to insurers to keep costs within acceptable limits.

The first component of the new reforms refers to a former programme that covers long-term care, implemented in 1968, which was left intact by the market-oriented reform: insurers cannot compete in premiums, and they are reimbursed from a central fund. Fixed budgets are applied to health care providers but not insurers. The second component comprises a package of acute

health services established by the government. In this case insurers have to compete with each other in flat-rate premiums and services (as in the Dekker proposals) but sickness funds are under a budget cap restriction. The third component comprises a complementary health insurance scheme in which insurers may compete in premiums, entitlements and services without fixed budget restrictions.

*Are differences in flat rates an indicator of efficiency?*

If price competition between insurers has led to an improvement in service quality and efficiency, insurer revenues have to be risk-adjusted and competition has to be effective. Insurer budgets play a twofold role in the Dutch health insurance market. They are intended to compensate justifiable differences between firms attributable to their risk profiles and, at the same time, fixed budgets are used as a cost control tool given the observation that more competition may result not only in more efficiency but also in cost escalation.

Allocation of budgets to each sickness fund is made operative by adjusting for the individual risk profile of each fund. Fixed budgets must adequately compensate for risk differences in the pool of enrollees in order to ensure that competition between insurers does not make risk selection more profitable than improving quality to attract patients and more profitable than attaining higher levels of efficiency. Capitation payments from the central fund to insurers are therefore risk-adjusted, but the adjustment has been controversial and has undergone several modifications. Risk-adjusted capitation payments were introduced in 1993. In 1993 and 1994 the risk-adjusted capitation was based only on age and sex, and risk selection remained an easy and profitable task for insurers. Capitation payment is now adjusted using slightly more accurate predictors: the gender of the insured persons, their age, the region in which they live and whether they are able to work or are disabled (a proxy of health state).

Is there really competition between insurers in the Dutch health care system? The promotion of market competition was a key reason for the Dutch reforms. However, Maarse and Paulus (1998) present some reasons for skepticism. First, a significant trend towards concentration in the insurance market can be observed which 'may eventually lead to cartel formation which destroys market competition' (p. 248). Regulation mechanisms cannot be limited to ensuring that competition develops only on efficiency grounds or that just a limited portion of revenues are put at financial risk. Regulation mechanisms also have to be very active in ensuring effective competition between insurers. A second potential problem according to these authors is that 'sickness funds still lack the effective tools needed to achieve competitive advantages in negotiating favourable contracts with the health care providers on volume, price and quality of care' (p. 248). Asymmetric information between providers and purchasers of health services requires sickness funds to develop effective policy tools in order to obtain the advantages of competitive mechanisms in the insurance market.

Purchaser and provider roles have always been different in the Dutch health systems. Separation of functions has not been necessary. However, the change relates to the fact that insurers must now play an active role as prudent, effective

and efficient providers. If purchasers remain passive agents in the negotiations with providers or if providers enjoy enough market power then competition between providers would be a fiction and the effects of insurer competition would be very weak.

*Limiting insurer financial self-responsibility*

Financial risk transferred to insurers by prospective fixed budgets and competition is limited by the use of three different mechanisms. First, financial responsibility is limited to the portion of the global budget which is considered to be influenced by insurer management. This portion is pragmatically identified with variable costs. In 1997, 63 per cent of the global budget was considered to correspond to variable costs. Second, measures such as a risk compensation scheme, a retrospective recalculation of actual costs and a partial compensation mechanism for the difference between insurer budget after risk compensation and real costs are implemented in order to slow re-allocation effects resulting from the reforms. Third, a high risk pooling arrangement was introduced in 1997. These measures resulted in a financial responsibility of 30 per cent in 1997, which has been raised to 35 per cent in 1999 (personal communication from a reviewer).

Financial risk reductions also lower risk selection profitability. However, given that risk-adjusted capitation payment from the central fund is far from being perfect and that some market power remains, risk selection incentives cannot be discarded as a potential problem in Dutch health insurance reforms.

*Spain: service selection*

Health care provision in Spain is a mix of public and private provision: 4/5 of total health care is publicly provided and 1/5 by the private sector. Public provision is financed through general taxation. Spain spent 7.6 per cent of its GDP on health in 1995. The initiatives that have been implemented do not in fact constitute a reform programme so much as a series of shifts towards incremental changes in the existing health system. The separation between financing and delivery has been partially supplanted by the introduction of pseudo-contractual arrangements, but very little (or indeed nothing) has been created in the way of competition between public and private providers for public funds. Cost containment has mainly focused on changes in the hospital financing system, by moving from reimbursement methods to prospective purchasing of services based on activity. Until recently, acute care hospitals belonging to the Social Security system were financing their current expenditures from a baseline calculated from previous expenditures (López-Casasnovas, 1998). Incentives for patient selection or lower service quality could not be attributed to this payment system, although incentives for cost efficiency were completely absent given that the hospital assumed no risk.

*Private service selection under public financing*

Despite the high level of vertical integration and centralization, there is some experience of a managed competition model in the Spanish health system. Muface (Mutualidad General de Funcionarios del Estado) is a public insurance fund which covers most civil servants and their families. The beneficiaries of Muface, over 1.6 million people, can choose annually which insurer/provider they prefer. In recent years more than 85 per cent of civil servants have chosen private insurers/providers, this proportion being higher among those civil servants working for the Minister of Health. Muface contracts private and public insurers (which usually integrate insurance and provision vertically or offer a restrictive list of providers) which receive a non-adjusted capitation payment. The capitation payment is calculated as the average cost per person in the public insurance system, which covers the whole population with the exception of civil servants. This prospective and non-adjusted capitative system clearly encourages profit maximization through selecting the good risks, given that insurer/provider surplus depends only on unit costs per person.

Contrary to what one would expect, risk selection is not observed according to the age and sex distribution of enrollees between private and public insurers. These apparently lower estimates of risk selection do not mean that this hypothesis should be rejected. First, an analysis of health plan switchers has not been undertaken. Second, there are other alternatives to patient selection for selecting 'good' risks. Pellisé (1995) detected the presence of what she called *service selection*, a class of the more general phenomenon of risk selection. It consists of making profits out of *doubly insured enrollees*: those having access at the same time to public providers and those associated with a private insurer. Double insurance might be used by private insurers to induce clients to use the public provider/insurer selectively, in particular for more expensive services. Individuals with publicly funded double insurance are beneficiaries under both the Muface and Social Security systems. Under publicly funded double insurance in Muface, enrollees would use privately provided services only for mild health problems (outpatient services) and publicly provided services for more serious and costly health problems (expensive patients).

Thus, risk selection is not undertaken according to age criteria because private insurers do not mind accepting predicted high risk individuals. However, a serious problem with selection of services is that the prospective payment system currently employed significantly undermines the incentives to efficiency implied by competition between insurers. The risk assumed by private insurers can always be reduced by transferring it to the public Social Security system used by the rest of the Spanish population. Beneficiaries of Muface using intensive hospital services or with chronic conditions such as diabetes, allergies, asthma and bronchitis have had exclusive access to the public providers (Pellisé, 1995).

In this context, risk selection is associated with inefficient regulation and public information management: the public insurance system allows publicly funded double insurance which allows private insurers contracting with Muface to offer only low cost services, and the public information systems are either

incapable of or not interested in identifying which use of expensive public providers corresponds to individuals covered by those private insurers. Public insurance/providers specialize in certain low cost services and are able to induce individuals to use the public provider for other higher cost treatments. It appears that service selection is so profitable that selection based on age becomes unnecessary. As a consequence of risk selection, incentives to cost efficiency throughout the whole insurance system are absent and the increase in the number of beneficiaries who choose private insurers raises the possibility of transferring high cost services to the national health service so that overall public expenses increase and efficiency falls.

*Colombia: extending coverage and increasing efficiency*

In 1993 Columbia spent 7.3 per cent of its GDP on health, more than half of these resources being privately financed out-of-pocket. This year Columbia launched an extensive package of institutional and financial reforms to implement a health insurance system guided by competition but without adversely affecting equity. Until the early 1990s, the Columbian health care system was segmented, inequitable and organized in three parallel schemes: first, a social insurance system run by the Social Security Institute which covered workers (21 per cent of the population); second, the public health system run by the Ministry of Health which offered public health operations and access to public hospitals by the whole population; and third, the private health care system. Before the reform, 30 per cent of the population had no access to basic preventive services, and 19.2 per cent reported having no access to personal health services, particularly in rural areas and poor districts of big cities.

Reforms initiated in 1993 established mandatory membership (for those able to pay) of a funding scheme based on social insurance principles. Finance was separated from service delivery and competition between insurers was encouraged, in tandem with the share met by public funding. Law 100 approved by the Congress in 1993 was intended to develop a regulated market open to public and private firms and guided by competition with the aim of achieving universal coverage. Two main strategies appear in this context as the distinguishing features of the reform: a compulsory health insurance system and the introduction of regulated or limited competition between insurers and between providers. Colombian reform has been accompanied by a significant increase in the funds channelled through the public financing system: from 2.73 per cent of GDP in 1993 to 4.71 per cent in 1996 (Morales, 1997).

In 1993 the contribution by employed workers increased from 7 per cent to 12 per cent of their earnings, one third of which is paid by the employee and the remaining two thirds by the employer. Membership became compulsory and everyone was guaranteed a universal package of health services with free access for all Columbian citizens. All financial resources are placed in the Solidarity Fund which is responsible for financing and managing the system. The Solidarity Fund redistributes resources among sick and healthy people and between low and high income individuals.

The separation of finance and service delivery operates through the functioning of the two principal agents: the Health Promotion Organizations (EPSs) and the health care providers (IPs), which may be private or public, non-profit or for-profit. EPSs play a role similar to the Health Maintenance Organizations (HMOs) in the United States. They are charged with enrollment (on behalf of the Solidarity Fund), insurance, and organization of service delivery. Families can freely choose their EPS, which has to guarantee a universal package of health services, including medicines. EPSs assume the risk of ensuring a universal package of services (Medici *et al.*, 1997). EPSs compete to attract contributing individuals, who are entitled to enjoy the right to receive the same benefits from the Compulsory Health Plan as any other Colombian citizen. Families may choose which EPS they join each year and can choose a provider (IP) from those offered by the EPS. EPSs also offer complementary health plans voluntarily financed by the enrollees. In addition to the basic contribution, there is a copayment for the use of services.

EPSs collect income related contributions paid by workers. They also receive copayments made when the patient uses the service, and a capitation payment (UPC) which is risk-adjusted for sex, age (five groups), and geographic location (two groups), with reinsurance for serious illness. EPSs return one twelfth of the 12 per cent contribution to the Solidarity Fund. The capitation payment is the insurance premium related to health risk received by the EPS. The net difference between the value of the capitation payment for the group of enrollees and the contribution collected is also transferred to (or paid from) the Solidarity Fund by each EPS. In contrast with the Chilean case, this redistributive mechanism clearly distinguishes between the contribution paid by the insured and the premium received by insurers.

Those individuals who are not able to contribute are covered under the subsidized scheme, which is financed by direct government transfer, subsidies from municipalities and by a solidarity payment of 1 per cent of the contributions paid by workers. In this context, government budget outlays are being strictly targeted at public health measures or to the poorest 30 per cent of Colombians. In this subsystem, the Subsidized Scheme Organizations (ARSs) are the agents that organize and guarantee access to health services for this section of the population. Three different types of ARS may be identified: the EPS contributory scheme, the present Family Compensation Funds, and Solidarity Health Enterprises. The last of these are a special class of EPS, and represent a system of community cooperative health organizations. Public hospitals may associate with other public or private providers to become a public EPS and offer services to poor individuals. Enrollees in the subsidized subsystem who are members of an ARS obtain the Compulsory Subsidized Health Plan, which has to equal at least 50 per cent of the Health Plan of the contributory scheme at the beginning, and will have to reach 100 per cent in 2001. The ARSs also receive a risk-adjusted capitation payment from the government for the subsidized population. Services not currently covered by the subsidized health plan have to be directly provided by public hospitals on a historical base. Regional agencies now also purchase services on behalf of the

poorest section of the population where EPSs do not exist, frequently the case in rural areas. In addition, there is a Basic Health Plan financed by the central government, which covers public health and preventive services.

*Regulating competition between insurers*

EPSs may provide services directly to patients or may contact services to public or private providers (IPs or professionals). They have to offer information on the list of provider choices available through each insurer. Insurers are expected to compete for patients by offering higher levels of quality and by improving efficiency. EPSs have to compete to attract and retain enrollees independently of their income, given that insurance premium is risk but not income related. EPSs cannot compete on price grounds because the risk-adjusted capitation payment is established by the regulator and the price is also independent of the EPS chosen by the individual.

Clearly, Health Promotion Organizations have incentives to enroll healthy and low cost consumers and to encourage desertions by high cost patients, given more or less uniform capitation payment. Savings may be from cost reductions, which may be obtained by trying to attract and retain only the lower cost patients and by deliberately delivering low quality (and low cost) services. Incentives to efficiency in the insurance market may be undermined if EPSs engage in competition based on risk selection and if there is not enough competition between insurers to allow consumer choice to guide the market and maintain or improve the quality of care provided by the IPs and professionals.

Incentives to select patients are partially controlled in the Colombian reform through two types of regulatory mechanisms. First, capitation payments received by insurance carriers are risk-adjusted, albeit on a centralized basis and in a simple form. Second, a list of regulatory measures limiting and affecting the behavior of insurers and consumers has been introduced to prevent risk selection. Risk adjustment is applied by compensating for differences between individuals in terms of age, sex and geographic location. Risk adjustment is complemented by a list of regulatory measures which set legal barriers to cream skimming. Some of these measures are (Jaramillo, 1994; Aedo, 1997):

- (a) Each EPS is obliged to provide information twice a year about the age and sex composition of its enrollees, furnishing evidence that they do not enroll 'too many' high premium individuals; that at least 5 per cent of patients are over 60 years old; and that no more than 20 per cent are women aged between 15 and 44.
- (b) Incentives to attract enrollees are limited by forbidding price reductions or special terms for relatives.
- (c) EPSs are not allowed to turn individuals away, nor can they unilaterally rescind the insurance contract. Likewise, the EPSs cannot discriminate against consumers using information about their previous state of health.

A sufficient number of EPSs (and health care providers) have to be available in each geographic market in order to facilitate effective competition and thus

provide quality and efficiency incentives in the health system. This may not be the case in many rural and urban areas of Colombia. Empirical evidence shows that in 644 of the 1050 Colombian municipalities, tax-paying workers only have access to one EPS, and in 150 of them there is no EPS. Only workers in 266 municipalities are in a position to choose between two or more EPSs (Morales, 1997).

There is a secondary (but not insignificant) perverse incentive in the market for insurance contracts in addition to competition based on risk selection. In this case it concerns the collection of contributions by the EPSs on behalf of the Solidarity Fund. Each EPS receives contributions from enrolled workers and then the net resulting balance is transferred to or received from the Solidarity Fund, based on the capitation payment level and the number and composition of enrollees. However, EPSs do not have incentives to reduce fraud in the collection of contributions in exercising delegated functions on behalf of the Solidarity Fund; insurance premiums received by the EPS are independent of the collected contributions. They have perverse incentives to compete by offering lower contributions based on enrollees' understated income declarations. This incentive reduces redistribution between sick and healthy workers, and between high and low income individuals.

#### *A limited market for service delivery*

Competition between health care providers for patients is based on the price and quality offered to purchasers. IPSs and professionals compete to obtain contracts from the EPSs. This competition is mainly price based, giving the opportunity to lower costs by selecting a reduced quality level if there is not enough competition or there is incomplete or asymmetric information. The market needs several conditions to be satisfied if it is to function properly: (a) management skills in the provider institutions in order to guarantee adequate and sensible responses to market incentives; (b) the existence of provider alternatives for patients in the relevant geographic market for health services that dilute market dominance; and (c) low information asymmetries between the purchaser and the provider.

Public providers have been converted into public firms which enjoy a significant degree of autonomy, while anti-competitive agreements between providers are prohibited. Public providers were retrospectively financed with historically based budgets until very recently. They have not developed adequate information systems, management skills or incentives and control systems, which are essential in the new market conditions if they are to successfully compete with private providers. The development of management skills and capabilities is an essential prerequisite for proper market functioning. Thus, the legal separation of finance and delivery and the use of competitive market forces as external incentives are necessary measures but not sufficient by themselves to induce productive efficiency in public hospitals and clinics. Even when there is legal capacity to draw up a contract with an EPS (which is not always the case) the problem is often a lack of management skills in the public

sector (a deficit which cannot be put right overnight). It may take some time and considerable effort before adequate management conditions in public firms in many Latin American countries come about. Until then the expected effects of these policies of competitive reforms on the provider side may be slow in coming.

Empirical evidence indicates that except in highly populated urban areas there is probably an insufficient number of providers to obtain the benefits sought from a certain level of competition, while in other areas the problem is simply the absence of health care providers. In this case, encouraging health care schemes needs planning and the creation of cooperative arrangements such as 'solidarity health enterprises'; the type of franchises proposed in Mexico; or the mixed management of health centres in Peru with participation from both government and the community. They may be seen as alternatives to competitive mechanisms in rural areas (Londoño and Frenk, 1997). In the evaluation of the first year of the reform, Plaza (1997) concludes that there is some evidence of competition between general practitioners to obtain contracts from EPSs, but there is little competition between clinics and hospitals or in other specialized services. Some authors (Restrepo, 1997) also suggest that there are signs of information advantages of providers vis-a-vis EPSs. If this is the case, private and public providers may compete by selecting patients or reducing the quality of services without either purchasers or patients being in a position to influence matters.

*Chile: confusing individual contribution and premium insurance*

Chile introduced institutional and financial reorganization of the health system as of 1979. Chilean health system reform has been driven by heavily strengthening the role of market forces to enhance efficiency and contain cost escalation. Two parallel reforms were implemented in the 1980s: first, promoting the development of private insurance and providers to compete with public sector provision of health services and, second, partly decentralizing public health care to regional health centres.

Under the reform, employees and retired people make a compulsory contribution of 7 per cent of their salary to the national health system, without an employer's contribution. Workers can choose between public or private insurance plans (ISAPREs). The wage tax goes to the plan that the worker chooses. If workers choose to buy a more expensive health plan than their 7 per cent contribution, they may complement the compulsory tax if enrolled in ISAPREs. Under this scheme premium increases with income. Additional insurance is encouraged by direct and indirect governmental subsidies. In 1995 public health care covered 69.6 per cent of the population; the remaining 30.4 per cent was covered by ISAPREs (Larrañaga, 1997). Unemployed, non-formal workers and workers whose salary contribution is not high enough to buy a private insurance health plan are covered by the National Health Fund (FONASA).

Three types of ISAPRE organizations may be identified (Wainer, 1997). First, those that reimburse health care costs under free patient choice of provider. Second, those that contract prices for each service with a limited list of providers (patient choice is restricted to a limited list of hospitals, clinics, physicians, etc.). Third, there are those that integrate insurance and provision vertically by attending to patients in their own facilities. However, the first two forms of organization predominate, while most ISAPREs are not vertically integrated.

Competition between private insurance plans to enroll workers has resulted in a two-tiered system. More competition between insurers has been introduced but many analysts claim that equity has become an important issue. Care quality in the public system is low. Consumer choice and higher quality care are only obtainable by wealthier individuals. In 1995, per capita spending by ISAPREs was \$310 compared with \$197 by the National Health Fund (Larrañaga, 1997). Additionally, the public system is under-funded in relation to ISAPREs, which do not transfer subsidies to the National Health Fund. The ISAPRE market is also relatively concentrated, which results in limited competition: the three most important ones concentrate 55 per cent of the market (Bitrán and Almarza, 1997).

#### *Inefficient level of health insurance*

Compulsory and income related contribution is at odds with a private insurance system which relates insurance premium to individual benefits, giving rise to inefficiencies and welfare losses. Competitive private health plans offer a package of benefits related to the insurance premium and to the health risk of enrollees in each ISAPRE. Individual insurance contribution is mandatory and income related but independent of the health risks for those individuals contributing no more than the compulsory 7 per cent of their salaries. Since the contribution is externally established, the ISAPREs determine the level of insurance offered to each individual depending on the insurance premium received by the insurer, which is equal to the individual contribution. More than 8800 health plans are offered by ISAPREs to meet the continuous range of income levels. The large number of plans and relative individual ignorance concerning specific contract arrangements results in asymmetric information between the worker and the insurer (Bitrán and Almarza, 1997).

The coincidence between contribution and premium insurance is an effective barrier to the double redistribution between low and high income individuals and between healthy and sick people. This coincidence also determines that individuals are obliged at least to buy health insurance for a certain amount which in some cases may be higher than the desired level given their health state and preferences, thus giving rise to losses in consumer surplus. Price is thus externally fixed for enrollees to ISAPREs when they do not buy complementary benefits, and in this case individuals cannot choose which premium to pay. Therefore ISAPREs engage in inefficient competition between insurers offering unnecessary or relatively ineffective high technology and complementary

services to increase perceived quality by the patients who are most profitable in terms of contribution levels and expected expenses.

#### *Risk selection*

ISAPREs have strong incentives to select individuals by risk and income. Most ISAPREs enroll healthy, young, high income workers and make themselves unattractive to high cost patients which are unable or are not willing to pay more than the compulsory 7 per cent of their salaries. Less healthy people (the elderly and those with chronic disorders) are relegated to the public system because private plans 'cream skim' the wealthy and healthy. Competition between insurers and the resulting risk selection give rise to inefficient and higher costs in the Chilean health system (Larrañaga, 1997).

First, ISAPREs have incentives to under-provide efficient preventive services which would avoid the need for future expensive treatments. This is the result of the predominance of the short-term insurance contracts favored by competitive private insurers and consumers' imperfect information concerning the effectiveness of services. This trend is accentuated by the excessive change of health plans by individuals.

Second, health plans attempt to attract those workers with the lowest expected costs to income. As a result, high risk and low income individuals (particularly the case of elderly people) have no access to private health plans under the compulsory tax system if they are unable or not willing to pay for additional risk rated premiums. Elderly people experience a significant rise in their health expenses during their last years of life, while losing public subsidies for membership of an ISAPRE. It is easy to predict that ISAPREs have powerful incentives to make themselves unattractive to costly patients and that redistribution in the Chilean health system is extremely limited. Elderly people only have access to poor quality public services, or have to pay a high premium precisely at a time in their lives when they face a sharp reduction in income. In 1995, 56.5 per cent of salaried workers contributed to ISAPREs and 43.5 per cent to the public system. However, most retired people (96.2 per cent) contributed to the public system (Larrañaga, 1997). Only 1 per cent of the poorest 20 per cent of those aged over 65 were affiliated to ISAPREs. This proportion increased to 23 per cent among the wealthiest 20 per cent of the population of the same age. These data suggest that ISAPREs are willing to cover high risk groups as long as they are able and willing to pay for it.

Third, risk selection for low cost enrollees lower insurers' incentives to minimize costs and increases administrative costs. Selection increased selling and administrative expenses, which accounted for 30 per cent of ISAPRE health service budgets between 1990 and 1995.

Some form of *service selection* induced by ISAPREs may also be present in the Chilean health sector thanks to the existence of inadequate and insufficient information management in the public sector. Poorer individuals may choose to enroll in health plans offered by ISAPREs for low cost services, probably of higher quality than those in the public sector, whereas when they need hospital

care (which would probably require high copayments in the private sector) they have virtually free access to public hospitals.

## CONCLUSIONS

Market competition between insurers and providers has been an explicit strategy in health insurance reform in many developed and developing countries. However, extensive use of theoretical and empirical evidence on the effect of competition in the design and implementation of health care reforms is lacking. The problem of risk selection or *cream skimming* is one of the most important ones when effective or simulated competition is introduced in the health care market, given the existence of some degree of uniform pricing. Risk selection may greatly reduce the welfare gains produced by stronger incentives to productive efficiency through competition. Selection is a highly profitable activity thanks to the extremely high concentration of costs in a small proportion of individuals. Unfortunately, despite their importance, welfare losses attributable to risk selection have not been the subject of many empirical studies.

Incentives to cream skim have been erroneously observed in many health sector reforms as simply a problem of equity or distribution, whereas it also represents a reduction in efficiency and lowers the optimal level of competition in the health market. Health sector reforms have to recognize risk selection problems as a major limitation on the efficiency incentives which simulated or effective competition in the health care market is intended to achieve in the presence of uniform pricing or reimbursement. Competition between insurers for limited public funds is not the cause of the segmentation and inequality of access to the health system. If there are individuals who can afford to pay for expensive treatment and public funds to finance the compulsory health insurance system are finite, segmentation becomes inevitable and is not related to competition between insurers. On the contrary, the introduction of a compulsory insurance system with income related contributions and competition between insurers who are obliged to offer a basic health plan may involve an increase in the equality of opportunity of access to health services if risk selection problems are adequately managed.

Risk selection problems appear because a fixed price is set in insurance and service markets for what is a heterogeneous product and because there is imperfect and asymmetric information between the economic agents. Insurers and providers have incentives to avoid or dissuade high cost patients when they are faced with financial restrictions such as those imposed by competition and prospective payments. Risk selection or cream skimming does not mean that firms will select only low cost patients, but they certainly have incentives to select the less expensive cases in a group or category which is reimbursed at the same price.

Welfare losses from risk selection may be measured as increased transaction costs and under-provision of services. This welfare loss increases the higher the

level of competition and the greater the inability of patients to evaluate the quality of the services received. Empirical evidence on risk selection is limited, but shows that it is not only a problem in the insurance market, but also in the market for health services. In the absence of empirical measurement, it is unclear whether this problem is more serious in the competition between insurers or between providers. Notwithstanding, Schneider-Bunner (1998) predicts that the danger of risk selection is more important in the insurance market because: (i) the ethical barrier of insurers is not as good a guarantee as that of doctors; and (ii) insurers technically have more scope for exercising risk selection.

Additional institutional arrangements are needed to manage risk selection incentives when competition is promoted in the health care market. However, it is widely recognized that current efforts are not at all adequate. International experience suggests that pro-competitive mechanisms are not enough to control risk selection. Economic theory has established that in this situation, prospective payment for heterogeneous risks is not an optimal solution. Capitative payment systems to insurers have to use risk adjusters, including some retrospective ones, that adjust the payment to compensate for expenses that are expected to be lower or higher than average. The use of prior utilization or cost in the payment formula increases the predicted variance but also reduces incentives to productive efficiency. This leads to the use of mixed or blended payment systems which combine prospective and retrospective components in insurance and health service markets. The use of adjustments which introduce retrospective components in the payment system reduces incentives to select but at the same time reduces incentives to efficiency. However, theory and evidence show that mixed or blended systems may attain best performance levels. In this sense, it is widely recognized that capitative premiums to insurers need risk adjusters, and that provider payment systems could not be completely prospective.

Empirical literature and the four case studies presented in this paper suggest that the existence of unpriced risk heterogeneity without sophisticated risk adjustments, which are far from simple and moreover involve high costs, may result in major welfare losses due to risk selection. Competition forces firms to engage in risk selection when price or reimbursement regulation establishes uniform prices for heterogeneous services. In this situation, countries without sufficient health care administration and claims data should introduce competition into their health care system with extreme caution, because expected efficiency gains may be turned into welfare losses due to risk selection.

The use of a prospective and non-adjusted capitative system by Muface in Spain is observed as a clear incentive to select the good risks. However, selection seems to take the simple and low cost form of service selection because risk may be easily and profitably transferred by private insurers to the public Social Security system by using public providers when patients need expensive services. A similar problem is also observed in the Chilean reform where poor individuals enrolled in health plans offered by ISAPREs have virtually free access to public hospitals. Uniform price is not the only nor the most important problem in this situation. A previous problem to be solved in the management of risk selection

is how to identify exactly who is responsible for the health risk of an individual, and to manage an efficient information system linking patient and financial flows. An efficient information system is necessary to successfully manage increased competition and selection incentives.

In contrast, the case of the Netherlands represents one of the more advanced attempts to manage risk selection, where a sophisticated risk adjustment mechanism and a blended payment system are applied. Notwithstanding, even in this case the risk adjustment method is far from being perfect, and consequently, risk selection incentives cannot be discarded as a potential problem, especially in the insurance market.

The case of the Colombian reform represents a simple but important effort to manage risk selection in a context of limited health care administration and information systems: capitative risk adjustment roughly compensates for differences in age, sex and geographic location, and is complemented by a set of legal barriers to selection which are not easy to enforce. In fact, there is not enough information available to make clear inferences as to the success of the Colombian reform at managing risk selection in the insurance market. However, in this case there is evidence of market power in the provision of health services, and some advantages for providers vis-a-vis insurers/purchasers with regard to information (high information asymmetries between the purchaser and the provider). If this is the case, private and public providers may also be competing by selecting patients or reducing quality.

Risk selection problems in the Chilean reform stem from confusing contribution and premium insurance. Individual insurance contribution is mandatory and income related but independent of the health risks for those contributing no more than the compulsory percentage of their salaries. Thus, the result is not only an inefficient level of health insurance, but an incentive to select good risks when individuals are not willing to pay for additional premiums.

Implementation of risk adjusting or blended systems is not an easy task from the practical point of view, but it has been shown to be a necessary condition to manage selection problems when increasing competition. It has proved to be very controversial in many countries and the object of political argument. The weight of retrospective components or the weight of risk adjusters cannot be determined ex ante, their determination being the result of a heuristic approach which makes it very sensitive to regulatory capture and political interference. Also, in many cases the information needed to build adjustments and blended systems is simply not available or its quality may be easily manipulated by the agents, with little hope of regulatory control being exercised at a reasonable cost. Clearly, in these cases the potential welfare losses from risk selection should limit the scope for the introduction of market-style incentives in insurance and health service markets and should favour the promotion of cooperative arrangements between agents, particularly in developing countries.

In many cases providers have some degree of market dominance and have informational advantages over both patients and institutional purchasers. In order to ensure that some efficiency improvement is obtained from a freer market, it would be necessary to develop effective policy tools in the hands of

insurers as strategic purchasers of health services. This would allow insurers to influence the behaviour of providers and increase the efficiency of services. The improvement of contracting capability involves complex development and effective application of information, monitoring and evaluation systems as tools for controlling risk selection. The development of contracting capability cannot be improvised nor does it appear spontaneously when financing is separated from provision and some level of competition is allowed, as some health reform projects naively seem to assume. Weakness in the purchasing function when providers have some degree of monopoly and when there is a significant informational asymmetry between purchasers and providers contributes to increased inefficiency and to cost escalation in health services.

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