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## **CAN WE DESIGN A MARKET FOR COMPETITIVE HEALTH INSURANCE?**

**Discussion Paper**  
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The Centre for Health Economics Research and Evaluation (CHERE) was established in 1991. CHERE is a centre of excellence in health economics and health services research. It is a joint Centre of the Faculties of Business and Nursing, Midwifery and Health at the University of Technology, Sydney, in collaboration with Central Sydney Area Health Service. It was established as a UTS Centre in February, 2002. The Centre aims to contribute to the development and application of health economics and health services research through research, teaching and policy support.

CHERE's research program encompasses both the theory and application of health economics. The main theoretical research theme pursues valuing benefits, including understanding what individuals value from health and health care, how such values should be measured, and exploring the social values attached to these benefits. The applied research focuses on economic and the appraisal of new programs or new ways of delivering and/or funding services.

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## INTRODUCTION

Although any international comparison of health care systems shows great differences in the organisation and financing of health care, its history, and in the social and cultural role accorded to health care, all countries are facing the same problems. These are rising expenditure, increasing demands on government funding, growing consumer expectations, rapidly developing technology, and questions about efficiency. At the same time, funding arrangements which link different sources of finance to different services make it difficult for patients to navigate the system and for providers to co-ordinate care. Perhaps it is not surprising that there has been a major interest in the greater use of competitive forces to drive efficiency gains. The terms 'managed competition' and 'managed care' are used to describe many of these developments. Although they are, at times, treated as synonyms, it is worth distinguishing them. Managed care refers to the arrangements under which a third party, which could be a health insurer or some other holder of a budget for health care, purchases health care services. Managed competition describes competition among insurers for enrollees (Reinhardt 2002). These insurers may use managed care to reduce premiums and ensure quality and thus compete successfully.

In Australia, major health system reform along the lines of managed competition has been advocated by Dick Scotton, one of the architects of the original Medibank (Scotton 1990; Scotton 1999). The ideas have also been taken up by the Productivity Commission (Productivity Commission 2002). During 2003, the Australian Government proposed a greater role for private insurers in the funding of primary care (Australian Department of Health and Ageing 2003a). Although this was only a small change in the role of private insurance and did not approach the 'big bang' reform envisaged by Scotton, it was excluded from the revised proposals (Australian Department of Health and Ageing 2003b). But whether reform is of the big bang or incremental variety, the question of whether managed competition can deliver greater efficiency remains. As Scotton summarised:

The general objective of managed competition is to establish structures in which market incentives can increase economic efficiency – that is, make better use of resources to improve health outcomes and satisfy consumer wants... While managed competition involves the use of market tools to guide resource allocation, it also includes a regulatory framework designed to eliminate sources of market failure found in unregulated markets for health services (Scotton 1999).

The topic of this paper is whether it is possible, given the current state of knowledge and technology, to design the appropriate market structure for managed competition. The next section reviews market failure in the private health insurance market. The subsequent two sections describe the principles of managed competition and its development and application in other countries. Then, the paper outlines recent developments in private health insurance policy in Australia, and proposals to apply managed competition in this country. The required design of the managed competition market place is described, and four major issues, risk adjustment, budget holding, consumer behaviour, and insurer behaviour, are identified. The final sections of the paper review the evidence on these four issues to determine if managed competition can be implemented, given current knowledge.



## PROBLEMS IN HEALTH INSURANCE MARKETS

Insurance for health care arises as consumers face uncertain future events (illness) with the possibility of high payouts (the costs of care for a particularly complex condition can easily be beyond most individuals' ability to pay). Health insurance is actually health care insurance, that is the insurance covers all or partial reimbursement of health care expenses although one can conceptualise health insurance as compensation for a loss in health status, such as a fixed amount paid conditional on the occurrence of some event such as death, loss of a limb. However, most health states are not as readily verifiable as the loss of a body part, so the basis for payment is the use of health services, leading to a much greater degree of moral hazard than in more general insurance markets (Pauly 2000). Another problem with verification, although not generally recognised, (Hall, Viney 2000) is the urgency required for much health care treatment. Providers not only verify the need for treatment, but also the type and extent of services required, and their cost. Providers' incomes are enhanced by insurance – in Australia, as in many other countries the origins of health insurance lie in provider attempts to protect their incomes.

Informational problems also affect the relationship between insurers and consumers. To the extent that insurers have limited capacity to verify health status, and therefore predict future health expenditure, they are subject to adverse selection. However, there are some groups whose high demand for health care is more certain, those with complex, chronic diseases and perhaps in the future those with poor genetic inheritance, and these people will be excluded from the health insurance market. In all developed countries except the US, the exclusion of certain groups from health insurance and health care is simply not tolerated.

The health insurance market is thus subject to failure from a variety of sources, information asymmetries, principal-agent problems, adverse selection, cream skimming, and distributional concerns. In a free market, health insurers' pursuit of profit and survival would not result in socially efficient outcomes. Therefore, in most countries the health insurance arrangements involve a complex, regulatory system with substantial government intervention. These can offer a choice of (often private) insurers under which insurance is usually voluntary; or a public insurance model, either financed by social insurance or by general tax revenue which is compulsory. These models can be further categorised by the relationships between the funder and the providers: integration of the funder and the provider; some contractual arrangement between the funder and the provider which may involve fee for service or capitation payments; or reimbursement of the patient who then pays the provider (Hurst 1991). These may involve varying extents of co-payments, and typically there are some components of services, such as over-the-counter medications which rely entirely on out-of-pocket payments.

## THE PRINCIPLES OF MANAGED COMPETITION

In the face of these complexities, no one is advocating an entirely free market for health insurance but rather a re-design of the regulatory structure and government intervention so that greater competitive forces are used to drive efficiency gains.

The principles of managed competition can be summarised as follows:

- There are a number of insurers in competition and consumers are free to insure with any insurer;
- Insurers will be required to offer comprehensive cover so that all or nearly all health care services are included;
- Insurers will compete on price of premiums, and quality of care providers;
- Consumers will switch insurers to ensure they select the combination of price and quality that maximises their utility.

Under this scenario, insurers bear all or at least the greater share of the risk of health care expenditure. As insurers bear the financial risk for their enrollees' health care use, there are incentives to use different types of services in a co-ordinated and efficient way, without shifting costs from one funder to another, and to limit total service use. In practice, this requires that enrollees sign up to an insurance fund for a reasonable minimum period, typically one year, so that the incentives for the insurer to delay provision of care are limited. Some public health analysts argue that this will actually encourage an investment in health promotion and disease prevention to reduce the future exposure of insurers to health care spending. As the outcomes of most preventive strategies are realised over several years if not decades, this seems somewhat fanciful. However, it is expected that financial risk will be limited by negotiating on provider price and in reducing moral hazard. The behaviour of insurers is expected to generate price competition among providers, thus driving greater provider efficiency. This should not be at the expense of quality, in theory, for the following reasons: poor quality in terms of adverse events and poor outcomes will drive up health care costs; poor quality as perceived by consumers will lead to switching of insurers; and quality in terms of amenity value can be provided at higher premium costs for which consumers can reveal their willingness to pay. Thus, this is likely to lead to selective contracting and preferred provider arrangements, which limit consumer access to providers.

Insurers will also attempt to reduce moral hazard. While moral hazard will arise under insurance because price signals are muted, the health care market is also beset by information asymmetries which may lead to higher health care consumption. Insurers, rather than providers, thus become an agent for the principal-consumer- patient. This will lead to controls on the number and level of services consumers can use, such as controls on hospital stay, limits to diagnostic services, constraints on the prescribing of pharmaceuticals and so on. This is likely to lead to various requirements for second medical opinions, certification of need for admission, and reviews of drugs, tests and other services ordered.

Insurers thus become a third party purchaser of care, on behalf of consumers, using market power and better information to drive efficiencies, both lower costs and higher consumer satisfaction, and perhaps even produce better health outcomes. This is the managed care strategy. However, insurers can also limit their financial exposure by cream skinning so it follows that market regulation must be such that it encourages efficiency rather than gaming.



In theory, under managed competition everyone is better off:

- Consumers can exercise choice and cost-quality judgements that reflect their own preferences. Instead of being forced into a standard insurance package, individual variations in preferences are taken into account and can be exercised.
- Insurance plans are responsive to consumers' preferences. Insurers will improve their market position by providing different packages which meet consumer preferences.
- Physicians and other providers are respected by the insurers who are competing for their participation. Each insurer needs providers to sign up to their contracts, so they must keep the provider as well as the customer satisfied.
- Insurers provide value for money because consumers are cost conscious. Consumers will respond to price signals by moving their business. Those who want more will have to be willing to pay for it.
- Governments provide less from their budgets as the system is more efficient. This reduces the demand on government expenditure, and improves consumer welfare.
- Insurers make a profit,

And perhaps

- Health outcomes are better (though whether this is a matter of social values, individual preferences or marketing is not clear).

## THE DEVELOPMENT OF MANAGED COMPETITION

The Health Maintenance Organisation (HMO), and particularly the Kaiser Foundation Health Plan established in California in WWII, provided a model that was much admired around the world (Sax 1972; Erlich 1975; Reinhardt 2002). The HMO integrated the financing and delivery of health care and took on the financial risk for all the health care needs of its enrollees. As health care costs in all developed countries increased rapidly during the 1970s, the HMO model with its lower per capita health care costs attracted much attention, including in Australia (Cunningham, Williamson 1980).

This also provided the blueprint for Ellwood and Enthoven in tackling the problems of the US system (Ellwood, Anderson et al. 1971; Enthoven 1978a; Enthoven 1978b; Enthoven, Kronick 1989; Enthoven, Kronick 1989). The US, as well as facing the common problems of rapidly rising costs, had no national or universal health cover, and an increasing proportion of the US population could not afford private health insurance, were not covered by employer based plans, or the safety nets of Medicare/Medicaid, and so faced major problems in getting health care. So the US problem was, and remains, how to provide universal cover without substantially adding to the inflationary pressures on total health care spending. Enthoven and others advocated managed competition and managed care as a means by which universal health cover could be achieved and funded from greater efficiencies in the existing system. Health care financing in the US remains a market of competing voluntary insurers, and the most recent attempt to provide some universality, the Clinton health reforms, collapsed. However, managed care has grown dramatically since the 1980s and by the beginning of the 1990s over 70% of insured Americans belonged to some form of managed care plan (Glied 2000). Managed care covers a variety of institutional arrangements, from the traditional HMOs which fully integrate financing and delivery, to selective contracting between insurers and providers. Whilst this growth was no doubt spurred by managed care success in reducing health insurance costs, it was also facilitated by changes in the political and regulatory environment which encouraged preferred-provider arrangements and the enrolment of Medicaid and Medicare beneficiaries in these plans (Glied 2000). During the 1990s, the US experienced modest growth in health care spending, with the proportion of GDP allocated to health care stabilising at around 13% (Marquis, Long 1999; Glied 2000; Reinhardt 2002). However, the last few years have seen a return of the expenditure growth rates of the late 1980s, with health care spending as a proportion of GDP reaching 14% in 2001, 14.7% in 2002, and current forecasts placing it at 17% by 2011 (Heffler, Smith et al. 2002).

The micro-economic reform environment of the UK in the late 1980s also proved responsive to Enthoven's ideas (Hurst 1991; European Observatory on Health Care Systems 1999). The National Health Service had proven a very effective mechanism for controlling total health care expenditure with a system which guaranteed universal coverage. The NHS owned, operated and directly funded hospitals. General practitioners had remained private providers, but were paid on a capitation basis, that is individuals had to enrol with a nominated general practice which they could choose; and the practice was paid a fixed annual sum, based on the age-sex profile of their enrollees, to cover all their general practice costs. After some early consideration of managed competition among insurers, Thatcher's attention turned to the managed care side of the model. The early 1990s reforms involved a major restructure, separating the functions of purchaser of health care and provider of services in the hope of engendering price-quality competition, and allowing some funds pooling for diagnostic, out-patient and minor procedures at the level of the general practitioner. While to some extent the purchaser-provider separation has been maintained along with a much greater extent of GP budget holding, in 1998 the competitive internal market was replaced with collaborative, partnership arrangements (Goddard, Mannion 1998; Le Grand 1999). The development of private insurance alongside the tax financed system has been rejected so far (Department of Health 2000).

New Zealand also attempted to introduce some elements of managed care within a tax-financed, universal health system. The reforms of 1993 also introduced a purchaser-provider split, and funds pooling was established at the level of Regional Health Authorities (of which there were four). By 2000, the purchaser-provider split had disappeared and the spirit of competition had been replaced by one of co-operation.



The Netherlands also proposed a major reform, again influenced by Enthoven (Hurst 1991) with competing insurers under a universal, capped social insurance scheme which would ensure a minimum benefits package. The initial reforms of the early 1990s provided risk adjusted capitation payments to the insurance fund, and allowed for selective contracting between insurers and providers. The inadequacy of the risk adjustment mechanism, collusive rather than competitive behaviour among both insurers and providers, and the limited financial risk to which insurers were exposed, all limited the extent to which the plan was realised. Subsequently, the reforms were modified greatly, moving away from pooled funding and competing insurers. However, more recently, some competition among insurers based on a more sophisticated risk adjustment approach and limited to a basic benefits package has been implemented (Schut, van Doorslaer 1999).

## PRIVATE HEALTH INSURANCE IN AUSTRALIA

The role that private health insurance now holds in the Australian system is often regarded as a peculiarity of our health care system. With the establishment of Medibank and then later Medicare, health insurance moved from a voluntary, private but tax subsidised system to a universal, tax financed scheme. Public hospitals remained owned and operated by the States and Territories. Medicare provides universal cover and encompasses medical care, hospital care and pharmaceutical benefits, including public hospital care at no charge to the patient. Private health insurance is now limited to private in-patient treatment, and some ancillary services such as dentistry, physiotherapy, and some lifestyle and fitness programs and products. However, compulsory community rating was retained. This placed private insurance in a somewhat ambiguous role, as the justification for community rating is equity based, while private hospital treatment could be seen as a luxury option alongside universal access to free public hospital care.

The Macklin review of the Australian health system, commissioned under the Labor Federal Health Minister, Brian Howe in the early 1990s, considered the extent and use of private health insurance, at that time covering about 40% of the population. It noted the ambiguity in the existing arrangements but did not canvas the managed competition option and avoided reaching any definitive conclusion about its future (Willcox 1991). However, this review did give serious consideration given to introducing a purchaser-provider split. No such reform was enacted although there have been gradual changes in the organisation and funding of Australian health services (Hall 1999).

The place of private health insurance remained contested. Prior to the 1996 election, this was the major health policy difference between the two major political parties. The Liberal Party supported the dismantling of universal tax-financed health care and its replacement with voluntary, private insurance. The continuation of Medicare and the expansion of publicly financed health care was associated with the Labor Party but the role of private insurance remained ill-defined. In 1996, the Liberal Party changed its platform to support maintaining Medicare, although at the same time promising more support for the role of private health insurance which had continued to fall in its population coverage. The Liberal Party won that and successive elections and proceeded to implement pro-private insurance strategies (Hall, De Abreu Lourenco et al. 1999).

Although the fall in private insurance coverage was substantial, it is remarkable that insurance coverage remained as high as it did, as Medicare entitles all Australians to free public hospital treatment. Even at its lowest point, over 30% of the population held private insurance (Private Health Insurance Advisory Council 2002). In spite of its voluntary nature, private health insurance has remained highly regulated with a form of community rating and open access mandated, and any rise in premiums requiring Government approval. The private health insurance strategy has comprised a mix of incentives and penalties which by 2003 was costing the Government some \$2.3 to \$2.4 billion each year, or around 7% of the Australian Government expenditure on health (Australian Institute of Health and Welfare 2002). This is justified in pursuit of the objective of giving consumers more choice (Australian Department of Health and Ageing 2003a) At this stage, although the 30% subsidy of insurance premiums has been criticised widely, (Duckett, Jackson 2000) the Labor Party is committed to its continuation.



## THE APPLICATION OF MANAGED COMPETITION IN AUSTRALIA

The notion that managed competition might resolve the problems in the Australian health care system was first advanced by Scotton in 1989, directly influenced by Enthoven (Scotton 1990). Under Scotton's proposal, the public-private mix in both financing and delivery of health care would become more integrated and less fragmented. The current dysfunctional nature of Commonwealth-State financial arrangements, and the periodic disputes over public hospital funding (the five yearly Australian health care agreements) would be resolved. According to Scotton, the features of Australian managed competition would be:

- The Australian Government becomes the funder of all public benefits. This would remove the States and Territories' role in providing funding for health care services. It would also involve pooling all public funding into one pool, thus eliminating the artificial barriers between services that are created by separate funding streams. All of these would be rolled into Medicare entitlements, which are allocated to fund holders as risk-adjusted capitation payments,
- State and Territory Governments become providers of health services, supplying budget holders with services in competition with other providers. This clarifies and distinguishes separate functions for the Commonwealth and the States. States' revenue is derived as any other providers, by competing for service provision contracts with fund holders.
- There are public budget holders, established, supervised and financially guaranteed by State and Territory Governments, who receive publicly financed risk-adjusted capitation payments. The reasoning behind this is not explicit but it seems that Scotton does not intend a dividing line between private and public sectors. So it seems that public fund holders will compete with private fund holders. Presumably, the public funder holders will be the default option.
- Private insurers become budget holders, receiving the same risk-adjusted capitation payments for their enrollees, but also able to charge additional premiums,
- Private providers compete with public providers for the business of budget holders.

Above all, incentives are re-aligned so as to promote efficiency, in terms of least cost methods of production, satisfaction of consumers, and an extra-welfarist perspective on social welfare, maximising health gains (Productivity Commission 2002).

Scotton's description has not covered all of the aspects of market design that would have to be addressed, for example, the minimum benefits package, regulation of advertising, enrolment periods, entry and exit of insurance providers; and he himself has suggested that this is not a blueprint for an implementable model (Scotton 1999). It is this proposal which has attracted the attention of the Productivity Commission as "one of the few coherent and well thought out reform policy prescriptions currently on the table in Australia" (Owens 2002). Therefore, although many variants of managed competition are possible, the rest of this discussion is based on Scotton's framework.

## DESIGN OF THE COMPETITIVE STRUCTURE FOR PRIVATE HEALTH INSURANCE

The required market structure depends on consumers, insurers, health care providers and government playing their allotted roles. Another crucial aspect of market structure is that there are sufficient numbers of insurers and providers to compete. For the provision of primary care, the relevant market is quite a small geographic area. Although hospitals have larger catchment areas, the large capital costs and time required to construct new facilities imposes major entry costs which limit the extent to which new contracts will be contested. Market size is of particular relevance in Australia where population is concentrated in a small number of urban areas.

Governments have to fulfil two functions, one being to establish the overall regulatory environment and monitor market performance, while the other is to ensure some levels of equity through providing public finance and, in the Scotton model, to ensure that there are public budget holders. The equity role is important as without any cross-subsidy across risk classes there will be large variations in premium levels; for example, according to van de Ven and Ellis, unregulated premiums could be as low as 10% of the average premium level in the lowest risk category, ranging to a premium that exceeds the average by a factor of 10 or more, for the highest risk category (van de Ven, Ellis 2000). In Australia, total health care expenditure averages just over \$3,000 per person per annum (Australian Institute of Health and Welfare 2000a), suggesting that high risk premiums could be well over \$30,000 per annum.

Government in its equity role will distribute public finance (ignoring the collection side), by providing risk adjusted capitation payments to the budget holders, both public and private. As this is, in essence, a voucher system, this means that there must be an appropriate and accurate basis for risk adjustment, that is an estimate of the expected health expenditures of individual consumers over a fixed interval of time (van de Ven, Ellis 2000). Without this, private insurers are going to compete for the profitable enrollees, ie the low risks, and thus the outcome is cream skimming behaviour rather than greater efficiency. The issue of whether US HMOs/managed care plans achieved lower costs through risk selection has spawned a large literature (reviewed by Glied 2000) the results are mixed but overall these insurers have been able to enjoy a selection advantage. Further, through careful design of insurance packages, insurers can get consumers to reveal information about their expected use of health care. Should cream-skimming occur under the Scotton scenario, the unprofitable risks would be left to the public budget holders, as the insurers of last resort. But this is unlikely to be a stable situation as the public budget holders will incur higher costs and benefit payouts than the private budget holders; the public budget holders will be criticised for inefficiency and arguments will be mounted that it is unfair to pay public budget holders higher capitation rates than private budget holders, thus encouraging upward pressures on costs.

The insurers as budget holders are responsible for the funds that cover the range of health care services, with greater efficiencies achieved and duplication of services avoided through the co-ordination of care. As the insurance package is intended to offer comprehensive cover, regulations are required to ensure insurers do not exploit uninformed consumers. A common response to this is to specify the minimum benefits package but this reduces the dimensions on which insurers compete. At the extreme, it eliminates a strong role for consumer preferences by making all funds compete on essentially the same package.

Consumers play a crucial role in driving the greater efficiency of the system. They must be able to choose rationally across insurers and to do that, they must be well informed about the costs, comprehensiveness and quality of the insurance plans offered. They must also know their own risk status, and their own preferences, including their willingness to pay for insurance coverage over what is obtainable with their voucher. In knowing their willingness to pay, they must consider additional insurance premiums and co-payments at the point of service use. It is worth noting that many consumers will be poorly informed about the health care market, and have not had substantial experience in obtaining health care until they face a complex acute illness or some ongoing condition. Another aspect of consumer choice is whether insurance, at least for some minimum benefits package is compulsory, or whether consumers can choose to remain uninsured.



Insurers are also purchasers of care and as such, they need to be able to set optimal contracts, and negotiation on price and quality with the providers. Informed purchasers need to be able to monitor the appropriateness of care, and its quality. This will also require understanding of incentives and the behavioural response of providers. In response, health care providers must be prepared to compete. Le Grand has argued that it is difficult for providers to change their behaviour in a context where effective service provision depends on relationships of co-operation and trust (Le Grand 1999).

Finally, government in its regulatory role must determine the overall structure of the market place. There are a myriad of details to be determined. Among the important are: preferred contractor provider arrangements and vertical integration versus anti-competition regulations; the extent of co-payments; the extent to which re-insurance or co-insurance arrangements are permissible; and solvency of insurers, whether private insurers will be allowed to go bankrupt, and what happens to their enrollees if they do. This is last is not a trivial issue, given recent reports of phoney insurers and insurance bankruptcies in the US leaving millions of dollars of unpaid medical bills and hundreds of thousands of people with no insurance (Kofman, Lucia et al. 2003). It would be useful if governments knew something about how the ownership of insurance organisations will affect their behaviour, particularly as under Scotton's plan one level of government provides the risk adjusted capitation while another supports the public budget holder – insurer of last resort. There would also, in an ideal world, be some type of evaluation framework so that market performance can be monitored, in all of the aspects already mentioned, plus the additional costs of administrative structures.

A well structured market for private health insurance, then, has to be able to deal with both these design issues and to result in sufficient behaviour change so that consumers, insurers and providers act as the design intends. The most crucial issues are: whether adequate risk adjustment mechanisms exist; the extent to which funds pooling or budget holding will generate improved care, and as a related issue, the size of the risk pool required; how consumers operate in the face of choice of health care plans, and how these arrangements affect consumer satisfaction; and whether Australian health insurers are likely to be able to engender competition among providers, which requires both the appropriate behavioural response from providers, and a sufficient market size to allow sufficient numbers of insurers and providers for competition.

## THE EVIDENCE ON RISK ADJUSTMENT

In a competitive insurance market, insurers would discriminate on the basis of risk and premiums would be set accordingly. Risk adjustment would be the concern of the insurer. Low risks would face low premiums; high risks would face high premiums and may be priced out of the market. However, under managed competition government will subsidise high risk premiums so that the out-of-pocket premium consumers face is more related to their choice of insurance coverage rather than their risk class. Therefore government must provide each individual with a risk adjusted voucher or entitlement. The appropriate risk adjustment mechanism is absolutely essential to the operation of managed competition. According to van de Ven and Ellis: (van de Ven, Ellis 2000)

Without adequate risk adjustment it is hard, if not impossible, to achieve both efficiency and fairness objectives in a competitive health plan market.

If there were a simple relationship between health status and the use of health care, then for any given health state, there would be a corresponding use of health care services all of which would be necessary and appropriate. There would be no need for risk adjustment as all observed health care use would be appropriate, and the funder could reimburse all service use. However the large literature on medical practice variations and the under or over-utilisation of health care demonstrates that this is not the case.

There could still be variations in observed expenditure even with no differences in observed use due to differences in the cost of the factors of production, or in providers' capacity to secure rents. Providers can influence costs through influencing use also; as consumers are typically poorly informed, there are principal-agent problems here. To some extent, there will be differences in the demand for health care, driven by socio-economic factors such as consumer preferences, and social circumstances. As an aside, the role of the family and other social networks in the production of health and health care is rarely acknowledged and less understood. Further, under any form of insurance, moral hazard comes into play so that observed use is influenced by insurance coverage. Underlying all of these factors, consumption of health care is valued for not its direct contribution to consumer wellbeing but for its contribution to improved health so that age, sex and health status are important explanatory factors in health care utilisation. Finally, the occurrence of illness and accidents is largely random at the individual level. The result is that health care expenditures are characterised by large variation, both predictable and random (van de Ven, Ellis 2000).

Random variation at the individual level is addressed by risk pooling. The efficiency gain for competitive insurance requires insurers to compete on price, quality and service coverage, rather than seeking an advantage by selecting good risks. The role of risk adjustment is not to explain perfectly all the observed variation in health care expenditure at the individual level but rather to eliminate the potential for cream skimming. The issue for the predictable component of expenditure is whether the insurer can predict risk category better than the government rate setting process. Insurers may be able to do so, if they hold more detailed information than the government, or if they can induce the consumer to reveal their risk status indirectly. Therefore, the feasibility of the data requirements, what is practical to collect from consumers and insurers, of any risk adjustment technique must be considered. An associated issue is the incentives inherent in reporting; where some diagnostic category or previous health service use is taken into account, there are incentives to upgrade the reporting and/or usage to more profitable categories. In addition, in regulating what types of insurance contract can be offered the opportunity for insurers to gain risk information should also be taken into account. Good risk adjustment will ensure that the costs of cream skimming exceed its profitability (van de Ven, Ellis 2000).

Further, the function of risk adjustment is normative, that is, it is required to meet the social solidarity objectives of health insurance, then there should, conceptually, be some definition of what the appropriate or acceptable costs are that should be covered. To some extent, defining what is acceptable can be approached by limiting what is included in the benefits package; for example, cosmetic procedures, or more contemporary examples in our setting are elective circumcision, or gym membership. But conceptually, defining the acceptable requires specification not just of the service but who gets it and under what circumstances.



The empirical work on risk adjustment has most commonly focussed on predicting actual expenditures. Predictive accuracy varies with the population considered (older people and those with chronic illness have more predictable expenditures), the types of services (pharmaceuticals and outpatient services), the time for which data are available (more recent data), and the length of time over which expenditure is being predicted (longer periods). Predicting 100% of actual expenditure is neither possible on current models, nor indeed desirable as discussed above; predictive accuracy of current models is far less than 100% and more likely to be around 20% (van de Ven, Ellis 2000). There has been limited research on risk adjustment in Australia; using NSW data and diagnostic information, Donato and Richardson report predictive results of around 6% (Productivity Commission 2002).

There are strategies to lessen the impact of poorly performing risk adjustment models on selection issues and insurance fund viability. These include various arrangements for reinsurance to cover those individuals who do incur comparatively high expenditures. Such arrangements currently apply in Australia for all privately insured patients over the age of 65 admitted to hospital, or younger insured patients with more than 35 days in hospital (Department of Health and Ageing Private Health Insurance Branch 2003). However, by applying reinsurance to the high use, high expenditure group, the incentives for individual funds to better manage this group are muted. There is a trade-off between appropriate incentives and fairness.

Risk adjustment can also be used as a research tool, and in allocating funds to population groups. Pooled funding for population groups is discussed in the next section.

## THE EVIDENCE ON BUDGET HOLDING

The appeal of budget holding is that it offers more appropriate incentives than fee-for-service or cost reimbursement. The budget holder shares the financial risk with the funder of care, and therefore has an incentive to ensure that optimal care is delivered. Skimping on quality and/or quantity of service provision should be avoided as this will lead to poorer health outcomes which will require further expenditure on services. Under managed competition, the budget holder is an insurance fund. However, other variants of this provide for budget holding for defined population groups without explicit competition, and the budget holder may be purchaser or a provider of care. For example, in the UK General Practices hold budgets from which they purchase diagnostic services, pharmaceuticals, specialist treatment and hospital admissions. Individuals must be registered with a general practice and have some choice of the practices available in their local area, but explicit competition between practices is not part of the strategy. In Australia, the Area Health Service model, in which a health authority has responsibility for a population group defined on its place of residence, has been considered as a possibility.

Fund holding also requires the appropriate risk adjustment mechanisms. However, once competitive insurance is excluded, the incentives and opportunity for cream skimming are much reduced. What is required is that the risk adjustment works fairly at the population or group rather than individual level, and so the precision required is far less. It is important that the group size is sufficient to give an adequate spread of risks, but small enough for there to be a recognised opportunity cost in resource allocation.

As already noted, the development of managed care plans in the US since 1992 has been associated with a constraint on expenditure growth. The extent to which this has been due to, rather than coincident with, budget holding has been a focus for research since the advent of interest in HMOs. Historically, HMOs have had a healthier population of enrollees so the extent to which lower costs are driven by cream skimming versus better management of care is an important question. Studies on resource use yield mixed results; some show lower utilisation and costs even after controlling for selection bias while others show no difference (Miller, Luft 1997). However, even where savings are achieved, these seem to be one-off gains with no long term change in expenditure growth rates (Marquis, Long 1999). Caution must be exercised in interpretation as the form of the budget holding organisation, the enrollees, and the categories of services covered all differ. Further, the period from 1992-3 to 1999-2000 was also marked by a more active purchasing role in health insurance (in the US most private insurance is paid as an employment benefit and so employers negotiate insurance contracts) and by excess capacity in the doctor and hospital markets (Miller, Luft 1997). Even with these caveats, the results do not necessarily apply to other countries for the US health system, with its high levels of utilisation and prices, presents an opportunity for what Reinhardt calls the bounty-hunters (Reinhardt 1996).

GP fundholders in the UK did appear, at least in the first wave, to achieve cost containment in that most came in under budget (Glennerster, Matsaganis et al. 1994). However, GP practices self selected into the trial scheme and budgets were probably set generously. The scope of the budgets and the number of practices included has been extended over time; now GPs are organised into 303 Primary Care Trusts which will eventually be responsible for 75% of the NHS budget. Overall, it is difficult to judge from this the effect of primary care budget holding on cost containment, as at the same time there has been a marked increase in the resources committed to the NHS with the most recent NHS Plan providing for 6.3% increase in funding from 2000 to 2004. It is clear that the various NHS reforms, including the purchaser-provider split between the health authorities and the hospitals, have resulted in a large increase in transaction costs.

In Israel, a trial of budget holding in primary care has shown success in cost containment, with expenditure under budget holding increasing by 12.5% per capita over a three year period compared to 70% in the non-budget holding group (Gross, Nirel 1997). The trial period is too short to ascertain whether this can be sustained in the long term, but even within the three years there is evidence that the differential in cost increases reduced over time.



The most important evidence on this issue to Australia comes from a number of demonstration projects, the Co-ordinated Care Trials, which were established in the mid 1990s. The Trials combined the funds from medical benefits (for which the Commonwealth is the source), pharmaceutical benefits (Commonwealth), public hospitals (States and Territories), and the community health program (also States and Territories) for a defined group of individuals with some form of chronic condition under an agency which was responsible for co-ordinating and managing their care (Duckett 2000). The demonstration and evaluation is the largest health services research project yet mounted in Australia. Evaluation results were equivocal in terms of whether outcomes were improved and costs were reduced, but a number of the trials were not financially viable (Commonwealth Department of Health and Aged Care 2001). The budgets were notional rather than real, and the care co-ordinator was not at any financial risk, so the incentives were muted. This is not conclusive evidence that there is no benefit to be gained from funds pooling in Australia, but it certainly does demonstrate that greater efficiency or lower costs are not simply attained by combining funds from different sources under one case manager.

Cross-country comparisons of health care expenditure also throw some light on how the organisation of health care services might affect levels of health care expenditure. Overall spending control has been achieved best in those countries with a strong, ie single, public funder responsible for both funding and provision of health care (Gerdtham, Jonsson 2000). Insurance systems with multiple contracting arrangements have higher administrative costs. Strong funder organisations are also able to exert pressure on provider prices; the extreme example is the US where much of the higher spending on health care is due to higher provider incomes rather than increased consumption of services (OECD 2000; Anderson, Reinhardt et al. 2003).

## THE EVIDENCE ON CONSUMER CHOICE AND SATISFACTION

US style managed care has a poor popular image that has extended to Australia. The impression is one of unsympathetic, untrained and unknown persons denying useful care to those unfortunate enough to be severely ill or disabled (Harris, Ripperger et al. 2000; Robinson 2000; Gold 2003). The evidence from systematic attempts to measure consumer satisfaction from the US, as for other aspects of managed care, is mixed, both in general, and for low income groups and those with chronic care (Miller, Luft 1997).

There has been substantial research into the factors affecting consumer decisions on insurance, using qualitative approaches, and choice modelling using both revealed and stated preference data (Scanlon, Chernew et al. 1997; Chernew, Scanlon 1998). The factors that have been consistently shown to influence choice are the cost of insurance, the extent of services covered, the choice of doctors, and quality (Chakraborty, Ettenson et al. 1994; Isaacs 1996; Scanlon, Chernew et al. 1997; Tumlinson, Bottigheimer et al. 1997). While insurers have responded by providing more information on plan performance, consumers report difficulties in understanding the information presented to them (Gibbs, Sangl et al. 1996; Jewett, Hibbard 1996; Tumlinson, Bottigheimer et al. 1997). Consumers also report that choosing an insurer is difficult and frustrating (Sainfort, Booske 1996). In one study, only 30% of respondents were able to accurately report the main features of their health insurance plans (Cunningham, Denk et al. 2001); and in another 67% of enrollees in a Preferred Provider Organisation (PPO) did not understand the difference between that form of insurance and fee for service coverage (Isaacs 1996).

If many consumers find it difficult to understand the features of the health insurance system, and the information presented to them on individual insurance packages, do they nonetheless change insurers? Davis and Schoen found in a large study of US working age adults that most changes of insurer were initiated by changes in employment or eligibility, or by the employers' decisions to change insurers rather than individual decisions (Davis, Schoen 1997). Further, these authors report that half the respondents said that changing insurance plans involved changing doctors and that this would discourage switching. The relationship between insurance and employment that is a feature of the US system is not proposed in Scotton's Australian model, and so caution must be exercised in extending these results. Nonetheless, the body of evidence suggests that consumers find it difficult to understand health insurance and information on insurance plan performance, and as a result may be reluctant to change insurers

## THE EVIDENCE ON HEALTH INSURERS

It is not only consumers who must act as informed purchasers, so also must insurers.

The Australian private health insurance industry has long been criticised as a passive conduit of money from consumers to providers rather than active purchasers on behalf of their enrollees (Willcox 1991). It can be argued that their capacity to act has been constrained by the regulation imposed upon them. However, since 1995 legislative changes have been enacted to encourage more active management of costs, through negotiation with doctors and hospitals on price, and to allow selective contracting, and to encourage the provision of no-gap products (Hilless, Healy 2001). This has been accompanied by incentives for private insurance which have resulted in a large increase in the proportion of the population with insurance. The aim of increasing population coverage was to reduce the risk profile of the insured, particularly by attracting younger enrollees. However, data on the hospital use of the insured population shows that hospital admissions and hospital bed-days per insured person have stayed roughly the same, while the benefits paid per day have increased by 44% since 1999.

Finally, competing insurers are associated with higher overhead costs, in administration and advertising. This last is significant as shown by a number of comparative studies across countries, most recently in a comparison of the UK NHS with Californian managed care (Feachem, Sekhri et al. 2002). In the latter, administration and marketing took 4% of gross revenue, while profits accounted for 5%, items which are not incurred in a single payer, non-profit system. The recent expansion of private insurance in Australia has been associated with large increases in management costs, a real average increase of 14.3% per annum since 1996-7, compared to 4.3% for the six years previously (Australian Institute of Health and Welfare 2000a).



## CONCLUSION

Modern microeconomic theory has been used to design new markets of which the spectrum license auctions are the outstanding success (McAfee, McMillan 1996; McMillan 2003). However, the more complex the market and the broader the range of products and set of transactions it encompasses, the more difficult it is to apply theories of competition. The sources of market failure in health care and health insurance include information asymmetries, widespread uncertainties, systematic differences in health status which affect both the demand and the ability to benefit from health care, and broad equity concerns. On top of these, health care is expensive, typically accounting for over 9% of GDP in developed nations.

The design of a competitive market for health insurance requires four major aspects to be addressed. First, the appropriate risk adjustment mechanisms must exist, so that there is competition on process and quality, not just for selection of enrollees. Second, there should be some advantages from pooling the various sources of health care funds in terms of efficiency and cost containment. Third, consumers must behave rationally and so they must be able to understand how to judge differing insurance performance, use this information in forming their preferences, and act to change insurers as a result. Fourth, insurers must also change their behaviour to become active purchasers and negotiators on behalf of individuals as patients and the insured population as a group.

On risk adjustment, although there has been substantial development in approaches particularly over the last ten years, much health care expenditure remains unpredictable. Unpredictability is an inherent problem in forecasting the demand for health care, if it were not there would be no need for insurance. However, it is clear that variations in health care expenditure are not all driven by health status, and so determining what variation is appropriate remains a crucial issue unless the status quo is accepted and prediction is validated by observed expenditure. In this case, one might well (and with much less effort) revert to full cost reimbursement. The central issue here, though, is not whether perfect prediction is possible but whether information asymmetries are sufficient to ensure that insurers will not be able to cream skim by selecting good risks. This condition has to be met for competitive insurance to be efficient and to maintain equity. It seems that with the current techniques concluding that information asymmetries do not matter is brave.

Funds pooling is being selectively applied far more widely than managed competition. Although this still requires the use of risk adjustment, where there is no choice of insurer by consumers, or enrollees by insurance funds, there is limited opportunity for cream skimming. The evidence on funds pooling is mixed. While it seems to hold some possibility for improving efficiency, it is clear, particularly from the Australian experience, that achieving improved care and lower costs is not a simple matter of rolling the various funding sources together.

Consumer behaviour is also a crucial issue as it is consumer decision making that will drive efficiency in this competitive market. On the evidence to date, it can be said that consumers find it difficult to understand health care insurance, difficult to assess insurers' performance, time consuming to have to make decisions on this issue, and more likely to stay with the status quo.

Similarly, the behaviour of insurers is also crucial in driving improved efficiency. There is no evidence yet that Australian insurance funds have the capacity to become better purchasers of health care. Yet multiple insurers are associated with higher administrative costs. At the same time, the monopoly power of a single payer is diluted, with a consequent flow on into higher provider incomes.

So the answer to the question posed in the title of this paper is negative. However, the issues involved present a complex and varied research agenda.

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