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The Productivity Commission

The Productivity Commission, an independent Commonwealth agency, is the Government's principal review and advisory body on microeconomic policy and regulation. It conducts public inquiries and research into a broad range of economic and social issues affecting the welfare of Australians.

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Foreword

In March 2002, the Productivity Commission and the Melbourne Institute of Applied Economic and Social Research jointly convened a Health Policy Roundtable in Melbourne. The Roundtable drew together thirty leading practitioners and analysts covering key health policy issues.

The topics included international developments in health policy, cost pressures in health care systems, access and service delivery, supplier-induced demand and occupational regulation.

This report has been prepared to enable wider dissemination and consideration of the insights that emerged from the Roundtable and to guide future policy development and research in this important area. It includes the papers prepared for the Roundtable, as well as the responses of discussants and summaries of the general discussion in each session. Also included is a summary of key points raised during a concluding panel discussion review session.

The Roundtable papers inspired a robust discussion of emerging issues in health policy, including the challenges associated with harnessing market incentives to improve the delivery of health services. In response to this, the Commission has organised a follow-up Workshop in August to examine practical issues associated with Richard Scotton's 'managed competition' proposal for Australia's health care system.

We are grateful to everyone who participated in the Roundtable, particularly those who prepared papers. Special thanks go to our two overseas participants — Alan Maynard (University of York) and Tom Rice (University of California – Los Angeles). We are also grateful to those who assisted in organising the Roundtable and assembling this volume.

Finally, it should go without saying that views expressed in this volume should be attributed to the individuals concerned, not our two organisations.

Gary Banks
Chairman
Productivity Commission

Professor Peter Dawkins
Director
Melbourne Institute of Applied
Economic and Social Research

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Acknowledgments

Ian Monday and Helen Owens from the Productivity Commission and Peter Dawkins from the Melbourne Institute had primary carriage for organising the Health Policy Roundtable. Ian Monday also assisted in running the Roundtable and assembling this volume, with the support of Anthony Housego and Gary Samuels. Roberta Bausch, Gwendoline Bennett and Barbara Hulse provided valuable administrative support.

Abbreviations

ACCC	Australian Competition and Consumer Commission
ADGP	Australian Division of General Practice
AHS	Aboriginal Health Service
AIDS	Acquired immune deficiency syndrome
AMA	Australian Medical Association
AMWAC	Australian Medical Workforce Advisory Committee
AWE	Average weekly earnings
BUPA	British United Provident Association
CABGs	Coronary artery by-pass grafts
CGC	Commonwealth Grants Commission (Australia)
CON	Certificate-of-need (United States)
DALYs	Disability-adjusted life years
DCI	Defined Contribution Insurance
DHAC	Department of Health and Aged Care (Australia)
DRG	Diagnostically Related Group
EBM	Evidence-based medicine
EU	European Union
FDA	Food and Drug Administration (United States)
FFS	Fee-for-service
FTE	Full-time equivalent

GDP	Gross domestic product
HIC	Health Insurance Commission (Australia)
HMOs	Health Maintenance Organisations (United States)
IC	Industry Commission
IT	Information technology
MBS	Medical Benefits Scheme (Australia)
MIAESR	Melbourne Institute of Applied Economic and Social Research
MSAs	Medical savings accounts
MSB	Marginal social benefits
MSC	Marginal social costs
MVPS	Medicare Volume Performance Standards (United States)
NCP	National Competition Policy
NHS	National Health Service (United Kingdom)
OECD	Organisation for Economic Co-operation and Development
PBAC	Pharmaceutical Benefits Advisory Committee (Australia)
PBS	Pharmaceutical Benefits Scheme (Australia)
PC	Productivity Commission
PHI	Private health insurance
POS	Point-Of-Service (United States)
QALYs	Quality-adjusted life years
RCT	Randomised control trial
R&D	Research and development
SA	South Australia
SID	Supplier-induced demand

SMRs	Standardised mortality ratios
TPA	Trade Practices Act
UK	United Kingdom
US	United States
UM	Utilisation management
USDA	United States Department of Agriculture
VHI	Voluntary Health Insurance
WA	Western Australia
WHO	World Health Organization

PART A

INTRODUCTION

1 Introduction

Gary Banks
Productivity Commission

Welcome to this two-day Roundtable on Health Policy. The Productivity Commission and its co-organiser, the Melbourne Institute of Applied Economic and Social Research, have been very fortunate in attracting such an eminent and expert group of analysts and advisers. That no doubt has much to do with the importance of the topic to the future wellbeing of Australians; and to general concern about whether current policy settings are up to the job.

The immediate backdrop to today's gathering has been yet another 'crisis' — as the newspapers like to put it — in private health insurance. Like Oliver Twist, the health funds felt obliged to ask for 'more please' and got a similar rebuke (at least initially).

Just when many people thought things had been fixed, or had at least settled down, questions are once again being raised about the cost-effectiveness and sustainability of our hybrid system of public/private funding and provision of health care.

Similar issues back in 1996, though perhaps closer to a real crisis then than what we've just observed, led the Government to ask the Commission to conduct a public inquiry into *Private Health Insurance* (IC 1997). That inquiry became a focus for what could be described as a public catharsis, as people poured out their concerns about the inefficiencies and inequities of the system, ranging well beyond the inquiry's assigned limits of the private health insurance component.

As you know, in its report, the Commission recommended, among other changes, the implementation of a new form of *lifetime* community rating, to address the adverse selection problems that were destabilising the system in a vicious cycle of membership decline and premium rises. Since that new rating system was introduced, membership has turned around to a remarkable extent (suprising even us) and the previous escalation in premiums appeared to have been moderated.

Nevertheless, the Commission had anticipated that its recommendations could only be a stop gap. We concluded from our review of the alternative models of health

care reform that the role of, and problems faced by, private health insurance cannot be separated from the system as a whole. In a concluding flourish we observed that (IC 1997, p. l):

> Private health insurance is a cog in a machine. One can burnish the gears of that cog, but ultimately its performance and functioning depend on the rest of the machine. There are grounds therefore for looking at other aspects of the health system through a wider public review.

Notwithstanding a call by the heads of all States and Territories in August 1999 for the Commission itself to undertake such a national review, that recommendation was one of the few to be rejected.

Since then, the Commission has necessarily pursued other priorities, including a series of major inquiries into the regulation of Australia's essential infrastructure and a key one on broadcasting (the subject of ongoing Parliamentary debate). And we currently have some important reviews underway into the Job Network and Automotive Industry Policy, among others.

But the issues in health policy which we previously identified are not going away and continue to demand systematic consideration. The Commission has therefore sought an appropriate opportunity to contribute further to this objective. By holding this forum on some core underlying issues early in the all too brief electoral cycle, we can hopefully contribute to building momentum for an informed and productive policy discussion that will in time produce results.

In seeking a co-sponsor, the Melbourne Institute came readily to mind. Its research interests embrace a range of economic and social policy topics in which the Commission has a role, and its 'hard headed, soft hearted' approach accords with our own views on the contribution that economic analysis can make in complex policy areas such as education and health. Apart from the writings of its researchers on health issues, the Melbourne Institute organised a workshop on health economics in May last year. And of course we have had the benefit of earlier collaboration in the conference on the *Policy Implications of the Ageing of Australia's Population*, which produced a much-cited volume of proceedings (PC and MIAESR 1999).

As in that previous project, we will be jointly publishing the papers from this Roundtable, with summaries of the discussion, in a volume that will appear later in the year. That publication should enable wider dissemination of the insights that emerge from within these walls and contribute to a wider public discussion, as well as guiding further research.

That said, to encourage the expression of 'frank and fearless' views over the next couple of days, Chatham House rules will apply; that is, views and ideas may be cited, but without attribution to individuals.

As mentioned at the outset, we have been very fortunate in the line-up of speakers and participants at this Roundtable. We are grateful to those who have prepared papers and commentaries. And we are particularly grateful to (and warmly welcome) our participants from overseas: Alan Maynard from the University of York in the United Kingdom and Tom Rice from the University of California, Los Angeles.

Before introducing Professor Maynard, who will speak in the opening session, I would like to ask Helen Owens to explain a bit more about the coverage of the Roundtable and the issues that underlie it.

I am sure that Helen will be well known to most of you, not only as a Commissioner at the Industry Commission and now Productivity Commission for 9 years, but also as a distinguished health economist and analyst in her own right. At the Commission, among her achievements, Helen headed an inquiry into the pharmaceutical industry and worked closely with me and Dr Brendon Kearney on the Commission's Private Health Insurance inquiry. I might note that she has also helped me up a steep learning curve in understanding the special complexities of this key area of public policy.

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2 Opening remarks

Helen Owens
Productivity Commission

It is also with great pleasure that I welcome you here today.

As you can see from your program we intend covering a fairly eclectic range of underlying health policy issues over the next two days.

The program was developed jointly by the Melbourne Institute and us as a means of prompting what we expect to be a lively discussion and debate on key issues facing Australia's health sector, that is the looming cost pressures, major concerns about equity of health care and surging medical workforce issues.

We are interested in identifying some of the systemic problems facing our health system and the potential of further reform.

In doing so we thought it would be useful to learn how some of these issues are currently being tackled in other countries and so invited Alan Maynard and Tom Rice to bring us up to speed on recent developments offshore.

For many observers the direction of reform elsewhere can seem somewhat confusing. It has been noted by analysts such as Abby Bloom (2000) and Claudia Scott (2001) that:

- in countries that have traditionally relied on markets, attempts have been made to extend insurance coverage, through either public or private mandated financing arrangements, while using regulatory instruments to improve equity and access in service delivery;
- while other countries which have relied on centralised public arrangements have introduced financial incentives and market like pressures in an effort to improve efficiency and quality of care; and
- some see these apparently contradictory trends as evidence of a 'convergence' in health policy settings. Even so health systems continue to exhibit considerable diversity in their underlying funding, delivery and regulatory arrangements.

Australia, with its mixed public/private system, has been 'burnishing some of the gears of the cog' with improved financial incentives in the public system (eg. via casemix funding) and private system (eg. via lifetime community rating in private health insurance) and strengthened regulatory instruments (eg. reforms to medical workforce planning via AMWAC and ACCC interventions).

While some of these incremental reforms have been worthwhile, as Gary has noted, many of the big issues facing our health system remain.

The question arises as to whether we continue along the path of incremental reforms, patching over the problems as they arise, or whether it is time to consider major surgery.

The answer depends on our view as to the seriousness of the current and future problems and the inherent stability or otherwise of our health system.

So what are some of the problems we currently face?

Spending on healthcare has increased significantly from 4.3 per cent of GDP in 1960-61 to 8.5 per cent of GDP in 1999-00 and is expected to continue to rise significantly over the next 30 to 40 years as a result of further advances in therapeutic knowledge, rising consumer expectations and (arguably) the ageing of the population. For example, it has been estimated that health expenditure as a proportion of GDP could rise as high as 19 per cent by 2041.

Commonwealth Treasury (cited by OECD)	-	15-19%	2041
National Commission of Audit	-	17%	2041
Access Economics	-	14%	2031

Nevertheless, in 1998 Australia still ranked well below the US (13.6 per cent of GDP), Germany (10.6 per cent), Canada and France (9.5 per cent), and some would argue that many Australians may be willing to spend more of their growing income on health in future.

Spending is also rising in per person terms — by 50 per cent between 1990–98 — at a higher rate than many other OECD countries including US, UK, Canada, France, etc. This is driven in part by increases in the number of medical services provided per person, rising from 8.5 to 10.6 over the decade to 1999 and a significant increase in pharmaceutical spending (the cost of the PBS increased by around 20 per cent in 2000-01).

The Commonwealth's share of funding has increased significantly (over three years to 1999-00 from 44 per cent to 48 per cent) and can be expected to continue rising, in part reflecting the influence of uncapped programs – PBS and 30 per cent private health insurance rebate.

To these financial trends can be added significant concerns about the health status of Indigenous Australians – they still have significantly lower life expectancies and much higher levels of morbidity covering a wide range of health problems and diseases.

- Life expectancy at birth was just 54.4 years for SA males in 1997–99, compared with 76.4 years across all SA males.
- Overall Indigenous mortality rates and Indigenous infant mortality rates were 2 to 3 times the national average in 1999.

Indigenous people have lower access to MBS and PBS programs, partly offset by higher usage of public hospitals and targeted programs.

People in rural and remote areas also have higher illness and mortality levels and some face serious problems in accessing medical services (as reflected in the recently released AMA survey of general practitioners).

Piecemeal performance indicators and anecdotal evidence suggest that quality and safety in our health care system leave a lot to be desired. The 1996 Quality in Australian Health Care Study (Australian Health Ministers' Advisory Council 1996) estimated adverse events accounted for 3.3 million bed days a year, of which 50 per cent were potentially preventable (accounting for 1.7 million or 8 per cent of hospital bed days a year). The Austin Hospital has been brave enough to conduct a study and publish its results (Bellomo et al. 2002) which showed that between December 1998 and March 1999 nearly 17 per cent of patients undergoing major surgery died or suffered major problems, including heart attacks, blood clots and renal failure (although without ongoing quality performance measurement it is difficult to put this information in a proper context).

The health sector in Australia is also lagging behind other sectors in using information technology — much information flow is still paper based (patient records, prescriptions) and we have been slow in building a secure health network to assist with information flows and quality assurance activities.

And finally, we have a split of responsibilities between Commonwealth and state governments which continues to promote complexity, inefficiency and cost shifting and hinders the proper integration of health programs and coordinated care.

In Australia, the health policy debate has centred on a plethora of issues, ranging from the very broad to very specific. For example:

- What is the main objective of health policy – promoting efficiency or 'fairness first'?
- Is private health insurance a complement or substitute to the universal Medicare system?
- What is the right amount to spend on health?
- How significant are the ageing of the population and the shift in emphasis to the private sector as future cost drivers?
- Are the rising costs of health care a sufficiently serious problem to warrant systemic change to our health system?
- Should individuals be able to opt out of Medicare into compulsory private insurance?
- Should a managed competition model or managed care using intermediaries be considered?
- To what extent should the government regulate and/or provide financial support to private health insurance via the rebate, or provide more resources to public hospitals?
- Topically, should insurers be free to raise their premiums as necessary to sustain their business?
- Should so-called 'lifestyle' drugs, such as Viagra, be covered under the PBS?

Most of the debate on such issues has taken place with the expectation that Australia will retain a mixed public/private system. Radical reform options such as moving to a fully privatised 'market' system or to a fully public system are not on the radar screen in Australia or most other OECD countries. Even the relatively free market US system funds a substantial share of total health care through taxes (Medicare and Medicaid) and has a morass of regulations governing financing and operations.

Recognising the diffuse nature of the health debate, both in Australia and internationally, we have chosen just four overriding themes for this Roundtable.

Our first speaker Alan Maynard will discuss International Developments in Health Policy — Barriers to Evidence-Based Policy Making in Health Care. Given the broad sweep of reform internationally over the last decade it is timely to reflect on what Australia might learn from the different approaches adopted. This is not to say that there is a 'magical solution' we can import from elsewhere, although we have done so successfully in the past (eg. the Medicare model).

From there we can consider what factors are driving these reforms. One common factor is the cost pressures evident in many health care systems — the subject of the second session this afternoon. Our other overseas speaker, Tom Rice, will provide his insights on these pressures, why cost control is important, as well as some strategies to address rising costs.

Among the potential supply-side drivers of cost increases are the number of doctors in the system. The morning session tomorrow will consider the operations of the medical workforce market and implications for the cost and quality of medical service provision.

Ian Monday will provide a background paper revisiting the familiar, but still controversial, debate on supplier-induced demand and its potential contribution to cost pressures. This is an underlying issue in system design, underpinning the role of government in financing, service provision and regulation (through, for example, the AMWAC).

The question arises as to the extent to which the government needs to focus attention on supply side, via occupational regulation of doctors, as well as on demand side measures. Jeff Borland will review the distinctive features of medical workforce markets and discuss policy options for reforming the entry process for specialists.

In order to avoid what Jeff Richardson refers to as an unbalanced emphasis on efficiency or the 'efficiency first paradigm' we have devoted the latter part of today to a session on access and service delivery. Gavin Mooney is our speaker for this session. He will discuss some of the problems in promoting equity as a major objective in Australia and will provide food for thought by advancing a new approach to equity – communitarianism.

Finally we will be asking a panel in the final review session to reflect on the preceding discussions and identify key areas and priorities for future research. As Gary indicated our goal is to contribute to an informed debate and 'evidence-based' policy development in this important area.

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PART B

INTERNATIONAL DEVELOPMENTS IN HEALTH POLICY

3 Barriers to evidence-based policy making in health care

Alan Maynard
University of York

3.1 Introduction

> A scholar ought to be tolerably open minded, unemotional and rational. A reformer must promise paradise if his reform is adopted. Reform and research seldom march arm in arm.
>
> George Stigler (1966), Nobel Prize winner in economics.

Countries worldwide, both developed and developing, are wrestling with similar problems in relation to the performance of their health care systems despite the diversity in funding arrangements and differences in local provider and consumer cultures. Generally, they struggle to maintain macro-economic expenditure control (the subject of a separate paper by Tom Rice in this publication) and improve their performance in terms of efficiency and equity.

These latter goals require careful definition. Efficiency necessitates the valuation of what is given up (the cost) and what is gained, in terms of improvements in duration of life (reduced mortality) and improvements in health-related quality of life. The costs and benefits of competing diagnostic, therapeutic and rehabilitative interventions have to be ranked and, if the aim of the health care system is to maximise improvements in the length and quality of life of the population, scarce resources have to be targeted at those interventions which give the greatest health gain per unit of cost (Maynard and Bloor 2001). This social ethic may, however, be inconsistent with the individualist ethic of the doctor and require a strict governance mechanism in public health care systems (Maynard 1997).

Equity can be defined in a number of ways and may encompass ends and means. For instance, equity in the distribution of financial capacity, to provide care across geographical areas, requires the construction and consistent application of needs-based capitation budget allocation formulae, as used in places such as Finland and

Britain. To achieve equity in the capacity of private and social insurers, to fund and provide care, risk-related equalisation schemes have been devised and applied with varying success in Germany, the Netherlands and Ireland. However, equalising financial capacity across geographical entities in public health care systems, or across insurers in Bismarckian social insurance or private insurance systems, does not guarantee equitable access (need-adjusted) to the provision of health care. Furthermore, equalising health care finance and health care provision does not equalise health outcomes. Indeed, as a result of the impact of other social and economic policies, health inequalities have increased in some countries with public needs-based health care systems (such as Britain). Furthermore, Wagstaff et al. (1999) observe that health inequalities increase as per capita income rises in both developed and developing countries.

The countries of the OECD and elsewhere have pursued these goals of efficiency and equity, but usually there is a lack of clarity in their definition and no explicit ranking of their relative importance. The reforms adopted have affected both the demand and supply sides of the health care market. The reluctance of countries to raise tax burdens, often based on evidence-free ideological assumptions about the relative efficiency of public and private spending, has led to changes in the public-private mix of funding. It often appears that these changes are driven by the implicit goals of those who favour reduced redistribution. Often, the efficiency effects of funding changes are poorly analysed in relation to the evidence base.

Supply-side reforms across the world have been extensive, generally precipitated by drives to control costs and improve access. Access can be improved by raising volume (eg. reducing waiting times) and/or improving quality (eg. improving the scope and quality of the benefits offered). Some of these reforms have involved the attempted transition from the passive purchaser to the more efficient pro-active buyer. Purchaser-provider split type reforms have developed with a focus on regulated competition of the supply side (eg. the Thatcher reforms) and competition on both the supply and demand sides of the market (eg. 'managed' care in the USA and 'Dekker-type' reforms in the Netherlands). The nature and extent of public regulation in such health care systems varies considerably and is partly driven by national legislation and partly by international law making (eg. the European Union). These regulations affect the prices, volumes and quality of pharmaceuticals, workforces, hospitals and the private insurance industries.

The principle purpose of this paper is to demonstrate that even though there is great diversity in the structure and conduct of health care systems internationally, there are similarities in performance. These similarities arise from the common policy goals pursued by different societies, in particular, expenditure control, efficiency and equity. Whilst many countries have had success in controlling macro-economic

expenditure (eg. European, Canada, Australia and New Zealand) and in improving equity, some have failed (eg. US). However, all these countries have similar problems in delivering health care efficiently and exhibit significant medical practice variations (see, for example, Wennberg, Freeman and Culp 1987), evidence of inappropriate care (see, for example, Bernstein et al. 1993; Maresh et al. 2002) and an unwillingness to translate evidence into practice (see, for example, Maynard and Chalmers 1997). This failure internationally to challenge decision makers, especially medical practitioners and the pharmaceutical industry, with evidence of poor practice and the considerable scope for better practice, is a ubiquitous problem facing all policy makers.

Another aspect of policy failure is the continued significant inequalities in health and health care internationally. Whether the issue is one of equity in finance of and access to health care, or the distribution of health between income groups, the policy picture internationally is one of continuing significant inequalities (van Doorslaer et al. 1999, 2000; Wagstaff et al. 1999).

The paper is divided into five sections. Twelve brief and necessarily superficial case studies, which illustrate the diversity of health care reform across the world, are outlined in section 3.2. Some common issues in health care reform are analysed in section 3.3. The difficulties of evaluating health care reform are examined in section 3.4. The paucity of the evidence base and the failure of countries to invest in research and development to evaluate these social experiments are noted. The main challenges facing policy makers in all health care systems are discussed in section 3.5. Key messages to emerge from the paper are then drawn together in section 3.6.

Throughout the paper there is an emphasis on how policy making is ever inventive, ever conceived with a silo mentality and rarely 'confused' either by evidence of 'what works' or a willingness to evaluate social experiments. Such myopia can damage our health as much as poor practitioners and dangerous drugs. Policy makers continually strive to improve their systems and consistently fail to evaluate their inventions. Researchers continually lament these failings, but these exchanges are usually the dialogue of the deaf.

3.2 The health care reform 'caper': some case studies

The health care reform 'virus' permeates all systems. The characteristics of this virus are similar internationally and like influenza, particular 'strains' (eg. the 'purchaser-provider split' and the 'public-private mix') spread widely, lay dormant for short periods and mutate into renewed policy 'fevers'. The standard treatment for such conditions are rarely evidence based and usually involve unevaluated

restructuring of administrative structures and funding reforms where the policy objectives are rarely defined, let alone ranked, and 'expert prejudices', rather than evidence, is used to formulate reform. Whilst the dominance of this 'virus' can often be explained in terms of the political process (eg. reform by 'making smoke' to imply effective change), its wastefulness in terms of the transaction costs of change and the inefficiency of the 'cures' should not be underestimated.

The diversity of policy developments and the lack of evidence which drives health care reform worldwide are illustrated in the following twelve case studies.

Ireland. This 'Celtic tiger' economy has grown rapidly in the last five years. The Irish health system is largely tax financed, but the government's share has fallen to 75 per cent of the total (compared to 85 per cent in the 1980s). Entitlement to care is categorised. About one-third of the population are in Category 1 and entitled to medical care on the grounds of income and, as a consequence, have access to all health services and medicine of the General Medical Service. The two-thirds of the population in Category 2 pay for general practitioner care, pay for prescriptions up to a maximum of 54 Euros per month and are entitled to public hospital care subject to a small per diem.

Economic growth has brought with it an increase in private health insurance cover (45 per cent of the population now have such insurance), which has disabled the public sector and led to a rapid increase in waiting times for elective procedures. This is a product of perverse incentives (Wiley 2002). The private hospital bed stock has been static, as insurers prefer to place their patients in public sector beds because they are priced below cost. These public subsidies, combined with deficient public sector management and clinical pressure, have led to the breaching of the 20 per cent rule, which lays down that only one-fifth of beds in the public sector can be used by private patients. As a consequence, some public hospitals have over 30 per cent of their beds being used by private patients, resulting in public patients having to wait longer. Unsurprisingly, waiting times are politically contentious. There are two insurers in Ireland, the long established Voluntary Health Insurance (VHI), which until recently had a monopoly, and the British United Provident Association (BUPA) a for-profit mutual. Like all other members of the European Union, the Irish health care market is increasingly affected by EU law (eg. the working time directive which requires providers to adopt a 35-hour working week for all workers). EU legislation has removed the VHI monopoly, but competition has been slow to emerge because, by derogation of the EU legislation, Ireland has succeeded in regulating the local market so that both insurers have to offer community rating, lifetime cover and open enrolment. Furthermore, although the law defines a risk adjustment mechanism, this has not been applied, as it would

transfer funds from BUPA to VHI, and BUPA is threatening to appeal to the European Court.

Denmark. The Danish health care system has exhibited remarkable stability in structures during the last thirty years (Vrangboek and Christensen 2002). This contrasts sharply with the UK-NHS, where politicians have instituted evidence-free re-disorganisations of the NHS at 3 to 5 year intervals. Whilst Britain has an 'elected dictatorship' in which their leaders can 'reform' freely, Denmark has coalition governments, which make for more gradual change. Private insurance cover in Denmark has increased considerably in the recent past. However, this is acquired largely to fund user charges in the public system. The recent election of a centre-right government was dominated by waiting time issues. Like some other European countries, the politicians have promised that in the face of existing waiting lists (eg. a six month wait for hip replacement), all patients waiting over two months after July 2002 can go with State funding to the private sector or abroad (ie. Germany). Danish politics of health is currently about waiting times, as in Ireland and elsewhere (see below). Currently, a Government Commission is focusing on how to target increased funding on not only improving patient access, but also on improving the quality of care and its effectiveness in improving health status.

Chile. The Pinochet dictatorship reformed the Chilean health care system in a way which had a clear distributional objective of ensuring that the affluent had access to good health care. There is a compulsory contribution for health care and those who wish to do so can invest this in private for-profit insurers much imbued with managed care rhetoric from the United States. There is State regulation of these insurance companies, but the focus is on financial probity and ignores the issues of whether they are efficient purchasers or ensure adequate consumer protection of their members. Membership is from the healthy workforce. Retirement and prolonged sickness and unemployment lead to insurees joining the majority of the population in the State health care insurance scheme. This has all the familiar characteristics of a large, inefficient State bureaucracy; in particular, long waiting times and inflexible labour practices. Whilst the Government has tried to reform this scheme with the adoption of the UK style purchaser-provider arrangement, it has had little success (Maynard 1997, 1998). The private sector can still shift expensive insurees to the public sector, which has no charge-back capacity, and public sector doctors may not observe their job requirements, being seduced into the very remunerative private sector.

Netherlands. The Dutch health care system differentiates between long term and high cost interventions, which are publicly covered for all the population (*Exceptional Medical Expenses Act*), and social insurance. The latter covers

everyone below a statutory earnings ceiling (30 700 Euros in 2002) up to the age of 65 through the *Sickness Funds Act*. Above this ceiling, 29 per cent of citizens purchase private insurance from a decreasing number of carriers. In 1988, the Dekker Commission proposed the creation of competition on the demand side by offering citizens the possibility of insuring with competing public and private insurers. It was hoped that this demand-side competition would have significant supply-side effects, inducing greater efficiency amongst competing public and private providers. The introduction of these reforms failed, in part due to the absence of a risk adjustment mechanism to create a 'level playing field' between public and private insurers.

After the initial failure of the Dekker reforms, which sought to create competition on the supply and demand sides of the market, the Dutch have returned to 'competition' policies. The immediate problems are cost inflation combined with increased waiting times. The Dutch health care system is basically Bismarckian and their current reform approach is to try to create, for a second time, competition on the demand side (ie. amongst competing insurers of which there are currently some two dozen) to induce greater efficiency on the supply side. Having recently reformed the pay of hospital doctors in a rather naive fashion (moving the doctors from fee-for-service and the working of long hours to a salaried system which guaranteed them an equivalent income for a 35 hour working week), physician productivity has fallen sharply, contributing to increased waiting times. Having since Dekker-1 created a risk equalisation formula, it was hoped that competition between the insurers would produce efficiency gains whilst maintaining equity. However, the initial effects appear to be that patients are not shifting between insurers, in part, because of the transaction costs of searching the market and moving to a different fund.

France. Whilst the Dutch elected to reform their health care system with highly regulated competition, the French appear to be seeking to reform their basically Bismarckian system by moving in the direction of a National Health Service (Sandier 2002). Thus, the Juppe Plan focused on macro-economic budgetary controls with an annual national health spending objective (global budget ceiling). The National Health Insurance Fund strategic plan in 1999 asserted that France had to move away from being a 'passive purchaser' to one which was more diligent in pursuing efficiency. A recent OECD report (Imai, Jacobzone and Lenain 2000) advocates micro economic reforms, including greater autonomy for the regional hospitalisation agencies to be more active purchasers of care in their localities. With the introduction of a system of diagnostically related group (DRG) prospective pricing to fund hospitals, greater local management autonomy and reformed governance of hospitals to foster flexibility, the OECD authors (Imai, Jacobzone and Lenain 2000) hope France will achieve goals similar to those articulated by the

architects of the Thatcher reforms. Hopes spring eternal, but evidence of effectiveness and cost effectiveness of such reform is sparse to the point of non-existent.

New Zealand. Unlike their neighbours across the Tasman Sea who prefer evidence free policies to subsidise the private sector, the Kiwis under Labor have 'gone back to the future'. Having introduced the purchaser-provider divide in the early 1990s, the current government went back to an integrated purchaser-provider structure as soon as it entered power. Clearly, it believed that the 'competitive' structure had failed (Devlin, Maynard and Mays 2001). Cooper (1994) has likened health care reform in New Zealand to 'jumping on the spot'. This phenomenon in health care reform is international and not restricted to the antipodes.

Britain. In Britain, the Scots abolished the purchaser-provider split in 1999. They asserted that it offered no advantages and preferred to move to a new untested structure on the basis of belief rather than evidence. In England and Wales, the Blair rhetoric of the abolition of the Thatcher reforms hides the reality of their further development. Within the purchaser–provider model there is now greater emphasis on 'quality' and patient safety. Furthermore, the familiar advocacy of decentralisation (as in France) is overlaid with a 'Stalinist' inclination for production targets and performance management with dismissal (not yet to the Gulags!) of senior management for poor performance, which is poorly measured by government in a system of 'star ratings' for providers. This policy puts considerable pressure on NHS managers to deliver volume/access targets. Paradoxically, this policy is now accompanied by proposals for DRG pricing (as in France) and competitive pricing pressures to control pay and price inflation (Department of Health 2002, chapter 4). At the same time, there is pressure on the doctors to deliver safety improvements via 'clinical governance'. One way of doing this is to take greater care by reducing activity and giving each patient more time. The potential conflict between quantity and quality targets means that local managers may frustrate the politicians considerably. The Blair government has not only declared its intention to increase NHS expenditure to the EU average (a moving feast and likely to decline as former Soviet block countries join the Union), but also to finance this policy with tax increases. However, this increased funding is accompanied by the demand to 'act smarter'. This state is to be induced by central initiatives to set and implement standards of care and, as yet unclear, further manipulation of microeconomic incentives; in particular, the universal policy of changing doctor remuneration systems. The purposes of these policies are to reduce waiting times, to improve the quality of health care with the implementation of service improvements set out in the National Service Frameworks (which are largely evidence based) and to control the adoption of new technologies by ensuring they are based on some evidence of cost effectiveness. The National Institute for

Clinical Excellence is doing the latter. The Commission for Health Improvement currently inspects all NHS agencies and has issued some highly critical reports. It is to be reformed into an autonomous audit agency charged with producing an annual report on the performance of the Service (Department of Health 2002). Physicians are to be revalidated every five years in relation to 'portfolios' of performance data.

Finland. With the fall of the Soviet Union, the Finnish economy had its GDP cut significantly as sheltered, uneconomic (but Soviet preferred) providers were driven out of business. The budget of the health care sector was cut in the early 1990s by 20 per cent. Yet remarkably there was little effect on waiting times and there is no evidence of either benefit package reduction or falls in the quality of care (Hakkinen and Lehto 2002). This 'Finnish miracle', like the examples of Sweden and New Zealand in the last two decades, demonstrates that health care expenditure inflation can be reduced without adverse impacts. However, such 'achievements' are only possible for short periods and access and quality can only be maintained if there is considerable excess capacity at the time of budget cuts. With the restoration of economic growth in the latter half of the 1990s, expenditure inflation has resumed. For example, in 2001, there was a five month 'rolling' strike of doctors, which ended with a 10 per cent pay increase.

Mexico. The Ministry of Health provides 'free' care for the poor, but its facilities are not of high quality and geographical access is poor in rural areas. The social insurance sector is dominated by the IMMS, a large bureaucracy which seems incapable of reforming itself by reducing staff overheads and improving the efficiency of provision to its members. Access to care is very unequal between social groups, with long waiting times in government and social insurance facilities. A variety of reforms have been considered over the last decade, including the provider-purchaser split and the reform of social insurance to allow members to take their contributions to competing for-profit insurers. The latter policy, advocated by some in the World Bank, had the obvious risk that there would be cream skimming. Whilst the proposal was attractive to watching US managed care companies, the strong sense of 'solidarity' in Mexico has thwarted this reform so far. However, cream skimming, by privatising the insurance cover of the affluent, remains a problem throughout Latin America (Perez-Stable 1999; Stocker, Waitzkin and Iriart 1999).

United States. 'Managed' care grew out of the failure of the Clinton reform proposals and the anxieties of the employers about health care cost inflation. The initial course of this radical market change involved the strengthening of the purchaser role and the extraction of large rents from the health care system by entrepreneurs (Reinhardt 1993). The transaction costs of this were generally high, with 20 cents and more of the health care dollar being used to fund marketing and

administration (especially IT systems focused on financial control and activity volumes, not quality, and with short 'shelf lives'). Whilst the effects of managed care were poorly evaluated, the system did achieve some stabilisation of expenditure with no evidence that quality has been reduced (Miller and Luft 1997; Robinson 2000). However, premium inflation has returned to 'double digits'. Whilst some argue that managed care has 'ended', because consumerism has made it a political failure, most chart some economic successes (Robinson 2001a; Adams and Luft 2001). One clear lesson is that managed care comes in many forms (like Heinz 57 varieties) and that market regulatory pressure on providers, such as pharmaceutical companies and doctors, appears to give only short term benefits (as in Finland). Whilst the 'medical errors' quality problem in the US pre-dates managed care, there is no evidence that managed care has reduced practice variation and improved quality (Kohn, Corrigan and Donaldson 1999).

The managed care experiment demonstrated the potential for the exercise of purchasing power, but clearly this is constrained not only by provider power but also by, in the case of the US, a consumer revolt. In the 'land of the free', where queuing is an 'un-American activity', direct access to specialist providers and sometimes unproven technologies (eg. mammography) (Horton 2001; Olsen and Gotzsche 2001) is a powerful political right. The diversity of the managed care experiment and the failure of its advocates to anticipate the consumer backlash, which arose from having choice constrained and using waiting time to manage demand, illustrates well the fact that managed care was not managed. It was an enterprise best described as 'unmanaged care' and was characterised by unaccountable competition (Reinhardt 2001). Unsurprisingly, many 'entrepreneurs' worldwide (eg. in Latin America) are attracted to such changes, which yield nice short-term rents from cream skimming and improved financial controls.

Canada. Canada is made up of semi-autonomous provinces whose population and taxable capacity varies considerably. The *Canada Health Act* regulates health care in all the provinces and provides for some (initially 50:50, but now less) federal funding of health care across the country. Thus, health care is publicly financed and citizens have universal access to care. During the 1990s, Federal budget cuts led to increased public discontent as waiting times increased as the bed stock was reduced. Whilst some 30 per cent of expenditure is private (Iglehart 2000), this pays for dental care, pharmaceuticals and other items not covered by provincial plans. There is no private health insurance for hospital and physicians services.

Since 1957, the Federal government has used its finance to permit variation in provincial health care, provided all their plans conform to certain key principles. These principles were reinforced in 1984 by the *Canada Health Act*, which banned extra billing by physicians, over 30 per cent of whom remain in solo practice.

Patients have free choice of physician and, whilst the remuneration expenditure of the provinces is capped, payment systems are based on local fee schedules. These appear generous, with the result that office hours are sometimes limited and patient access to care can be affected.

Expenditure constraints in the 1990s, as the Federal Government struggled to achieve fiscal balance, led to reductions in capacity and fee levels. This simultaneously led to provider protest and public discontent, as waiting times increased. Whilst funding pressures have eased recently, with increased funding from Ottawa to the Provinces, there remains considerable public controversy, with the Provincial Commission renewing public funding options in Alberta, Ontario and elsewhere (see, for example, the Premier's Advisory Council 2001, Alberta, with its 90 days maximum guarantee waiting time proposal). Such debates about public-private funding are similar to those elsewhere (such as in Britain) and reinvent the fallacies of the past (see, for example: Stoddart, Barer and Evans 1994; Barer et al. 1998).

Australia. In Australia, the Commonwealth Government collects most of the taxes, but the States deliver most of the health care. The Commonwealth funds the bulk of the health care system, subsiding pharmaceutical and residential care. The States, with Commonwealth financial assistance, fund and administer public hospitals, mental health and community care, and regulate the health care labour force. Private practitioners (paid on a fee-for-service basis) provide medical and dental care, and there is a large private insurance and hospital sector (Healy 2002).

Whilst the public-private mix has always been contentious in Australia, the universal tax-financed health insurance system has operated since 1984 (Deeble 1982). There remains, however, a strong lobby which believes that the public system is not viable unless it is supported with private health insurance. This group have been successful, particularly during the current government's tenure of office, in acquiring significant and expensive subsidies for private insurance.

The distributional impacts of these subsidies are considerable and increase inequalities as premia rise and government support consequently increases. Since 1999, there has been a 30 per cent rebate on all private insurance contributions and, since mid-2000, there has been a requirement that all insurers must provide policies which cover all (no gap) or a specified gap (known gap) of the costs of hospital care. Supplementary subsidy policies (lifetime health cover) have encouraged the under 30 year olds to purchase insurance. The cost of these subsidies is over A$2 billion and they benefit the rich (70 per cent of whom have insurance cover) rather than low income families (only 30 per cent of whom have cover) (Healy 2002).

The efficiency effects of this policy are, at best, ambiguous. Private insurers internationally do not have a good record of controlling expenditure inflation. It has been argued that the spending of these subsidies in the public sector would have produced more activity. However, public discontent about the performance of the public system (eg. waiting times) remains considerable. The Australian Government appears to have adopted policies which create greater inequity and expenditure inflation, and which fail to address the problem of inefficiency in the delivery of care.

There are several recurrent themes in the reform processes of the above twelve countries.

- Attempts to achieve greater efficiency by macro-economic expenditure control (eg. Britain under Thatcher in the 1980s, Canada during the 1990s under fiscal retrenchment) are common but generally unsuccessful, leading to expenditure 'bounce-backs' which may be consumed by provider rents (eg. higher pay for doctors, as in Britain and Canada now).
- Increases in waiting times, and political protests about them, are affected by macro-economic expenditure, but their existence and their persistence is widespread (eg. Denmark, Ireland, New Zealand, Chile, Canada, Australia, Mexico, Britain and the Netherlands). Waiting list policies are often poorly designed, consisting of expenditure increases rather than the targeting of new funds in an organisational framework which minimises perverse incentives (eg. private practice work for cold elective procedures).
- Much political energy is absorbed by funding debates, in particular the advocacy of, and resistance to, user charges and private insurance. Policy is inevitably influenced by ideology and the financial interests of provider groups. The challenge, so often not taken up, is to inform policy choice with the analysis of the efficiency and distributional effects of reform options. In most countries, this tends to be done after, rather than before, reform and can be seen as part of the system of rewarding political supporters (eg. the Australian private insurance subsidies).
- Much is known about the likely effects of health care reform, but systematic evaluation of such social experiments is essential if the knowledge base is to be improved. Slowly, such knowledge permeates the policy making process, but the translation of evidence into practice remains difficult, in part because, as Keynes noted, decision makers tend to be the slaves of defunct economists.

3.3 Health care reform: some common underlying issues

The preceding country case studies have shown that there are many similarities in health care 'crises' and their 'solution' across countries with differing economic, social and cultural characteristics. One remarkable aspect of the 'crises' and reform 'viruses' is their vigour in terms of the energy they consume. The purpose of this section is to explore, in particular, the supply-side aspects of health care reform, to illustrate how durable fallacies are ever resistant and how demure facts are regularly ignored.

The durable nature of policy fallacies has to be emphasised at the outset. Four Canadians have described these as 'Zombies,' because however much you expose them to review and demonstrate them to be fallacious, they spring up again (like Zombies spring up from the grave) and are recycled as solutions to ill-defined problems (Barer et al. 1998).

An illustration of this is the argument, prevalent in the media and political circles, that increases in the length of life are sources of cost inflation which will undermine the sustainability of health care systems. There are at least three reasons for doubting this assertion. First, the ageing of the population is a triumph of the latter part of the twentieth century and the cost of funding treatment and care for the populations of OECD countries is modest, particularly if GDPs continue to grow. This crisis may in fact be a problem of public reluctance to pay taxes and redistribute resources, rather than a social lack of capacity to pay.

Second, the costs associated with the greying of the population may be reduced by the compression of morbidity. Fries, Green and Levine (1989) have argued that successive generations may be healthier and that their periods of ill health and dependency may be compressed, meaning that the costs of such care are reduced. Thus, instead of declining slowly and expensively to death, we may increasingly have more years of good quality life and 'slip off our perches' quickly and cheaply. The evidence to support this hypothesis is incomplete but suggestive (Fries, Green and Levine 1989; Manton, Corder, and Stallard 1997; Jacobzone, Cambois and Robine 2000).

Finally, the costs of ageing can be moderated by reimbursement regulation, as is practised in Australia and England. This can prevent the public reimbursement of products, appliances and techniques, which are not demonstrably cost effective. Whilst such controls may annoy the pharmaceutical and equipment industries, they also create an incentive for them to bring novel and cost effective products to market, rather than expensive 'me-toos' and products which benefit patients little.

Before any appraisal of health care experimentation or reform can be undertaken, it is essential to examine critically their underlying rationales and objectives. Ignoring the expenditure inflation issue, which is not dealt with in this paper, what are the equity and efficiency effects of reform proposals?

Funding health care

For many policy makers, but not card carrying economists, it is obvious that all income is owned by households and that decisions to change the method or level of funding health care involves a decision to 'rob' households of their resources, depending differentially on the funding sources used. Furthermore, it is also obvious that what is spent on health care is always and everywhere equal to the incomes of those employed in the industry. Household expenditure creates the income of health care providers. Thus, when lobby groups demand more health care expenditure, they are demanding that households surrender more resources.

The impact of such demands on household income depends on the method of funding adopted. Tax finance is generally more redistributive from rich to poor than a proportional social insurance tax. Since the Thatcher-Reagan era, it has been common for groups to advocate changes in health care funding which shift the cost burden to the poor. Allowing rich people to opt out of public schemes (as proposed in Mexico) or subsidising the purchase of private insurance by tax breaks (eg. Britain and Australia) may reduce the size of the public risk pool and the redistributive effect of some health care systems. Sometimes, producer groups make funding proposals aimed not only at redistributing income but also at undermining the cost control created by cash-limited global budgeting schemes which have one (tax) funding 'pipe'. The pharmaceutical industry-funded 'UK 2000' report on the future of the NHS, asserted the system was 'unsustainable' (as in Alberta now) and that funding had to be augmented by user charges.

In Europe, the van Doorslaer et al. (1999) studies have shown that tax funded systems are generally a progressive way of raising revenue, although in Sweden this progressivity is low, as funds are raised by a local proportional income tax. Social insurance is regressive in Germany and the Netherlands, because the higher income groups are outside the State schemes, but progressive in France. Private insurance tends to be regressive where the majority of the population use it (eg. Switzerland and the US), but progressive elsewhere because the affluent tend to have a higher demand for insurance. Out-of-pocket payments (user charges) are generally highly regressive (eg. Portugal and the US), though the regressivity is affected by exemptions rules (van Doorslaer et al. 1999; Wagstaff et al. 1999). Overall, the evidence available gives mixed messages associated with local tax and user charge policy changes, and no clear trend emerges with regard to changed progressivity.

As in places like Alberta, there is continued pressure to consider policies such as medical savings accounts (MSAs) and increased user charges, which would reduce progressivity. There tends to be little advocacy of funding increased spending out of taxes (Britain is now an exception). User charges are another of the Canadians' zombies: a policy continually killed off but forever re-emerging (Barer et al. 1998). Its equity effects are usually strongly regressive (after all it is the old and the poor who are the major consumers of health care) and its efficiency effects are ambiguous. Such charges clearly reduce patient demand, some of which may be 'wasteful', as demonstrated in the Rand insurance experiment. However, it is generally agreed that physicians are the major determinants of demand (the patient's agent) and therefore the source of waste, if it can be identified. Canadian researchers concluded after systematic reviews of the literature in 1979 and 1994, that most proposals for 'patient participation in health care financing' reduce to misguided or cynical attempts to tax the ill and/or drive up the total cost of health care, while shifting some of the burden out of government budgets (Stoddart, Barer and Evans 1994).

MSAs are compulsory savings devices, whereby families save for their future health care expenditures. MSAs have very little risk pooling, but are consistent with the mores of societies which value such individualism and where there is a high propensity to save. MSAs were initiated in Singapore and have been emulated in China and in some US legislation. In Singapore, the result was cost inflation, as MSAs were used with very little supply-side regulatory control (Hsiao 1995; Maynard and Dixon 2002).

Across countries, the financing of health care fluctuates at the margin, with some increase in private finance (both user charges and insurance) in the last 15 years. Large system changes are unusual (eg. Spain's shift from social insurance to tax finance in 1989). However, funding changes are a continual political issue. In general, where changes are introduced there is no explicit consideration given to their distributional or efficiency effects. Rather, the process of change is characterised by the contending parties making a 'lot of rhetorical smoke' which hides the self interested goals of their advocacy.

The supply of health care

The supply of health care is dominated by a small group of decision makers who determine the allocation of resources. This group, the doctors, exercise their power on the basis of trust. Trust involves the patient 'relying on the truth of a statement without examination'. When exercised well, truth, or what Adam Smith (1970, pp. 160-2) called duty, dominates exchange and can be efficient:

> These general rules of conduct, when they are fixed in our mind by habitual reflection, are of great use in correcting the misrepresentations of self love concerning what is fit and proper in our particular situation……..The regard of these general rules of conduct, is what is properly called a sense of duty, a principle of greatest consequence in human life, and the only principle by which the bulk of mankind are capable of directing their actions.

Thus, whilst the Smith messages of greed and self interest as the drivers of the economy have been well popularised by Reagan, Thatcher and others, his emphasis on duty and trust as set out in his 'Theory of Moral Sentiments' is largely ignored. However, this argument is of central relevance to health care markets. It seems that whilst the general public in most OECD countries continue to trust doctors more than most other groups, particularly politicians and journalists, opinion formers are increasingly concerned about the clinical probity of doctors.

There are at least three good reasons for the questioning of doctors and their practices. The first problem in clinical care is the long established ubiquitous nature of variations in medical practice. These variations have been well established, incompletely explained and persistent for 25 years (Wennberg and Gittelsohn 1973; Wennberg, McPherson and Caper 1984; Wennberg, Freeman and Culp 1987; Wennberg, Shelton and Bubolz 1989). Obviously, some variation is to be expected, but the large variations in activity levels pose a nice management challenge which has not been met. For example, to what extent would reducing dispersion and shifting the mean of the distribution mitigate waiting time problems?

The second challenge for clinical practice is appropriateness of treatment. For instance, an appraisal of the appropriateness of the use of cardiovascular procedures in the Trent region of the NHS-used British and American panels of judges. The latter concluded that up to a third of coronary artery by-pass grafts (CABGs) and coronary angiographs were inappropriate. The British reviewers found up to 50 per cent inappropriateness for angiographs and 40 per cent for CABGs. More recently, it has been claimed that about 30 per cent of hysterectomies are inappropriate (Maresh et al. 2002).

The methods used to evaluate appropriateness are debated and can be refined. But such benchmarks, if evidence based, provide a method of practice appraisal of great potential usefulness. Again, it is remarkable that these methods have not been refined and deployed more extensively — reducing inappropriateness would benefit patients (eg. by avoiding the risks of surgery) and free resources to mitigate waiting times.

A third area of concern is medical errors. In Australia, errors data were scrupulously collected and showed that 16 per cent of hospitalisations were associated with

errors, many minor and some major (Wilson et al. 1995). One British retrospective single hospital study reported an error rate in excess of 10 per cent (Vincent, Neale and Wolshynowych 2001). The US Institute of Medicine used small-scale studies, which reported error rates of 2.9 to 3.7 per cent of hospitalisations (Kohn, Corrigan and Donaldson, 1999).

These error rates vary because of differences in classification. But, as the Institute of Medicine report showed, even with low error rates the damage to patient health is very high, with between 44 000 and 98 000 Americans dying each year. Thus, more people die each year from medical errors in the US than from motor vehicle accidents (45 458), breast cancer (42 297) or AIDS (16 516) (Kohn, Corrigan and Donaldson 1999). Medication errors alone each year kill twice as many people as died in the World Trade Centre on 11 September 2001. It is surprising that these errors often attract so little policy attention.

Despite these relatively well researched conclusions about medical practice variations in terms of activity and mortality, appropriateness of treatment and the more recent errors-safety literature, trust in practitioners remains. The development of the consumer movement, in combination with growing public demands for comparative information about treatment choices, may change the trust relationship. Fifteen years ago it was usual to assert that 10 per cent of health care improved patient health, 10 per cent damaged health and 80 per cent had no effect. The problem, it was asserted, was that no one knew which therapies lay in the 10 and 80 per cent categories (Fuchs 1974). During the last ten years, there has been more investment in both clinical trials and the systematic review of the medical literature. The Cochrane Collaboration, an international effort to apply rigorous and uniform methods to data analysis, is eroding ignorance (Maynard and Chalmers 1997). Its work is informing amongst others the Cochrane consumer group which is based in Australia and is 'interpreting' medical knowledge into accessible information for patients and their carers (see http://www.cochraneconsumer.com).

The increasing questioning of medical practice and the poor governance of the practitioners (in terms of probity and open accountability) has led policy makers, particularly when confronted by financial problems, to reform their health care systems. However, the remarkable characteristic of these reforms is how they focus on structures and activity around the problem of the profession, rather than on the work of the profession itself. It seems that reformers believe that if the medical market place is thoroughly reformed, then doctors, being reasonable folk, will manage their practices better. There is little evidence of this. Thus, DRG payment systems, purchaser-provider splits, practice guidelines, reimbursement controls, performance monitoring and other reforms have been put in place as if they are magic wands that will change practices imbued in medical schools and reinforced

by peer pressure over their career. You can lead a horse to water, but how can you make monopoly horses drink?

Supply-side reforms

Health care markets have developed over time in the following way:

- In a world where there is no government or insurers, the patient paid the health care provider, just as in the market for cabbages. This market relationship placed all the risk of ill health on the consumer and led to the creation of supportive social institutions.
- The consumer, faced by uncertainty about the size and timing of health care expenditure, can manage risk through two agencies: the State and the payment of taxes, and private insurers and the payment of premia. This shifts some of the risk from the consumer to the insurer and government. Instead of patients paying providers directly, this is now done by third parties. With this arrangement, the existence of third party payers removes the incentive for the consumer and the provider to economise. As a consequence, there are problems with macro-economic control of expenditure and with micro economic efficiency.
- The third party, the State and insurers, under pressure from taxpayers and employers to control costs and improve efficiency, seek to cash limit providers and shift cost and quality risks to the provider. Thus, in the private market, premia incomes are equalised between carriers to compensate for variations in client risks (risk equalisation) and they contract with providers for comprehensive cover, with quality management, within a budget constraint. In the government market place, citizens pay taxes, which are distributed via a weighted capitation formula to purchasers who contract with providers to provide a comprehensive package of care, with quality management, within a budget constraint.

The trend towards the last structure can be seen worldwide and has developed over the last 10-15 years. It involves the shift from the passive purchaser to the active purchaser. The policy challenge is threefold. First, what does active purchasing involve? Second, how can systems be moved from one mode to another? Third, what is the comparative efficiency of the public and private alternatives?

To this end, the Dutch are re-visiting Dekker (Dekker-2). Having been unable to improve access and quality in the way they wanted from the centre, they have created demand-side competition amongst public and private insurers, with private insurers obliged to accept certain groups of the socially insured. This is a highly regulated approach, as always in the Netherlands, with risk equalisation between

sickness funds (public and private), regulatory controls on all aspects of the health care market and a public as yet unwilling to shop around because of the associated transaction costs (Normand and Busse 2002).

The English have also changed their structures. The government believes that the newly constituted purchasers (Primary Care Trusts) will succeed in improving volume/access performance and quality where the old purchasers (Health Authorities) have failed (Department of Health 2002). The failure of the latter illustrates the problems of creating active purchasers: the task is novel, because the NHS has traditionally been orientated towards expenditure control rather than the definition and use of trading variables such as price and activity. Furthermore, the IT and management systems are inadequate and costly to change, and the learning curve can be long. The transaction costs of the continuous 're-disorganisations' of structure in Britain are considerable, the evidence of impact from these reforms is poor (Le Grand, Mays and Mulligan 1998; Smith 2000) and the opportunity costs have led to under-investment in proactive purchasing.

Whatever the form of the purchaser, the issues of data and incentives are central to performance. A common characteristic of health care systems is that they are data rich, but information deserts. For instance, the British NHS collects activity and mortality data routinely, but does not use them to inform management or policy. Indeed, it has taken a private company to use these NHS data and, for instance, publish crude (age and sex adjusted) mortality data for individual hospitals.

The literature on the analysis at the individual clinician level of variations in activity and the modelling of 'explanations' of these differences is small. Obviously, variation is a part of all human activity, but in clinical practice the variations are large and usually cannot be explained. Why this has not attracted managerial attention is unclear. Obviously, marginal shifts in the mean of such distributions and reductions in the dispersion could have significant effects on activity, patient access and waiting times.

However, activity variations tell us little about quality. Quality may be a process issue (is the hospital clean and the doctor polite?) and/or an outcome issue (does the intervention improve the length and quality of the patient's life?). However, the former impacts on the latter (eg. patient satisfaction levels are correlated with improvements in health state). The first thing to note is how remarkable it is that there are no routine measurements of health available in most health care systems. Why is this so, despite the long history of attempts by societies as old as that in Babylon to devise social indicators of success? (Rosser 1983).

Comparative analysis of mortality rates is complex because of the need to risk adjust for case mix, socio-economic class, age and sex. The use of crude mortality

rates for hospitals, or for individual doctors, has to be pooled across years as numbers are small. They have to be used with caution, but are an essential ingredient in doctor appraisal, re-validation of professionals and performance management. Their use changes the incentive structure, as illustrated by the recent publication of hospital mortality for cardio thoracic surgery centres in England. One outlier responded by reducing throughput and changing admission criteria so as to treat fewer, less risky patients. The critical question is: How the local purchaser will respond to this clinical fait accompli?

Similar behavioural responses are evident in the US. The evaluation of the use of report cards in Pennsylvania and New York shows that cardiac surgeons also responded to the publication of their mortality rates by changing admission criteria and selecting less risky patients. This response led to those excluded from surgery having poorer health status (eg. more heart failure and myocardial infarctions) and being more expensive to treat (Dranove et al. 2002).

Mortality data alone are an inadequate basis for clinical governance and management. In addition to distinguishing between vertical and horizontal discharges from hospitals, it is also necessary to measure the health-related quality of life of patients. Thus, the BUPA has been using Short Form 36 (SF36), a well validated instrument which uses 36 questions to evaluate patient physical, social and psychological well being. SF36, like its rival generic quality of life measure the EuroQoL (EQ5D), has been well validated in clinical trials. EQ5D has 15 questions about mobility, self-care, usual activities, pain/discomfort and anxiety and depression, together with a scale of 0 (worst imaginable health state) to 100 (best imaginable health state) upon which patients have to rate themselves (Brook 1996).

Such data, collected over time, would show changes in functional health. BUPA now uses SF36 for its surgical patients at entry to hospital and 3 months after hospitalisation, to evaluate success for the patient and of the surgical team. This costs the same amount as a full blood work-up and shows considerable variation in outcomes. These generic instruments, usually supplemented by specific quality of life measures (ie. specific to a clinical speciality, rather than generic and applied across all specialities), are often used by clinical teams, but are rarely used comprehensively across health care institutions. Experimentation and evaluation of such applications would be useful.

Such information has to be complemented by the production of practice guidelines based on cost effectiveness evidence. There is a vast guidelines industry, which demonstrates duplication and disagreement; the latter, a product of opinion used in the absence of evidence for many procedures. Unfortunately, the majority of these guidelines are based on clinical effectiveness and ignore the economic dimension.

What is clinically effective may not be cost effective but what is cost effective, is always clinically effective. The reluctance of some clinicians to be driven by economics-based medicine is a product of the clash between the individual clinical and the population economic/public health perspectives (Maynard, 1997).

Some countries (eg. Australia and England, and increasingly countries in continental Europe) are now informing reimbursement decisions with economic criteria. This can be contentious when governments find it politic to over-ride such considerations, as has happened in Australia and England in the recent past (Cookson, Maynard and McDaid 2001). However, the role of economic evidence (of cost effectiveness) in determining what treatments can be offered is increasing.

Central to the success of these economic regulations of technologies is the issue of provider compliance: will the economic evidence be translated into changed clinical practice? The literature on translating evidence into practice is limited, but has some lessons. Academic detailing, whereby evidence-based practice guidelines are 'sold' to practitioners by third parties (such as pharmacists), who review practice and seek compliance with best practice, has been demonstrated to have small effects but to be cost effective (see, for example, Mason, Freemantle and Nazareth 2001).

Another way of changing behaviour is to alter the remuneration system of doctors. However, this has to be done with caution and with the Canadian health economist Bob Evans' advice always to the fore. How should you pay doctors he asked? His answer is to change the system every two years as they are so smart, they find their way around any system in that time (Evans 1984).

The costs and benefits of the three basic payment systems are well known. Capitation offers control of cost but gives no performance data, may lead to under-utilisation and may induce on-the-job leisure. Salaried systems also create an on-the-job leisure problem and lack of accountability, but they do offer cost control. Fee-for-service offers expenditure inflation in the absence of expenditure caps, over-utilisation and activity data, which is often ignored for performance management.

Typically, most pay systems are mixed, or what Robinson (2001b) defines as blended. UK general practitioners were seen in the late 1980s as not providing adequate levels of some services. As a consequence, the capitation element of their pay was raised to an average of 60 per cent and fees for service were graduated so that the payment increased as a higher percentage of eligible patients on the list were treated. This resulted in a rapid increase in child vaccination and immunisation and cervical cytology, all cost effective interventions. Unfortunately, less cost effective interventions were also rewarded and their volume increased too. More recently, the introduction of fees for influenza vaccination drove the coverage rate

for the elderly up from 30 to 80 per cent. As the architect of the NHS, Bevan, is alleged to have said 'doctors only understand messages written on cheques'. However, when sending messages in this form it is essential to reward doctors only for what is demonstrably cost effective.

Over the last 20 years, some countries have reformed doctor payment systems regularly. In the US, there has been some greater use of capitation, but this has been quite modest (Adams and Luft 2001). However, the characteristic of the US in the 1990s was the lack of transparency in payment changes, with institutions being paid capitations, but paying staff in a variety of ways. In England, 20 per cent of general practitioners are now paid on a salaried basis and the mix of funding methods is likely to increase. Reforms to hospital consultants (specialists) payment arrangements have effectively involved attempts to bribe practitioners out of private practice and are likely to be costly to implement (Maynard and Bloor 2001).

A characteristic of such changes is that often it is external, rather than internal, incentives which dominate. Internal incentives are used to address the problem of generating optimal behaviour by the existing labour force. Despite continuous 'tinkering' with payment systems, the evidence, both systematic and casual, is incomplete (Robinson 2001b).

External incentives are designed to ensure an 'adequate' stock of practitioners. With countries entering a 'scarcity' phase of the workforce cycle (the product of rising GDPs and positive income elasticities for health care), considerable competition in the international doctor and nursing labour markets is now evident. Typically, workforce planning is crude and involves Leontieff fixed coefficient assumptions, with poor costing of proposals and a reluctance to deal with the issue of labour market substitution.

Such substitution should be considered in two ways: labour for labour substitution; and, capital for labour substitution. Experimentation with computerised surgery, involving the use of scanning and laser techniques, is evident in Singapore, the US and Europe. The role of the doctor is to supervise, rather like an airline pilot lets the computer fly the plane and acts as back up. Many routine surgical tasks could be carried out in this way in the future and may produce better quality processes and outcomes. After all, the computer driven laser does not shake like a surgeon's hand may and blood loss tends to be reduced as a result in some procedures.

There is an extensive, but rather old and poor quality literature about nurse-doctor substitution (Richardson et al. 1998). This literature indicates that well-trained nurses can do 30 to 70 per cent of the ambulatory tasks of the doctor. Whilst such substitution may be clinically effective, there is little evidence of its cost effectiveness. It is possible that such substitution may not be cost effective, because

nurses work shorter hours, may take longer to carry out tasks, may demand pay increases if they are re-graded to take over doctors' tasks and may attract higher on-costs related to indemnity insurance considerations. The quality of studies is often quite poor. For instance, a recent much cited study from the US (Mundinger et al. 2000) was internally valid (ie. its design was robust for the particular environment in which it was carried out), but not externally valid (ie. its results cannot be generalised because of the specific nature of the practice type studied).

Such concerns do not affect policy and the development of health care markets. Thus, at the beginning of the expansion of 'unmanaged care' in the US, predictions were made (Weiner 1991) that as many as 100 000 US doctors would be unemployed by the year 2000. One driver of this 'optimism' was that nurse practitioners would be substituted for doctors. What actually happened was rather different. Unemployment of doctors unsurprisingly did not emerge and the number of non-physician assistants has expanded rapidly (Owens et al. 1999). Thus, instead of being substitutes, nurses and other non-physician assistants are complements. To demonstrate substitution possibilities is one thing, to translate them into service developments is another matter. Typically, doctors do not experience either long periods of unemployment or sustained deflation of their incomes. Clearly nurses and others can do work traditionally carried out by doctors (eg. in minor surgery, dermatology and diagnostic work, such as endoscopy), but this is usually done to increase throughput. However, whilst it may not lead to service savings, it may reduce the marginal cost of service delivery expansion if arrangements are cost effective.

The supply of health care changes continuously, as innovations (many of which are poorly evaluated) are adopted unevenly by clinicians. Their behaviour is central to the pursuit of efficiency in resource use and trust remains a powerful element of the doctor-patient relationship. However, medical errors and safety concerns may erode that trust if clinical governance is not improved. This poses a nice challenge for professional regulatory bodies, some of which are inadequate (eg. the Royal Colleges). They are generally publicly subsidised (eg. with tax breaks), but are not publicly accountable. They face the challenge of 'healing themselves' or being superseded by public regulation, which will be costly. Revalidation or re-accreditation of all practitioners is being implemented in a variety of ways, but if this is captured by the professions and neutralised, the implications for trust in health care could be very damaging to the doctor–patient relationship.

An overview

Ideological wrangles affect the debate about funding and providing health care. As argued elsewhere, these arguments typically involve the individualists (market

proponents) putting forward the ideal characteristics of their solutions and criticising their opponents for the failings of the actual collectivist system (McLachlan and Maynard 1982). The collectivists typically criticise the actual failings of the market model and espouse the attributes of their ideal model (Maynard and Williams 1984). Such exchanges are very wasteful, as they are rarely evidence based and usually involve the recycling of 'zombies' (Barer et al. 1998).

As set out earlier, the choice of mode of finance and provision can be an empirical matter if the alternatives are set out and evaluated properly. Thus, for those who wish to achieve the familiar solidarity goals set out in the welfare states of most OECD and civilised countries, the evaluation of the Dutch, the French and the English experiments would generate new knowledge. This evaluation could focus on the risk adjustment mechanisms in the alternative systems, as well as on how contracting develops and whether purchasers effectively manage and countervail the power of strong monopoly and oligopoly suppliers, such as the medical profession and pharmaceutical industry.

The power of these provider groups is a product of government intervention. Thus, the structure of the regulatory framework in supporting, rather than thwarting, the development of these experiments is of considerable importance. As 'unmanaged care' began to spread in the US, a group of academics, insurers, medical practitioners and others set out a blueprint for the regulatory framework needed. These 'Jackson Hole' proposals were thorough, ambitious, costly and ignored (Ellwood, Enthoven and Etheridge 1992). They included national agencies to control premia setting and financial probity, as well as the measurement and dissemination of information about health outcomes. They recognised that if consumers were to be informed and able to exercise choice efficiently, the current paucity of openly available and audited outcome data had to be addressed. Public and private markets with poor information and monopolistic groups tend to generate rents for providers, rather than good service for consumers.

The experience of reforming countries is rich in beliefs and poor in evidence which can withstand peer review. Again, Cooper's assertion that New Zealand reform involves 'jumping on the spot' is pertinent (Cooper 1994). The English analogy is that the reforms involve 'moving the deckchairs on the Titanic'. Use of the evidence from reform requires careful sifting and perhaps tells us as much about what not to do, as what we might do.

3.4 How to improve the evaluation of health care reform

The inadequate evaluation of new pharmaceuticals in the late 1950s and early 1960s led to thalidomide damaging many unborn foetuses. As a consequence, new drugs can now only be brought to market if they are tested first on animals and then on humans in controlled experiments. The gold standard method for evaluating drugs and other new therapies is the randomised controlled trial (RCT), where patients are randomly allocated to control and experimental 'arms' and the effects of the alternative treatments are measured carefully (Cochrane 1972; Maynard and Chalmers 1997). The absence of such testing is now rightly regarded as unacceptable.

Yet policy makers devise and adopt health care reforms with little use of the evidence base and with an absence of evaluation. Such reforms can damage the health of the population in a manner similar to dangerous drugs. They consume resources which have an obvious opportunity cost (such as, the funding of treatments for patients in need and on waiting lists).

Whilst the US, the British and some other governments now fund research into changes in the structure, organisation and development of health services, that funding is parsimonious. This reflects a degree of arrogance in policy makers, coupled with a naive belief that their preferred reforms, whilst lucid in principle, will, of course, work well. The consequence of this is, for instance, that one political party declares the reforms a failure, whilst its rival declares it a success and neither party has any independently validated evidence about the topic which they dispute. Politicians and their policy makers do not like to be confused by facts, or as Sir Humphrey advised his Minister in the BBC-TV comedy series Yes Minister, 'it is folly to increase your knowledge at the expense of your authority'.

There are few examples of using RCTs to evaluate social policies and US President Nixon funded most of them — the Rand Insurance Experiment and the Negative Income Tax Experiments. The Rand study (see, for example: Brook et al. 1983; Newhouse 1993) found that demand curves for health care slope downwards to the right, as economics textbooks tell us. The experiment cost over $70 million and led to considerable debate about its generalisability. In particular, because the local samples were small and reduced demand arising from user charges had small effects on doctors' incomes, there were no observable supplier-induced demand responses. If such charges were generalised, the income effect for doctors would have probably led to replacement demand from the doctors and smaller reductions in utilisation, consequent on the application of user charges.

However, whilst the gold standard RCT may be too costly to use in evaluating health policy, there are alternative methods of investigation, in particular, quasi experimental methods such as interrupted times series. Campbell (1969) set this out over 30 years ago in a seminal article entitled 'Reforms as Experiments'. He described in terms very familiar today, the 'trapped administrators' as having 'so committed themselves in advance to the efficacy of reform that they cannot afford honest evaluation'. Subsequently, Cook and Campbell (1979) published the standard textbook on quasi-experimentation and this is still used today. Like Sir Humphrey, Campbell argued that there is 'safety under the cloak of ignorance' and 'political vulnerability from knowing outcomes'. Little has changed in 30 years and, as a consequence, the evidence base for health care reform is generally poor. Indeed, it makes medical practice look scientific and well informed.

Thus, what have been the effects of recent Australian reforms on equity and efficiency? Has the funding system become more regressive and what has been the impact of reform on the equity of delivery of health care? In all health care systems, lower income groups are higher users of health care services, but, after need adjustment, there is no significant inequity in the delivery of health care in major European countries and the US (van Doorslaer et al. 2000). What have been the efficiency effects of the subsidisation of private health insurance? Were these equity and efficiency effects consistent with government goals? Similar questions can be asked of any health care reformers and, hopefully, in the future, evaluation will provide better answers, both at the piloting and implementation stages.

3.5 Challenges for the future

Whilst the immediate stimulus for reforms may vary across time and countries (eg. fiscal 'crises' requiring macro-economic expenditure constraints, or efficiency concerns generated by high waiting times and, more recently, quality concerns), there is much that is common internationally in the design of reform 'solutions'. In particular, the failure to use and develop routine data systems and to exploit the evidence base about what 'works' (or is cost effective) is common across the world.

There are basic questions, whose answers should inform day to day health care management, both public and private, and others whose answers should inform the reform of public and private health care systems.

The first lecture given to all economists usually discusses the issue of the efficient allocation of scarce resources and emphasises the need to answer four basic questions. In terms of health care, both public and private, these are:

- What do doctors produce in terms of volume and outcome (mortality and health related quality of life)? Is activity consistent with the evidence base with regard to volume — mortality relationships (economies of scale) (see, for example: NHS Centre for Reviews and Dissemination 1996; Birkmeyer et al. 2002). The routine analysis of activity and its extension to exploiting the evidence about outcome effects would inform both efficiency and quality issues.
- How much do physicians produce (volume adjusted for case mix) and with what variation between practitioners? How are these variations explained and can they be better managed? Such data could inform the management of medical practice variations and clinical governance to improve patient safety.
- How is health care delivered? In particular, what criteria determine marginal changes in practice technologies: what is the evidence and what criteria do practitioners use to determine the adoption of new (and the abandonment of old) technologies? The answers to such questions could inform Royal College and health care managers about the use of the evidence base in current medical practice.
- Who gets what health care? How is cross sectional and time series data about the socio-economic distribution of health and health care measured and managed? Such equity issues are central to most health care systems and the data can be mapped onto poverty and other postcode data to inform public health choices.

The answers to these basic questions identify information and management needs evident in all health care systems. Generally, this information is absent and, to the extent it is available, it is not well-mobilised and used to review performance.

Once such data begin to be produced, they can be used in conjunction with the evidence base to address more complex, but still basic, issues (such as, from Williams 2001):

- How much should be spent on public health relative to other health-inducing activities?
- What should be the balance between private and public health care?
- What should be the balance between primary and secondary care?
- What should be the balance between promotion, prevention, diagnosis, treatment, rehabilitation and social care?
- What treatments should have priority over others?
- On what basis should finance be distributed, so as to create the right incentives for the organisation receiving the money?

- How should the remuneration of health service workers be organised so it is fair to them and efficient for everyone else by rewarding achievement?

Inherent in this list of questions is the requirement to identify, improve and apply data and evidence in making important choices at the margin about how the component parts of the health care system are developed and incentives created that are compatible with the achievement of social goals.

An associated research agenda (McLachlan and Maynard 1982) requires the exploration of six sets of issues:

- What are the objectives of the health care system, regardless of the public-private mix? What ordering or weights do these objectives get and how are they changing over time?
- Who controls the systems and who controls resource use at the margins or boundaries of care? Who controls movement across these boundaries (eg. from primary to secondary care and from the public to the private sector)? What criteria are used to determine policy making at these boundaries? Why is it that insurance principles and practice seem to gravitate towards institutional care and particularly, for acute (mainly surgical) care, and not for primary care, prevention, and the care of the elderly, the mentally ill and the mentally handicapped?
- What incentives (monetary and non-monetary) are there (or lack of them) to achieve efficiency for individual managers and for institutions in the public and private sectors? Why do decision makers at the boundaries behave as they do? What motivates public and private action, and the interactions of the public and private sectors? Is inefficient behaviour an inevitable consequence of poor incentives?
- Who rations what and how? What criteria do public and private sector decision makers use to allocate resources and access to care use? Are the outcomes of these rationing processes consistent with policy goals?
- Who in effect makes investment decisions and what criteria are used in the public and private sectors? Are the criteria used to determine the construction of a new hospital or the purchase of new equipment consistent with policy goals?
- What are the major unresolved problems of the system, in terms of equity and efficiency?

These fundamental questions have not been answered in a comprehensive manner, despite the fact that they are 20 years old. The reluctance to approach health and health care policy in this way is a product both of the economic illiteracy of decision makers and the failure of the economics community to alter mind sets and

behaviour. A powerful obstacle to the creation of 'economics-based medicine' is the dominance of the medical paradigm and medical practitioners. Their power is reinforced both by other provider groups (eg. the pharmaceutical and the medical devices industries). Economics-based medicine would redistribute power and resources between and away from these powerful provider groups.

Slowly and marginally, decision makers are appreciating the salience of economics-based medicine (eg. National Institute for Clinical Excellence in England and the PBS arrangements in Australia). The application of this approach demands much of current IT and management skills in both the public and private sectors. The results of such investment must be used to challenge clinical and non-clinical decision makers in the health care system, both public and private. Such challenges will only be productive if the skills of managers are improved so that they are intimidated neither by accessing and using evidence, nor by collecting and analysing performance data. R&D investment also has implications for the training and revalidation of all health care personnel.

3.6 Key messages

In health care policy making, history continually repeats itself as old ideas (eg. user charges) are recycled, with an associated lack of clarity in the diagnosis of the problem and lack of evidence supporting some radical 're-disorganisation' of administrative structures and provider incentives. This is not new. The philosopher Carl Popper (1962) criticised what he called 'solutioneering' — the jumping to solutions, 're-disorganisation' and 'planning', without defining the problem or determining if there is one. Popper also criticised 'holism', the belief that problems must be tackled 'as a whole'. He doubted the validity of holism because, he argued, the greater the change attempted, the greater the unintended and unexpected effects. These effects then oblige the manager to indulge in piecemeal improvisation: what Popper called 'unplanned planning'.

Thus, the first important lesson to be learnt from the international experience of health care reforms, is to define the problem and approach it with marginal reforms rather than major upheavals in administrative structure and job tenure. The transaction costs and the 'antibodies' created by ignoring this approach make reform expensive and highly likely to fail.

Once the policy problem or problems have been identified in relation to the likely social goals of macro-economic expenditure control, efficiency and equity, it is important to rank these goals and use evidence to identify the costs and benefits of alternative interventions.

The evidence indicates that cost containment can be achieved more easily where there is a 'single pipe' — tax-financed health care with global (cash limited) budgets. However, it is important to recognise that this conclusion is a necessary but not sufficient condition for cost control: governments may 'buy' electoral support over the electoral cycle and create short term expenditure inflation.

The experience from private health care insurance is that these systems, because of fragmented funding sources and weak purchaser control, are less able to control expenditure inflation. The US managed care experience illustrates that cost containment can be achieved over short periods only.

The distributive effects (equity) of alternative funding systems are generally that tax financed systems place less burden on low income families than user charges and private insurance. Advocacy of user charges and private insurance can usually be seen as attempts to benefit the more affluent at the cost of poorer sections of the community.

Public and private health care systems show similar deficiencies in terms of medical practice variations, inappropriate care, medical errors and poor evaluation of health outcomes, especially health-related quality of life. These deficiencies are remarkably durable, well-chronicled by researchers, often ignored by practitioners unwilling or unable to translate evidence into practice, and not dealt with in a focused and fruitful way by policy makers and managers. This diffidence is a product of an amalgam of complex social forces, such as professional trust and the reluctance to recognise the finite nature of both resources and life.

Whilst the collectivist NHS (eg. Britain) and Bismarckian (eg. Germany and France) systems of health care may give better access to care than a fragmented, private insurance system (eg. the US), the distribution of health between social classes does not reflect this. Health is a product not just of access to health care but also the distribution of capabilities, which reflect income, wealth, education, housing, work and other distributions. Deliberate and highly successful policies to change the income distribution in Britain over the last 20 years have been associated with significant increases in health inequality (Department of Health 1998).

Finally, it is important to recognise that policy rhetoric from the left and the right of the political spectrum often confuses, for reasons related to the self-interests of the supporters of the competing ideologies, principles and performance. As noted earlier, the left criticises the market paradigm using evidence of its defects, and compares it to the workings of its ideal (NHS) model. The right criticises the collectivist paradigm using evidence of its defects, and compares it with its ideal (market) model. What is required is that both parties use evidence from good evaluation research to mitigate often common efficiency problems and inform

choices about methods of cost containment and equity in the distribution of health and health care (see, for example, McLachlan and Maynard 1982, final two chapters).

The practice of health care reform, what Popper called 'solutioneering' and 'holism', needs to be continuously challenged by insistence that social values are made explicit and evidence is used to inform public and private choices. This 'nirvana' will always be difficult to achieve as ideologies are disguised and evidence fudged by the 'quick fixes' of decision makers wishing to palliate often ill-defined crises. Such behaviour is not new. Caius Petromus, a functionary who worked for the Roman Emperor Nero, remarked in 66AD:

> We trained very hard, but it seemed that every time we were beginning to form up into teams, we would be reorganised. I was to learn later in life that we tend to meet any new situation by reorganising, and a wonderful method it can be for creating the illusion of progress, whilst producing confusion, inefficiency and demoralisation.

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Discussant — *Jane Hall*
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Introduction

Surveying the international scene presents a complex array of health care systems with substantial variation across and within countries. This commentary will attempt to address three major issues:

- What is common to developments in other countries' health systems and what is different?

  Although there are substantial differences in how countries organise, finance and pay for health care, every country is facing the same pressures. Although there appears to be considerable commonality in their health system goals, there are substantial differences underlying these. Yet the major reform proposal, budget holding, is the same across systems.

- What lessons are there for Australia?

  There are some lessons, though they tend to be about what does not work, or at least not in the way intended.

- How can evidence promote doing better in the future?

  The need for research to produce evidence that can inform and critique policy developments seems patently obvious. However, if health systems research and evaluation are malnourished in other countries, they are close to starvation in Australia.

Commonalities and differences

Every country has a unique health system; in fact, in most countries, including Australia, there are several systems coexisting. Health system structures are a product of history, culture, geography, planning and accident — and, like which side of the road we drive on, no matter how irrational they may seem now, they are very resistant to change. The major Australian health care reform was the introduction of Medibank/Medicare yet the basic structure of Commonwealth responsibility for medical and pharmaceutical services and States and Territories for public hospitals remained unchanged (Commonwealth Department of Health and Family Services 1997).

Some countries, though, have managed 'big bang' reforms, notably the UK, New Zealand and the Netherlands. What can be concluded from these social experiments

is that health care culture is resistant to change; and health system change unsettles the community and makes them more anxious about their access to health care.

In spite of these differences, though, the problems faced are essentially the same. As observed by Reinhardt (1997, p. 555) the major policy issue is how to get value for money in the health system:

> Policy-makers worldwide are on a quest to control national spending for health care and to enhance the value received for whatever is being spent on health care.

There are various aspects of this. The control of total spending, though most OECD countries have managed to constrain health care expenditure as a proportion of GDP over the last decade (Anderson and Poullier 1999). Once total spending is constrained, then there is more emphasis on how that expenditure is allocated, who gets what or the obverse, who does not get something that they, their families, or their medical advisers/providers think might do them some good. Safety and quality remain a major concern, particularly - but not only- in acute hospitals. In spite of this, people are still queuing to get into the system. Another issue is the role of the medical workforce, accountability and payment of doctors, and how incentives influence their behaviour. The nursing workforce is also pressing — what does the international shortage of working nurses mean for quality of care and in the future what limitations to the capacity to deliver services will flow from this? Add to these the development of new technologies. Technological developments are driven for the most part by profit seeking, the consequences of which are the replacement of established drugs and procedures with more expensive versions, and the search for 'healthy people' drugs which will maximise market share (Evans 1984). Within health care, the dissemination of new technology is aided by the search by providers and their patients for something to do (TS Eliot quoted by, Cochrane 1972, p. 85.):

> Not for the good that it will do
>
> But that nothing may be left undone
>
> On the margin of the impossible.

Within all of these different systems, there is only one approach currently being considered as the basis for further reform — that is, what Maynard describes as the third stage which involves some form of budget holding, whether in a government or privately financed system. That involves shifting the risk from the payer to another agency (which may or may not be the provider); and the exposure to risk is expected to force that agency into an active purchasing role.

Another similarity, as Maynard points out, is that countries espouse both efficiency and equity goals. There are multiple goals for health system performance, and trade-offs across these are necessary. Different countries make different trade-offs — at the crudest level between individualistic systems and social solidarity. There is also

a debate on the extent to which health system goals are health status improvements and only health status, or whether other factors such as consumer satisfaction, being treated with dignity, autonomy, dying well, are also legitimate health service goals. Not only are there differences across countries, there are differences within countries as to how groups of the population and individuals are prepared to make these trade-offs. In addition, the health policy arena is, as Sax (1984) characterised, a strife of interests masquerading as a conflict of principles, with different groups protecting their own positions.

So, though we might all agree that value for money is at the top of the health policy agenda, we have very different views on what value for money means.

Lessons for Australia

There is no holy grail of health system reform

Revolutionary reform of the Australian health care system because of the Federal system, the bicameral nature of most Parliaments, the political power of minority parties and the timetable of elections, is probably not possible. However, the commonality of problems suggests that tinkering with or blowing up and rebuilding the major structures of the system does not make the problems go away. The State/Commonwealth division of responsibilities is a distraction, not a cause. These problems are not going to be easily fixed.

It is not difficult to build a constituency for change but it is difficult to get an agreed direction

Health care is a political issue and likely to always be so (Hall and Viney 2000). Health system change leads to uncertainty and discontent (Blendon et al. 1999). In Australia, media attention to the problems of the health system is focussed by the imminence of elections and the renegotiation of the Health Care Agreements between the Commonwealth and States/Territories (Haas et al. 2001). However, while public discontent may be widespread, this is not the same as a mandate for change as different interest groups (and the interest groups dominate the public debate, certainly in Australia) have radically different ideas on the appropriate direction for change. Any redistribution of resources involves expanding some services at the expense of others. The losers are the consumers – who have strong faith in the beneficial effect of using health care; in fact, they need to or they would not put up with such consumption 'bad' (Evans and Wolfson 1980). And providers

for whom health care expenditure translates into income. Faith and income are powerful forces.

Health system organisation is about the redistribution of risk

The development of health care markets is about the redistribution of risk. In Maynard's first stage, the risk is with the patient/consumer. Third party payers, the second stage, represent a transfer of risk from the consumer/patient to an insurance agency or government. In the third stage, a fourth party emerges to take the risk and the development of active purchasing is a means to manage that risk. Of course risk can also be managed by selection of the individuals covered (cream skimming), by reducing the extent of what is covered, or by reducing the quality of services purchased. Both health status and quality of care are difficult to monitor.

What we have learnt in Australia from the Coordinated Care Trials is that simply pooling funds does not reduce costs and improve care, and there are many people who are getting too few services.

Therefore, there are many questions to be answered in determining how to proceed.

- Who should hold the budget/do the purchasing and with what incentives?
- How big a pool of individuals should be covered?
- How should those individuals be selected?
- How much risk should the fund holders carry?
- How can performance be monitored?

These issues need to be studied in terms of risk, how it is redistributed, and under what incentives, and the impact of this on health system goals.

Of course, redistribution of risk leads to a redistribution of resources. Even in a pool with all individuals having the same a priori risk, there will be a redistribution of resources from those who stay well to those who get sick. So the distribution of risk cannot be disentangled from equity issues.

Evidence and policy

Contemporary health systems present complex and pressing problems with consequences that are expensive and significant to individual and social welfare. It would seem obvious that governments should invest in research to illuminate the problems, identify and evaluate policy responses. At any rate, it seemed obvious to

Peter Wills in his recent review of Australia's health and medical research effort (Wills 1999). His is not the first report to recommend the development of a strong health services research capacity; similar recommendations go back over at least the last twenty five years but without any substantial action (Hall 2001).

If recommendations have been ignored consistently over a long period of time, then one should suspect there are good reasons for so doing. There are probably several. Health care reorganisation and reform, being a political issue, requires political leadership which in turn requires decisive action. Just as evaluation is frequently used as an excuse not to act, so asking for evaluation can be seen as an admission of not really knowing what should be done. Further, unlike other sectors where expansion of the output and producer incomes is considered a sign of success, in health care reform the objective is not to maximise the size of the sector and that means dealing with lobby groups motivated by faith and income.

Evidence-based medicine (EBM) has had enormous success in capturing resources and a research agenda. But it tackles the basis of clinical decisions, not those of the Health Minister and the Government of the day. Indeed EBM has perhaps been too successful in capturing the research agenda, in that it has promoted the randomised controlled trial as the only rigorous approach to evaluation. Trials of health policies are difficult — they are expensive, messy, lengthy and usually uncontrolled. Further, their results may not be valid as they fail to capture the complexity of the system and the interaction of various components. The most famous and expensive health services trial, the Rand Health Insurance Experiment, studied the effect of varying levels of co-payments on consumers. But the experiment was limited to only a few patients in any particular medical practice or hospital, so it could not observe how providers would react.

The notion that evaluation requires controlled trials has impeded the development of policy oriented research in two ways. It has distracted from the use of observational data and ignored the useful developments in other fields. For example, McClellan, McNeil, and Newhouse (1994) illustrate the approach in a study of myocardial infarction and argue that observational data are a viable alternative to evidence derived from controlled trials. They go on to note that methods that are well known in econometrics have not been applied in health research. And second, it has distracted research attention from system level issues to discrete interventions. Hence the phenomenon that an economic evaluation attached to a clinical trial has more chance of being funded than economic analysis of the behaviour of consumers and providers and, as a result, that health economics research in this country is mostly the evaluation of drugs or other interventions.

Yet health services research is arguably less transferable than results from clinical and biomedical research. Biological systems behave similarly across international borders; health systems do not. As Wills (1999, p. 20) concluded:

> We can participate in the international exchange of ideas about health care organisation at fundamental levels and can learn from overseas experiences, but ultimately we must develop and evaluate our own solutions.

Or to put in another way: the experience of this country over the last 220 years is that things that work well in one climate, culture, social structure and geography should not be transported without careful forethought, planning and evaluation for the results can be disastrous to individual and population health.

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Discussant — *David Johnson*

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Introduction

I take the aims of a discussant to be:

- To emphasise the salient points of the principal speaker;
- To challenge contentious remarks;
- To consider omissions; and
- To draw broad implications and outline specific activities.

In carrying out this task I aim to provoke debate.

Main points

Alan Maynard makes the following main points:

- There is widespread and enduring interest in health care reform;
- Many of the problems are common across countries (at least the developed countries);
- Most reforms are directed at cost control and improvement in efficiency and equity;
- Much policy reform is not based on evidence;
- While there are large amounts of data on aspects of health it is not well interpreted; and research to support reform has been ineffectual or absent;
- There are powerful countervailing lobbies (eg. of doctors) who will protect entrenched positions and undermine reform; so that
- Reform has rarely lived up to expectations.

Comments

Lack of knowledge of consequences has never restricted politicians from enacting reforms in many areas, not just health. Relative to its size and importance the health industry attracts less than its fair share of evaluation. In addition the public funding of large parts of the health services industry (direct and through tax credits) provide even stronger reason for appraisal and evaluation of the way in which the money is

spent. However, in this country, health research has warranted its own avenue of Commonwealth government funding and amounts have been large relative to funding of research elsewhere. Nevertheless there have been few evaluations of health policy proposals. The problem is, perhaps, not a deficiency in research funds but a misallocation of them.

The apparently consistently poor performance of reform suggests a systemic problem. Although structures may vary, stakeholders (that is, doctors, patients, government, insurers) are common. Therefore, the reason for reform failure may be more to do with the interaction between stakeholders than with any particular health system structure.[1] Improving the dialogue may be helpful and perhaps researchers need to be more vociferous but I wonder whether Alan is alerting us to a more insidious problem. Politicians respond to powerful lobbies rather than to the findings of research.

Contentious remarks

I have one concern in relation to the role of equity in health. Improving or maintaining equitable availability of health services is a central motivation for most health systems. Nevertheless the equity objective may be contentious and requires careful definition. On the revealed evidence, governments past and present in most developed countries agree that all in the population should receive basic health cover irrespective of their ability to pay.[2] However there is likely to be disagreement about the level of health care beyond basic cover. Indeed one interpretation of the cost control objective is that it really represents a limit to what constitutes basic cover.

Some reforms can shift the burden from rich to poor (for instance, tax funded systems are more progressive than social insurance systems, and systems with significant co-payments are likely to be most regressive of all). However if higher co-payments were felt to be desirable (perhaps to mitigate over-servicing) equity concerns might be met by providing balancing transfer payments or tax deductions. Many economists would argue that the best approach to improve equity is through the main instruments of personal tax and transfer payments, and that provision of

[1] I recognise that different health systems should be evaluated against different criteria. Williams (1997) outlines some appropriate criteria for predominantly public and predominantly private systems.

[2] WHO (2000) suggest three objectives of health systems: improving the health of the population; being responsive to expectations; and providing financial protection against ill-health. While these may be conflicting the centrality of equity is clear.

non-cash benefits such as health funding are a poor method for equalising circumstances.

Omissions

Success and failure of reform

The paper outlines many problems (twelve cases) encountered by recent reforms (are there no success stories?). But the failure of reform needs to be seen in context.

There has also been widespread and enduring improvement in the major indexes of health outcomes at the macro level. Developed countries have enjoyed (and do enjoy) increased longevity and improved quality of life (with morbidity compression). These benefits occur throughout the population and are not concentrated among the well off (van Doorslaer et al. 2000). Admittedly it is not clear how much of this is due to the efforts of health systems. Nevertheless, improved health outcomes must be one of the key successes of modern civilisation. In which case, how much does the failure of health policy reform matter?

In asking this provocative question I do not mean to imply that health policy reform is not necessary. I would argue very strongly that it is. However, in convincing politicians of its urgency we need to be clear about the reasons for reform. Reform may improve efficiency (relative to the counterfactual), it may improve fairness and it may result in a more transparent system, but it is unlikely to dramatically change health outcomes.

Implications for Australia

Many explicit and implicit research and policy issues emanate from Alan's discussion that have immediate relevance to the Australian scene.

Structure of health system

Most developed countries have moved towards separating the funding and service provision function of health care (the purchaser/provider split). The move from a passive purchaser to an active buyer suggests competitive gains in efficiency. There has been discussion in Australia and some suggestions have emerged. Alan warns that while the move to separating purchaser and provider may improve efficiency, it

won't be a panacea. Evaluation of health arrangements in England, France and the Netherlands would be informative; they've been there before and know the pitfalls.

Doctor remuneration and accountability

Mixed payment structures for doctors are probably needed to meet multiple objectives. While capitation and salaries provide cost control they do so at the expense of doctor productivity. While fee for service ensures doctor efficiency it can lead to over-servicing and loss of cost control. In the UK there are natural experiments where the mix of remuneration type is being fine tuned and could provide useful lessons.

In order to apply mixed payments in Australia it would be necessary to calculate the risk-adjusted premia necessary for capitation (while such data exist for populations overseas we would need to make calculations for the Australian environment and gene pool).

Doctor accountability is also an important emerging issue. Reform needs to encompass both action, specifically directed at doctors, and at the culture which fosters existing practices. The wider availability of medical knowledge, and the growing debate about doctor culpability and medical error is likely to intensify reform in this area.

Turning data into knowledge

Alan points out that health care systems are data rich but information deserts. This suggests two problems: either the data are not being used or the quality is poor. I suspect the data to which Alan refers is largely administrative data.

There are generally issues of security and confidentiality with administrative data but these can be overcome by establishing appropriate protocols. The quality of such data is likely to impose more severe limitations. Administrative data is generally not gathered for its potential research use, frequently lacks important variables, and is often of highly variable quality and in an inconvenient form. With time and money these problems can be tackled too — supplementary data may be gathered with client surveys, cases may be matched with other sources in a way that identifies key variables, and exhaustive and careful checking can produce clean data. However, there is bound to be a need for new data sources requiring additional

funding.[3] What is needed is the bureaucratic will to make existing data available in an appropriate form, and the funds to support researchers.

Framework for overcoming 'the dialogue of the deaf'

The paper clearly outlines the problem — 'the dialogue of the deaf' — but the solution is not so obvious. How do knowledgeable health policy researchers get through to policy makers? How can evidence-based research become the basis of policy reform? Alan outlines a plan to overcome the problem. It revolves around providing answers to four basic questions asking what doctors do, what they produce, how they produce it and who benefits. While I am sure that answering these 'health' questions will provide the material for informed debate leading to sensible evidence-based reform proposals, I suspect that this will not on its own be sufficient. As well we will need to win the 'hearts and minds' of politicians, bureaucrats and other key stakeholders.

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[3] We have some experience of using such sources at the Melbourne Institute. We are designing the second wave of a household panel survey (HILDA) that we hope will provide a future valuable source of raw material for health economics research. A description of the survey and its development is available at the Melbourne Institute website, www.melbourneinstitute.com and click on the HILDA survey button.

General discussion

The discussion related to:

- the conduct of research in the health area and the influence of research findings on health policy;
- the goals of efficiency, equity and universal access in health care; and
- medical indemnity and adversarial systems of accountability.

This was followed by some further comments by Alan Maynard in response to points raised by the discussants in their papers and a question from a participant during the general discussion.

Research issues and health policy

One participant suggested that beyond the small quantity of research directed at evaluating different approaches to health care arrangements another key issue was the poor uptake of existing research results. In cases where research findings had negative implications for current practices or funding, it was often the case that practitioners would simply dismiss the findings by questioning the validity of the data or research methodology used. It was also sometimes difficult to persuade governments about the need for certain types of research and gain access to the necessary data, for instance to fully analyse small area variations.

Recent technological developments in the IT area were singled out by several participants as having the potential to permit better use of system data to improve the performance of the health system. Better use of data for management purposes could yield diverse benefits by aiding improvements to clinical procedures, facilitating better coordination between health services, aiding the pro-active management of safety and improving the availability and format of service information for consumers. According to one participant, institutional resistance to the wider application of such technology was no longer a significant barrier to its use. It was now a matter of governments financing such change to allow health to participate in the same sort of information revolution that the rest of the economy has shared in over the last decade or so. Several participants argued that there is a need to actively involve health practitioners in this process. However, for some, privacy concerns about the misuse of personal data create a potential barrier to such

change, but this was arguably a problem that could be overcome through careful management.

Some participants expressed concerns about the implications of a switch to a funding model which was entirely outcomes–based. One view put forward concerned the difficulty of quantifying outcomes in health. An example concerned community sporting events organised around a positive health message — such as safe sex or the responsible use of alcohol. Such events might not have easily quantifiable effects on health, and the adoption of a strict outcomes-based funding regime might mean that they would not receive funding in the future.

Efficiency, equity and universal access in health care

The principles of efficiency and equity were widely discussed during the session. A number of participants emphasised the need for careful definition of these principles as a precursor to looking at the need for reform and the merits of alternative reform paths. Some participants argued that the pursuit of equity via the provision of universal access to health care regardless of ability to pay, often leads to both highly inequitable and highly inefficient outcomes. Indeed, an inherent inequity associated with universal access is there is no recognition of those who can afford to pay for health but are not prepared to do so, and are instead prepared to rely on the public system, the system that should be in one sense available for those that are unable to pay for it. The corollary of universal access is that access then becomes limited because the demand almost invariably exceeds the supply of funds and thus the supply of services.

Complacency within the Australian system in relation to equity and efficiency enhancing reforms was seen by one participant as explainable in large part because of the tendency by some to compare current outcomes under our system with the American case. For benchmarking to be useful, there is a need to benchmark our health system against ‘best available practice’ rather than using a benchmark that is well short of best practice – the US, for example, is a high-cost system.

The achievement of equitable outcomes through income redistribution using either taxation and/or transfers via the social security system or other mechanisms (such as co-payments) was also discussed. One participant suggested that the Australian tax/social security system, characterised by falling marginal tax rates, a targeted age pension and universal access to the public health system, led to highly inequitable outcomes. Several participants maintained that it would be preferable to means test access to health care and to tax high income earners at higher rates to finance better health services and thereby achieve more equitable outcomes in health. A number of

participants observed that relying on charges or co-payments at the point of service was unlikely to be particularly effective in rationing the access of high income earners, and instead had adverse impacts on low income earners and the sick by creating a financial barrier to health care. Co-payments, therefore, had inequitable outcomes.

One participant connected the issues of equity and efficiency to the earlier discussion about health research. The only way to separate myth from reality in relation to efficiency and equity was to provide funding for independent research.

Finally, one participant pointed to the different apparent values amongst those present at the Roundtable, observing that these differences affected judgements about appropriate financing techniques. On the one hand, there were those who believed users ought to pay for services if able whilst, on the other hand, there were those who ascribed to broader social views based on notions of community solidarity.

Medical indemnity and adversarial systems of accountability

The issue of increasing medical indemnity costs in Australia was raised by several participants. One participant maintained that dramatic increases in indemnity premiums over the last decade were threatening the availability of services in some areas. Obstetrics and neurosurgery were highlighted as areas that had experienced relatively large increases in premiums. Several participants suggested that there was now a reduced willingness to practice in these areas because of their high-risk nature. Another participant suggested that problems with indemnity insurance were a reflection of wider problems within the health system in effectively handling quality and accountability issues. Quality and accountability mechanisms which reflected an adversarial and prescriptive legal framework were seen to be problematic and in need of evaluation and reform.

Further comments by Alan Maynard

On being invited to make further comments in response to the discussants, Alan Maynard pointed out that an important distinction in the health area was between research quantity and quality. He suggested that health researchers need to address unevenness in the quality of research, and emphasised the need for internationally agreed-upon criteria covering good research and evaluation practice. He went on to

argue that both economists and clinical scientists had not always followed good precepts when conducting research and evaluations in the past.

He also commented that the impact of health care on health appeared to be increasingly positive, as evidenced by figures covering the compression of morbidity. However, it was difficult to discern how much of this was actually due to improvements in health care, such as the introduction of new pharmaceuticals and technologies, and how much was due to improvements in the distribution of income and education.

On the specific question of whether or not it was possible to reform health care without ruining trust, he argued that the combination of financial drivers in health and hefty practitioner liability can undermine trust on the part of participants in the health system. The issue of trust was important because of its effect in lowering transactions costs. Adam Smith, for example, argued that trust rather than greed was the dominant mechanism of exchange in most markets. Comparing the reform process in the UK and the US, he suggested that the UK had followed a more 'bureaucratic' route while the US had adopted a finance-based approach to reform, manifested in managed care systems. The effects on trust of these different approaches to reform was unclear. Regardless of the general approach to reform, change that was led and inspired by doctors was desirable, and in this regard there was the obstacle of a distinct lack of criticism from within the medical profession itself.

PART C

ADDRESSING COST PRESSURES IN HEALTH CARE SYSTEMS

4 Addressing cost pressures in health care systems

Thomas Rice
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4.1 Introduction

During the 1990s, health care costs in developed countries continued to rise relative to spending on other goods and services. Between 1990 and 1998 (the last year for which complete data are available), the proportion of GDP devoted to health rose in all but one (Sweden) of ten countries examined in this paper (OECD 2001). These increases, while quite modest in some countries (eg. 0.2 – 0.3 per cent in Canada and the Netherlands), were high in others (eg. 2.1 per cent in Switzerland).

It is not surprising that these costs continue to rise. It is generally believed that health care is a 'luxury good', in that countries choose to devote more of their resources to it as they become wealthier. This effect is both direct and indirect. There is a direct relationship because once a population is wealthy enough to adequately feed and shelter its population, it can devote more of its resources to enhancing the quality of life. Health care is a key component of this, in that it can help alleviate pain and worry.

Perhaps more importantly, however, is the indirect effect. As a country becomes wealthier, other things happen that, in turn, tend to result in higher health care spending. As people live longer, the average age increases, and with it health care spending rises as well. Although research is somewhat ambiguous on this point, it may also be that the sorts of illnesses that older people get are more costly to treat. Wealthier countries tend to have more comprehensive social insurance programs, and one component — medical care insurance coverage — has a strong effect on use of services. Related to this, wealthier countries can afford more 'high tech' medical procedures that more often than not are cost-increasing. As people become more accustomed to relying on these services, their expectations rise as well.

Will these trends continue? Predictions about the future are notoriously unreliable. To give one example from the US, in a report published in 1992, the Congressional Budget Office estimated that health expenditures would consume about 18 per cent of GDP by the year 2000 (CBO 1992). The actual figure was 13.2 per cent (see Levit, Smith and Cowan et al. 2002). Remarkably, the prediction was almost 40 per cent too high — and it was for a period just eight years away!

With this caveat in mind, it does seem as though the developed world may be beginning a period of renewed health care cost pressures, sustained largely by a leap in the ability of medical care to provide better and longer life for a large segment of the population. A recent US-based study by Cutler and McClellan (2001) concludes that the benefits of technological change outweigh the costs in four of five medical conditions (heart attacks, low-birthweight infants, depression, and cataracts) and are equal to costs for a fifth (breast cancer treatments). In the case of heart attacks, for every dollar spent, there was a gain of seven dollars. They conclude that (Cutler and McClellan 2001, p. 18), 'the net benefit of technology changes is so large that it dwarfs all of the uncertainties in the analysis.'

Pharmaceuticals are an area of particularly rapid cost growth, again, due to their apparent ability to improve the quality of life. Examples include the development of protease inhibitors to treat AIDS, greater use of statins to lower cholesterol, and the development and use of new anti-depressant drugs (see, for example, Berndt 2001). In the US, drug spending rose 17 per cent annually between 1997 and 2000, compared to 5 per cent for all other health spending (Levit et al. 2002). In the future, there are yet further opportunities for a spike in health spending. Most prominent of these concern genetic therapies, which offer the prospect of catching disease even before symptoms appear, as well as providing cures for ailments that currently cannot be treated. In wealthy countries one can only imagine the demand for generic therapies that could eliminate the prospect of contracting — to give a single example — Alzheimer's Disease.

It is noteworthy that this evolving belief — that even among well-insured persons in developed countries, more medical care could have substantial benefits — is a major change from the past. In examining the literature over the past two decades, two themes emerge: (a) among the well-insured, there is only a marginal gain from additional service usage (see, for example, Brook et al. 1983); and (b) that non-medical factors (eg. lifestyles, social conditions) are far more important determinants of health status (see, for example: Fuchs 1983; Evans and Stoddart 1990).

It is therefore the author's view that the overriding pressures on future costs will be due to the demand-side of the health care market. Undoubtedly, supply factors will also play a role; indeed, nine of the ten countries (all except Canada) examined here

experienced an increase in the number of physicians per capita during the 1990s (see, OECD 2001). But the major drivers of increased future costs are very likely to be the ability of medical care to improve health, coupled with rising consumer expectations that these treatments should be made available.

This raises a critical question. If medical care is able to improve health, why is it so important to control health care spending? The question is not a trivial one. If people in a society wish to spend more on health care and consequently, less on other things, why should government stand in the way — particularly when, as just argued, it seems increasingly clear that certain new medical devices, products, and procedures can improve the quality and length of life?

It turns out that there are several reasons why cost control is important and is likely to be at the forefront of health policy in all developed countries for years to come. First, there are significant opportunity costs associated with additional spending in both the public and private sectors. A dollar spent on health cannot be spent on other things like education, housing, or consumer goods. Cost control will continue to be a major issue simply because it is imprudent to waste money in the face of so many strong consumer desires and societal needs. The issue is particularly acute in the public sector, given that nearly all countries seem to be in a chronic governmental funding crisis. Limiting the amount of public resources that go towards medical care allows government to carry out its other responsibilities with more resources.

Second, there are various ways in which the health care market is imperfect that may lead to more spending than is desirable. Unlike other goods and services, health care services are often well insured, which insulates consumers from facing their true cost (ie. resource value). In addition, because consumer information is often poor, people may demand medical goods and services in part because of strong advertising, or because they are 'induced' to do so by providers who have a pecuniary incentive to increase demand.

Finally, one of the major reasons that the number of uninsured persons continues to rise in the US, and why social insurance systems are in jeopardy in some other countries, is because of rising health care costs — making coverage increasingly unaffordable. As governments (and Australia provides a good example) try to move more of the cost burden towards private insurance, inequities inevitably arise. Keeping costs down reduces these pressures that tug at solidarity.

The remainder of the paper is organised as follows. Section 4.2 categorises and evaluates various cost-containment strategies designed to address rising health care costs. The material is categorised by strategy, not by country. Nevertheless, because different countries rely on different strategies, it is also useful to examine their

impacts across nations. This is the focus of section 4.3. Because of the author's background, most (but not all) of the examples referred to in the paper are from the US. Nevertheless, it is hoped that some of the policy lessons learned in the US context can provide useful information for Australia. Section 4.4 is an attempt to do so; it also provides some thoughts about future research.

4.2 Categorising and evaluating strategies to address cost pressures

This section considers both supply and demand-side strategies for addressing cost pressures. Although it could be argued that some of these strategies affect both the supply and demand for care, it is useful to group them in this way — at the risk of misclassification — because those within a category share some common characteristics. Since there are so many more supply-side tools available, the majority of the discussion concerns them.

Supply-side strategies

Before embarking on an analysis of alternative supply-side strategies, it is useful to provide a framework that groups similar ones together.[1] The framework developed here relies on two equations; equation 1 applies to the fee-for-service system, and equation 2 to capitated systems.

Equation 1 $$E = \sum_{j=1}^{j} \left(P_j Q_j \right)$$

Equation 2 $$E = \sum_{j=1}^{j} \left(C_j N_j \right)$$

where:

- E = total health expenditures
- P = unit prices for services
- Q = quantity of services
- C = cost of services per person
- N = number of persons
- j = index representing each payer

[1] The framework presented here draws on somewhat different ones that the author has published previously. See, for example, Rice (1992, 1993) and Rice and Kominski (2001). The only difference between the last of these and the current framework is that the current one divides strategies as to whether they focus on the supply or demand-side.

Equation 1 states that total expenditures are equal to the product of the price of services and the quantity of services, summed over all payers. In contrast, equation 2 is oriented towards the person, not the service. In this equation, total expenditures are simply the product of costs per person, and the number of persons, again summed over all payers.

The equations employ summation signs in order to illustrate the potential for 'cost shifting' between payers. (It is, of course, unnecessary to sum over payers in health care systems that rely on a single payer.) To illustrate with an example from the United States, suppose that one payer, Medicare, successfully controls both P and Q. That clearly would result in lower Medicare costs, but would not necessarily contain system-wide health care costs. This is because hospitals and physicians might respond to Medicare's controls by trying to increase their Ps or Qs to the patients of other payers. The same thing could happen in Equation 2. A strong consortium of employers might cut a particularly good deal with a Health Maintenance Organisation (HMO), with the HMO responding by charging more to groups outside of the consortium.

The framework provided simply defines the determinants of health expenditures; what may be hidden is the fact that the success of alternative cost containment strategies hinges on how they affect consumer and provider *behaviour*. In equation 1, for example, it might appear that a reasonable strategy for controlling expenditures would be to lower the prices of services paid to physicians. However, this would not be successful if physicians responded to these price controls by inducing their patients to obtain more services (ie. P would go down, but Q would go up).

The same is true of the capitation strategies in Equation 2. The most obvious approach for controlling expenditures would appear to be to control costs per person. However, if this is accomplished by paying HMOs less, they may in turn respond by seeking to enrol only the healthiest people, or by lowering the quality of care they provide.

In analysing cost containment strategies, then, we must be aware of the ability of providers (and others) to 'game' the system to meet their own goals. Strategies that are difficult to game will tend to be the most successful ones. Thus, when analysing cost containment strategies, we must also consider how they influence provider and consumer behaviour, which in turn will strongly influence their ultimate success or failure.

Before proceeding any further, one other caveat is necessary. This section of the paper focuses on ways of containing costs, but it must be remembered that cost containment is not society's only goal with regard to health services; access,

quality, and satisfaction also matter. Consequently, if analysts find that a particular strategy is effective in controlling costs, they must also consider any spillover effects — such as decreased quality — that may also result. Only by considering both benefits and costs can we make the best policy decisions for reforming our health care system. For this reason, section 4.3 presents cross-national data not only on costs, but on access, utilisation, quality, and satisfaction as well.

Fee-for-service options

Fee-for-service options can be divided into three types, each corresponding to a term in equation 1: P, Q, and E. The following discussion is divided accordingly. In addition, it is shown that another cost control problem can arise in situations where there are multiple payers which may lead to attempts by some payers to shift costs to other payers.

Price options

One type of cost containment strategy that has been used throughout the developed world is controlling the unit prices paid to providers. Examples include limiting hospital per diem (ie. payments per patient-day) rates, or freezing or even lowering payments provided to physicians under fee schedules.

Before reviewing some evidence, it is useful to outline the overall advantages and disadvantages of the price control options. There appear to be two possible advantages. First, controlling price typically involves less administrative effort (and expense) than controlling the quantity of services. Rather than examining the appropriateness of every provider and every service, it is only necessary to ensure that payment rates conform to regulated amounts. Second, and related to this, price regulation tends to be less intrusive; it does not entail the type of micro-management often associated with the quantity-related options discussed next.

There are some disadvantages, however. First, it addresses only one component of total expenditures. Price-based strategies can be circumvented if providers are able to increase the quantity of services they provide. Second, these strategies can diminish the efficiency of the market. If the wrong price is chosen, the wrong quantity and/or mix of services may be provided.

Most research has focused on physicians and has found limited cost savings when physician payments are frozen or reduced because physicians respond by providing a greater quantity of services. If their payment rates drop, physicians in a fee-for-service environment can attempt (and very well succeed) in increasing the volume of services they provide — which is known as ‘physician-induced demand’ or

'supplier-induced demand'. Nevertheless, their ability to generate additional billings is probably limited. This is illustrated by the experience of the Canadian provinces, which have had tightly controlled physician fees since the early 1970s. Although the quantity of services provided has risen faster in Canada than in the US over this time period, it was not nearly enough to compensate for the lower fees (see, for example, Barer, Evans and Labelle 1988). And in a country like the US, where there are multiple payers, an effective way for a payer to control physician spending is to pay so little to doctors that they do not want to treat such patients. This has happened in many state Medicaid programs. Canadian provinces have not suffered from this problem because there is only one payer; the provinces are the only game in town.

On the hospital side, it is useful to consider the experience with case-mix based payment systems such as diagnosis-related groups (DRGs), where hospitals receive a fixed fee for an entire hospital stay. Although this is not technically fee-for-service medicine, it is not capitation either, so for simplicity it is discussed here. DRGs are less subject to inducement because hospitals have little ability to increase their revenues under the system. The most obvious way to do so is by increasing admissions, but doctors, not hospitals, are responsible for hospitalisation decisions. Another way to raise revenues is to 'upcode' — that is, apply more remunerative diagnoses to patients. This strategy, however, will not work in the aggregate if total hospital payouts are controlled. In the US, the amount of money that is appropriated for hospital payment under Medicare does not tend to rise if hospitals upcode. Rather, payment *per* DRG declines. Although this obviously leads to an incentive problem — hospitals are penalised if they *don't* try to upcode — it does control aggregate expenditures.

There remain two other avenues for increasing revenue under DRGs: earning more from treating patients on an outpatient basis, and shifting costs to other payers. Although US Medicare outpatient costs have risen rapidly, this increase has not been sufficient to cut into Medicare savings very deeply (Chulis 1991). Medicare is now in the process of implementing a new system of prospective payment for outpatient services, which will further reduce the incentive to shift patients. Implementation started in 2000 and will be completed by 2003. Each outpatient procedure is assigned one of approximately 750 codes and payment will be done on a prospective basis (Medicare Payment Advisory Commission 2002).

The same cannot be said about the shift to other payers. In the US, hospitals have been successful in shifting expenses onto private payers by charging more than it costs to treat their patients. In 1990, for example, Medicare paid hospitals less than 90 per cent of the costs associated with treating program patients, and Medicaid, only 80 per cent. In contrast, private insurers paid hospitals about 28 per cent more

for their patients' care than it actually cost to provide. Cost shifting has decreased substantially in the last few years, in part because Medicare has begun to pay its share of hospital costs, and Medicaid payments (for the care of poor patients) have increased as well. More importantly, however, has been the ability of managed care plans to negotiate better rates with hospitals. In 1998, private insurers were paying *only* 14 per cent more than their patients actually cost hospitals (Prospective Payment Assessment Commission 1992).

Because of cost shifting, some analysts have concluded that DRGs have done little if anything to control national health care spending (Chulis 1991), despite the evidence of substantial savings in the Medicare program (Russell and Manning 1989). This is not necessarily an indictment of DRGs, however. If other payers were to adopt DRGs, it is possible that system-wide hospital spending would be better controlled. Thus, if used in a country that relied on a single-payer, DRGs have the potential to be an effective cost containment vehicle.

The main worry about DRGs is that they have reduced quality because hospitals have an incentive to discharge patients 'quicker and sicker.' Indeed, the implementation of DRGs in the US did lower lengths-of-stay substantially, but surprisingly, there is little good evidence on quality. A very early study found no major deterioration, but there is little available evidence from the past 15 years (Kahn et al. 1990). The reason for this lack of evidence is that DRGs were implemented, and subsequently existed, in an environment in which many other changes were taking place — and in particular, the rapid growth of managed care. It is therefore difficult to determine which of these changes were responsible for any shifts in quality of care.

Quantity options

The next group of fee-for-service cost containment strategies are those aimed at service quantity or utilisation. Examples include utilisation review, technology controls, and practice guidelines (to name just a few). Their primary advantage over the price options is that they can focus on reducing waste in the system. For example, if a particular procedure is inappropriate for a patient with a given diagnosis, quantity options can focus on that particular problem.

There are two disadvantages. Like the price options, they only target one component of expenditures. If providers can game utilisation controls by increasing prices, then the savings from these programs will be diminished. Second, these strategies often are cumbersome from an administrative standpoint, involving much bureaucracy, paperwork, and undue oversight over the practice of medicine.

Because hospitals are the largest single health cost item in most of the developed world, they have been the subject of continuing attention. One set of strategies with some interesting lessons were certificate-of-need (CON) programs in the US. These programs, which became commonplace in the early 1970s, were aimed at controlling expenditures by reducing the amount of hospital resources available — both beds and equipment. Typically, hospitals needed permission for proposed investments in excess of US$100 000. Local boards, called health systems agencies, ruled on hospital requests for additional resources.

Many studies have been conducted on CON, and almost all reach the same conclusion: these programs did not succeed in saving money (see, for example, Steinwald and Sloan 1981). Although there was some effect on the number of hospital beds, capital equipment per bed rose even more quickly than before.[2] There are a number of reasons for this failure, but the fundamental one is this: The entity making the decisions on hospitals' applications to expand — local health systems agencies, and ultimately states — were not financially accountable for the increased costs associated with approving hospitals' requests. In other words, why would a community board turn a hospital request down when the costs would be borne by such payers as Medicare, Blue Cross, or commercial insurers? On the contrary, board members would have every incentive to approve requests by their local hospitals, since that would be viewed as helpful to their communities and constituencies.

This is not to say that technology controls can't work — they probably can. However, they need to be implemented on a broader geographic level by an entity that is at risk for additional health care spending. The Canadian provinces provide such an example. In Canada, each province has its own health care system, but all have to conform to various federal requirements if they are to receive federal contributions. One key point, often overlooked in the literature, is that provinces are 100 per cent at risk for additional health care spending because annual federal contributions are fixed. Provinces do not necessarily receive more money if they spend more on health care than anticipated.

Since provinces are also responsible for financing a host of other non-health programs, they must be judicious in allotting their tax revenues to health care. One way they have done this is by controlling the diffusion of medical technologies. If a hospital wants to expand or purchase equipment, it needs the province's permission, and provinces have not been eager to grant requests. As shown in table 4.1, the US has three times as many MRIs and almost twice as many CT scanners as Canada.

[2] Another effect was that hospitals increased the purchase of equipment that cost less than the CON threshold (eg. US$100 000), and sometimes split the costs of more expensive equipment in order to circumvent the regulations.

Table 4.1 **Availability of selected medical technologies**[a]

Units per million persons

	CT scanners	*MRIs*	*Radiation therapy*	*Lithotriptors*
Australia	20.8	4.7	4.9	1.0
Canada	7.3	2.5	7.0	0.5
France	9.7	2.5	7.8	0.8
Germany	17.1	6.2	4.6	1.7
Japan	84.4	23.2	na	4.0
Netherlands	9.0	3.9	7.2	0.8
Sweden	13.8	6.8	0.8	0.3
Switzerland	19.0	13.2	11.7	3.0
United Kingdom	6.1	4.5	3.3	na
United States	13.2	7.6	4.0	2.4

a Data are from the most recent year available between 1990 and 2000, which varies by country. **na** Not available.

Source: OECD (2001).

Later, in table 4.3, it can be seen that the rate of performance of coronary artery bypass operations is three times as high, and coronary angioplasties almost five times as high, in the US as in Canada. Canadians often claim that they have achieved this by regionalising their technologies, thereby making their system more efficient. Others contend, however, that the result is rationing. Some limited evidence on the extent of 'queuing' for services is provided in section 4.3.

Up to this point, the discussion of quantity has focused not on services, but on hospital beds and technologies. Most recent efforts in the US, however, have been aimed at particular services. Most commonly this is done through utilisation management (UM). UM programs are usually implemented by third-party payers as a way to reduce the provision of unnecessary or inappropriate services. Examples include: pre-admission certification of hospital stays; concurrent and retrospective review of stays; management of high-cost patients; requiring second opinions before embarking on surgery; and profiling of physicians' practices. Evidence so far indicates these programs, particularly pre-admission certification of hospital stays, may produce moderate savings.[3] The evidence on other programs, particularly second opinions for surgery, is less optimistic (see, for example, Lindsey and Newhouse 1990).

The wave of the future is now on developing UM for the outpatient setting, particularly through physician profiling. However, the savings potential of these

3 There is a perception among employees (or employee benefit managers) that management of high-cost patients can result in very large savings, because only the most costly patients are targeted (see, for example, Gabel et al. 1989). But, this has never been verified with claims data.

programs is still largely untested. There is strong reason to believe that UM in the outpatient setting will be much more difficult to implement, because of the difficulty in knowing whether a physician who is a high spender is less efficient or more profligate, or alternatively, has a more severely ill group of patients than his or her peers. Normally one tries to 'risk adjust' a provider's case mix, but that is very difficult at the level of the individual physician, who experiences a relatively low case load and therefore is more likely to have healthier or sicker patients as a result of random chance. The best we are likely to do — and the emphasis now — is to employ risk adjustment formulas to large physician groups.

The most recent efforts have focused on developing practice guidelines. These are written protocols that are designed to instruct physicians on what procedures are appropriate for patients with particular diagnoses. In the US, the guidelines are largely being developed by researchers under the auspices the federal government's Agency for Healthcare Research and Quality, although some medical specialty groups are doing so as well. One intent of the guidelines is to increase quality by reducing the amount of regional variation in health care use. It has been widely documented that different parts of the country have very different surgery rates for certain procedures, and that these differences cannot be readily explained by differences in patient health status.[4]

Development of practice guidelines is still in its formative stages, so we cannot know the extent to which they can control costs. There is reason to be sceptical, however. Just as practice guidelines could reduce resource use by physicians who provide too many services, they could just as well *increase* spending by physicians who currently provide fewer services than are recommended by the guidelines. The issue, then, is whether the guidelines are likely to prescribe a quantity of services that is greater or less than what is currently being provided. A US General Accounting Office study on treatment of cancer patients provides evidence that many physicians are providing less treatment than is suggested by the guidelines. It concluded that (US General Accounting Office 1988, p. 4):

> … 20 percent of those with Hodgkin's disease, 25 percent of those with one type of lung cancer, 60 percent of those with rectum cancer, 94 percent of colon cancer patients — did *not* receive what [the National Cancer Institute] considers state-of-the-art treatments. This is especially troubling in that all these treatments have been proven to extend patients' survival in controlled experiments, many of which were concluded 10 or more years ago.

[4] This research was originally conducted by John Wennberg and his colleagues. For a review of the early literature, see, for example, Paul-Shaheen, Clark and Williams (1987). For a more recent analysis, see, Wennberg et al. (2002).

Expenditure options

The final group of fee-for-service options are those that directly target expenditures. Some examples include Medicare in the US, hospital global budgets in Canada, and national and sub-national health budgeting elsewhere. The overriding advantage of expenditure controls is somewhat tautological — they aim at controlling health care expenditures directly. The extent to which they can succeed, however, depends in large measure on whether all health care spending is targeted, or just a component of total spending such as hospital or physician expenditures. The primary disadvantage is that the implementation of such controls may result in a less efficient health care system, which could reduce the quality of services provided.

The main example of expenditure controls in the US at the physician level was the implementation of Medicare Volume Performance Standards (MVPS) in the early 1990s. (This was recently replaced by a similar system called the Sustainable Growth Rate, described below.)[5] The MVPS system was part of the 1989 physician payment reforms adopted by Congress that also resulted in the Medicare fee schedule based on resource-based relative values. Congress recognised that simply redistributing physician fees to provide higher payments to primary care physicians, and lower payments to specialists, while more equitable, would not by itself control burgeoning program expenditures. That was left to the MVPS system.

Under the system, each year Congress set a target rate of increase in Medicare physician expenditures. If actual spending exceeded the target, the next year's physician fee update was normally reduced by that amount (although Congress could do whatever it chose when the time came). Conversely, if the growth in spending was less than the target, physicians would get more. Suppose, for example, that the target for 1997 was a 10 per cent increase in spending. If actual spending increased by 12 per cent, the target would have been exceeded. Most likely, this would be extracted the next time Congress updated Medicare physician fees. If physicians were due a 5 per cent cost-of-living increase, they would likely be granted only 3 per cent.

The Sustainable Growth Rate system was enacted as part of the *Balanced Budget Act of 1997* and implemented in 1998. The main difference between it and the MVPS system was in setting the target expenditure rate of 'sustainable growth,' which was determined by four factors: the percentage change in physician input prices; the percentage change in Medicare physician fee-for-service enrolment; the projected change in real GDP; and the percentage change in spending for

[5] For details on the MVPS and Sustainable Growth Rate systems, see, Medicare Payment Advisory Commission (2002).

physicians' services resulting from other changes in law (Medicare Payment Advisory Commission 2000).

The MVPS system (and by analogy, its successor) has been criticised as being too blunt an instrument for affecting individual physicians' behaviour. Because it applies nationally, individual physicians who increased the volume of services they provided would not pay the price by experiencing a decline in their fees. This would only happen if all physicians behaved this way. But if a physician does not increase his or her volume, but other physicians do, then the first physician would suffer — his or her volume (Q) did not climb, but the fee (P) will have fallen due to the behaviour of other physicians. The systems may therefore contain a 'perverse' incentive to increase the volume of services — which is exactly what it was supposed to prevent. One way to improve the incentives would be to target smaller groups of physicians, by having separate targets for each specialty, state, or state-specialty combination (see, for example: Rice and Bernstein 1990; Marquis and Kominski 1994).

This expected behaviour does not appear to have transpired, however: the volume of services, by and large, has been approximately equal to the target (Physician Payment Review Commission 1993, pp. 229–230). One possible explanation is that physicians could be moving more of their practices towards privately insured patients, because private insurer fees are far higher than Medicare's. There is some limited evidence that this has occurred (Yip 1998; Tai-Seale et al. 1998).

To find an example of expenditure controls applied to the hospital level, we must again look to Canada. In each of the provinces, hospitals are paid an annual global budget, which is negotiated between the provinces and each individual hospital. If a hospital exceeds its budget, there is no guarantee that it will be compensated.

Hospital global budgets seem to have worked in the sense that hospital spending in Canada has risen much less quickly than in the US (refer to, OECD Secretariat 1989). The primary way in which this has been achieved is that Canadian hospitals have only about half as many non-physician personnel as do their US counterparts (Newhouse, Anderson and Roos 1988; Detsky et al. 1983). (Capital expenditures have also been controlled, but for different reasons as they are not included in the global budgets.) One perverse effect — which has now been dealt with — was that Canadian hospitals seemed to prefer long-staying patients who might belong in nursing homes, because these patients occupy a bed but use few other resources. Another fear is that the lack of resources is diminishing the quality of care in Canadian hospitals. What little available evidence there is indicates, however, that inpatient outcomes appear to be similar in the two countries (Roos et al. 1992).

The two strategies just discussed, Medicare MVPS/Sustainable Growth Rate and hospital global budgets, do not constitute comprehensive cost-control policies because they are aimed at only one component of health care expenditures. A broader strategy might be to target all (or most) health expenditures at the same time, through a system of national or sub-national (regional) budgeting.

The typical way of controlling total expenditures in a fee-for-service system is through expenditure targets. Generally under such a system, unit prices are adjusted to ensure that targeted expenditures are met. This differs from the MVPS/Sustainable Growth Rate system in two primary ways. First, it applies to all payers, not just to Medicare. Second, it applies to most of the health care system, not just physician payment. Although most experience — both domestic and international — is with using expenditure targets for paying physicians, it could nevertheless be applied to other services, such as hospitalisation. In such a case, DRG payments per admission could be tied to meeting a particular growth in inpatient expenditures (Marquis and Kominski 1994).

The advantage of such a system, of course, is that it would control expenditures directly. There are several possible disadvantages, however. It might result in an inefficient use of resources, it could potentially harm quality, and it requires massive amounts of timely data that currently are not being produced.

With regard to efficiency, in the long run, prices are based on the cost of producing a good or service in a competitive market. If prices are too high, then the incentive would be to overproduce the good; if they are too low, the incentive would be to under-produce. Under an expenditure target system, prices would not change to reflect demand and supply considerations, but rather, to reflect how closely total expenditures conformed to a target. The advantage is that prices would tend to fall when quantity got too high, so it might be argued that the system is self-correcting. The problem is that there is no assurance that health care inputs would be used efficiently by producers when the market mechanism is circumvented. Even more troubling is the possibility that the mix of services produced would not be based on what consumers would like to use.

This touches on the second potential problem — quality. Suppose that a government sets an austere budget level, necessitating a subsequent decline in unit prices. This might dissuade providers from delivering necessary services for fear that they would exceed the expenditure target. Because adequate data systems do not yet exist for monitoring quality, there is a strong possibility that quality would be sacrificed in favour of controlling expenditures.

Finally, there is the data problem. To make expenditure targets work in a fee-for-service system, it is necessary to have up-to-date information about the quantity of

services provided to all patients. It is through this information that total expenditures are tallied, and updates are made to provider prices. In the US, however, we have no formal mechanism for obtaining utilisation and expenditure data on a timely basis for privately insured patients or for publicly insured patients in managed care (Kominski 1998). It would take several years to develop such a system, but the process has not yet even started. Thus, the fee-for-service method that would have the greatest likelihood of controlling costs also perhaps suffers from the most shortcomings. This illustrates that there are indeed no easy answers for controlling costs under a fee-for-service system.

Shifting costs between payers

If there is only one payer in a country, then the above discussion is inclusive. That is, all fee-for-service cost containment methods by definition must focus on price, quantity, or expenditures. This is not the case, however, when there are multiple payers. In such countries — with the US being the prominent example — controlling costs from one payer will not necessarily result in successful overall cost control because providers may respond by attempting to increase their revenues from other payers. For example, if one payer lowers the price it pays or the quantity of services it covers, providers can try to compensate by charging more or doing more to patients from other payers. This phenomenon was discussed earlier in the context of the US Medicare program.

Even when there is more than one payer in a country, it is possible to ameliorate the problems arising from cost-shifting by coordinating provider payouts from the various payers. Under an 'all payer' system, all insurers pay providers the same amount for delivering a particular service. Japan has what some consider to be the purest type of all-payer system in which fees paid are the same regardless of the provider from whom treatment is sought or place of treatment (refer to: Ikegami 1991; Ikegami et al. 1999). In some cases (eg. hospital payments in France and the Netherlands), government regulators establish these fees. In Germany government is less involved; a consortium of sickness funds negotiates joint rates with hospitals (Glaser 1991). In such countries, all-payer rates are the norm for physician payments as well.

There are two main potential advantages to all-payer rate setting. First, providers do not have an economic incentive to favour one type of patient over another. This contrasts with the situation in the US, where, for example, many physicians have tended to avoid treating Medicaid patients because historically program payment rates have been so much lower than those paid by Medicare and by private insurers. The second advantage, and our focus here, is the inability of providers to cost shift, that is, increase charges to one payer to compensate for lower payments from

another. Among other things, cost shifting makes it difficult to control overall costs because providers can charge the patients of one payer more if another payer provides less.

The main potential disadvantage of all-payer rates is that it does not allow higher-quality providers to earn more money. Because providers who practice excellent medicine get paid the same as those that don't, there is also less incentive to excel. Some would also argue that individuals should be allowed to make themselves desirable to the best providers. This can occur in countries that allow them to enrol in substitute funds or opt out of the social insurance system entirely — but it not possible under a pure all-payer system.

Some countries, notably Australia, Germany and the Netherlands, allow wealthier individuals to purchase private insurance coverage. As a result, these patients tend to be worth more to providers and are likely to get favourable treatment. One key to preserving support of the public system is that the proportion of the population relying primarily on private insurance be kept reasonably low. (In this regard, Australia is notable in that government is encouraging more residents to purchase private coverage and, indeed, coverage rates have risen rapidly in recent years.) If too many people rely on private coverage, there will be more inequality of treatment by providers, as well as less cross-subsidisation since people tend to pay their own way when they have private insurance. The question, according to Morone (2000, p. 967) is: 'Will people continue to see themselves as citizens, as members of a shared community? Or will they turn into shoppers looking for their own best deal?' Answers to these questions are key to whether developed countries can keep their systems of solidarity intact.

Capitation options

Equation 2 showed that three things are necessary for controlling expenditures under a capitated system: controlling costs per person (C), the number of persons (N), and again the shifting of costs between payers. This section will focus on the first component; cost shifting has already been addressed, and controlling the number of persons (say, by denying eligibility for coverage), although clearly a cost containment strategy, is not a desirable option from a social justice standpoint.

Health maintenance organisations

HMOs have been a part of the US health care system for decades, and have been growing so rapidly that now most of the working age population is enrolled in them

or in their cousins, point-of-service (POS) plans.[6] HMOs are given an incentive to control costs by the fact that they are paid on a capitation basis. That is, they receive a fixed payment to provide an enrollee's care for a specific length of time, and this payment is unrelated to how much the HMO actually spends. Thus, if they spend less by being more efficient (eg. not hospitalising unnecessarily), then they get to keep more money. But how much they charge in premiums is kept in check by competitive pressures; if an HMO charges too much in premiums, fewer people are likely to enrol.

Much of the early evidence through the 1970s focused on group and staff model HMOs; it indicated that they could provide substantial savings — as much as 30 or 40 per cent over fee-for-service (Luft 1981; Manning et al. 1984). These savings rates are now viewed as overly optimistic. HMOs do save money, but it is difficult to know how much. On the one hand, when comparing HMOs and fee-for-service the savings of the former are exaggerated by the fact that HMOs experience a favourable selection of patients. That is, healthier people are more likely to join HMOs, which is partly responsible for their savings. On the other hand, HMOs probably save more than is directly attributable to them because competition between HMOs and fee-for-service plans has undoubtedly resulted in the latter reducing their costs.

Whatever savings they generate, HMOs by themselves are probably insufficient to solve long-term problems in rising health care costs. One reason is that they are subject to the same forces that raise the costs of fee-for-service medicine — overall growth in input costs and the development and diffusion of expensive medical technologies. Less evidence is available on how HMOs affect the quality of care provided. One comprehensive review of the literature found equal numbers of studies finding both better and worse quality of care in HMOs than in fee-for-service (Miller and Luft 1997).

There is now much interest by HMOs in developing 'mixed' payment systems, ones that are neither fee-for-service or capitation, but rather include aspects of each. In this regard, Robinson (2001, p. 149) has written:

> There are many mechanisms for paying physicians; some are good and some are bad. The three worst are fee-for-service, capitation, and salary. Fee-for-service rewards the

[6] Point-of-Service (POS) plans are like HMOs in that the health plan receives a capitation amount for providing services. Typically, enrollees must be referred by a primary care physician before receiving hospital or specialty care. The main difference is that under POS, patients can go to providers outside of the HMO network and still receive benefits, but usually only by paying a sizable copayment such as 40 per cent of costs. In true HMOs, no benefits are provided when patients go outside the network (except in the case of emergency, or with permission when the HMO does not have the staffing or expertise to deal with a particular medical problem).

> provision of inappropriate services, the fraudulent upcoding of visits and procedures, and the churning of "ping-pong" referrals among specialists. Capitation rewards the denial of appropriate services, the dumping of the chronically ill, and a narrow scope of practice that refers out every time-consuming patient. Salary undermines productivity, condones on-the-job leisure, and fosters a bureaucratic mentality in which every procedure is someone else's problem.

In the same article, Robinson discusses various innovative methods that are being developed to pay physicians in the US. Some examples include:

- Paying a monthly capitation rate to primary care providers, but supplementing this with fee-for-service payments for services that the payer wants to encourage, such as vaccinations, preventive care, as well as services in which it is more economical to provide primary rather than specialty care such as nursing home visits or fairly straightforward procedures.
- Paying 'case rates' for particular episodes of care (eg. cardiology) that cover all services provided by specialists during a particular window of time. This makes physicians cost-conscious for services over which they have control, but does not penalise them for other care for which they have little control.

One method used by many HMOs to control costs deserves mention — primary care gatekeeping. It is difficult to know where to classify this cost containment strategy because it is used in many countries, even those without HMOs. There are potential cost and quality advantages of requiring that hospitalisations and referrals occur through primary care doctors. On the cost side, when coupled with financial incentives, overall spending may be controlled by fewer expensive referrals. Regarding quality, the primary care physician is usually in the best condition to coordinate care appropriately.

The UK is particularly well known for its system of primary care gatekeeping, which was part of the National Health System 'internal markets' reform of the 1990s ushered in by the Thatcher government. General practitioners had the option of becoming 'fundholders,' putting them at financial risk for referrals and hospitalisation. Since the Labour Party came into power in 1997, there has been some movement away from the experiment. But there does nevertheless seem to have been a lasting impact. The system is being replaced by a somewhat similar system of primary care groups (Enthoven 2000), where according to Bindman and Weiner (2000, pp. 121–2) regional groups of primary care providers 'will absorb increasing amounts of financial risk and clinical responsibilities for managing not only primary care but also the specialty and public health care of their populations.' Overall, though, there seemed to be surprisingly little impact, either positive or negative, from the entire experience (see, for example, Smee 2000).

Managed competition

Analysts have recognised for years that pure competition is unlikely to work very well in the health care sector. There are many reasons for this; two will be listed here. First, the health care market is a very complicated one, with people having relatively poor information about their alternatives and the implications (on their health and pocketbooks) of making these choices. A second is biased selection; insurers may compete for the healthiest people, leaving sicker people with no source of insurance.

Advocates of managed competition believe that the marketplace can be trusted in the health care sector only if the players conform to certain rules.[7] To facilitate consumer understanding, health plans should be required to provide specific minimum benefits, or in some proposals, conform to standardised benefits. The latter would aid consumers in comparison shopping between alternative plans. Furthermore, certain practices on part of insurers, such as 'cherry picking' the healthiest people, charging unaffordably high premiums to unhealthy individuals and groups, and denying coverage for pre-existing conditions, would be prohibited. And to make consumers think twice before purchasing extravagant insurance policies, employers would make a defined contribution based on the lowest cost premium in the market. Some proposals would also tax health plans that were more expensive than the cheapest approved plan in an area. All of this would be carried out through consortiums called health insurance purchasing cooperatives, or health alliances.

Although advocates of managed competition often note that no country has fully adopted all of its components, its major characteristic — competing insurance plans — is being tested in more and more countries. (Volumes have been written both in favor and against the concept, so a comprehensive treatment will not be attempted here.) In the US, competing insurers are the norm. In the employment-based sector, the major portion of the population with health insurance, 65 per cent have a choice of two or more health plans (Kaiser Family Foundation 2000).

Choice of insurers is a fairly new concept in Europe, however. Some countries — for example, Switzerland and Germany — have begun to experiment with this, generally with mixed or, as yet, indeterminate results (see, for example: Zweifel 2000; Pfaff and Wasserner 2000). Most notable, perhaps, is the Netherlands. In the early 1990s, sickness funds were permitted to compete against each other (partly on the basis of premiums) to try to attract subscribers. Previously, individuals were required to join the fund in their particular region. Another important change was

[7] This is the theme of the writings of Professor Alain Enthoven. See, for example, Enthoven (1993).

that rather than being paid retrospectively, sickness funds received a prospective, risk-adjusted capitation payment per enrollee, which provided them with a strong incentive to control costs. One of the major problems thus far has been coming up with an effective risk-adjustment payment formula so that plans compete on the basis of efficiency rather than trying to attract the healthiest enrollees (for more details, see: Doorslaer and Schut 2000; Schut 1995; Saltman and Figueras 1998; Light 2001).

There are several potential advantages to managed competition in general, and competition among health plans in particular. Costs may be controlled if plans do compete on the basis of keeping premiums down. They can attempt to do this by choosing providers that have shown themselves to be efficient, paying them in a way that gives them an incentive to conserve resources, and implementing programs that control the use of unnecessary and costly services. Quality can be enhanced if competition is also based on this outcome. This may be possible if consumers are able to effectively use comparative information provided on plan quality. Finally, access can also be assured if generous subsidies are provided to low-income persons, that allow them to 'buy into' mainstream health plans.

There are, however, a number of concerns – including the potential for:

- Plans consolidating and monopolizing certain markets, leading to higher prices and less incentive to provide a good product.
- Difficulty individuals may have in using comparative plan information about quality.
- Difficulties involved in adequately risk-adjusting plan premiums to help ensure that plans do not attempt to control costs through selecting healthier patients.
- Inequities that may arise when different individuals and population groups have perceptibly worse coverage than others (Rice 2001).

Demand-side strategies

There are surprisingly few cost containment levers that can be applied directly at consumers, which we refer to as the 'demand side.' Three will be considered here: patient cost-sharing, providing additional information to consumers, and 'defined contribution' approaches to health insurance.

Patient cost sharing

Much of the information that we have on the impact of patient cost-sharing is from the RAND Health Insurance Experiment, a true experiment conducted in several US

communities between 1974 and 1982, in which participants were randomly assigned health insurance policies with different coinsurance rates. It found that individuals were indeed somewhat responsive to coinsurance. Those who had to pay 95 per cent of charges had annual expenditures that were 28 per cent less than those who paid nothing. From a policy standpoint, perhaps more relevant is the finding that those facing a 25 per cent coinsurance rate had expenditures that were 18 per cent less than those with free care (Newhouse et al. 1993).

Less is known about the types of services that are most responsive to cost sharing. In general the RAND study found little difference across types of service. One noteworthy exception is that so-called 'well-care services,' which, while showing a comparable elasticity to other outpatient services (acute and chronic) in the 0 per cent to 25 per cent range, had a much larger one in the 25 per cent to 95 per cent range (Phelps 1997). Dental services also showed a relatively high elasticity in the 25 per cent to 95 per cent range. Other studies have found that one type of care that tends to be far more price-elastic than others are mental health services (see, for example, Frank and McGuire 2000).

The major advantage of cost-sharing is that it makes people 'think twice' before obtaining services that may be of marginal value, and as such, can save money. Indeed, cost sharing has been common in most developed countries for certain discretionary products and services (notably pharmaceuticals), and is used by some countries more extensively. Canada and the UK are two countries that have tended to avoid them. Other countries, notably France, Switzerland, and Australia, do have significant cost sharing requirements. In general, however, these do not apply to many services, or most of the population has supplemental insurance to provide protection. In France, for example, many procedures are exempt from the cost sharing requirements, and 80 per cent of the population has supplemental insurance that covers most of these costs (White 1995). In total, direct payments for health services exceed 20 per cent of health-related financing in France, Switzerland, and the US. In contrast, the figures for Germany, the UK, the Netherlands, and Sweden are 10 per cent or less (Wagstaff et al. 1999). (Australia was not included in the study.)

There are a number of disadvantages, however. High patient cost sharing dissuades patients from using useful as well as less useful services; discourages preventive care; and is particularly difficult on lower-income persons. Furthermore, the effectiveness of cost sharing in reducing utilisation is probably reduced to the extent that physicians have the ability to induce demand. Most countries do provide some protection for the poorest residents, but those whose incomes are too high to qualify are particularly burdened: they tend to be sicker and thus face greater cost sharing requirements than their wealthier counterparts if they seek care. Evans and

colleagues argue that the more a country relies on patient cost sharing, the greater the redistribution of incomes *from* the sick and poor *to* the healthy and wealthy. They write (Evans et al. 1993, p. 4):

> [P]eople pay taxes in rough proportion to their incomes, and use health care in rough proportion to their health status or need for care. The relationships are not exact, but in general sicker people use more health care, and richer people pay more taxes. It follows that when health care is paid for from taxes, people with higher incomes pay a larger share of the total cost; when it is paid for by the users, sick people pay a larger share... Whether one is a gainer or loser, then, depends upon where one is located in the distribution of both income .. and health... In general, a shift to more user fee financing redistributes net income … from lower to higher income people, and from sicker to healthier people. The wealthy and healthy gain, the poor and sick lose.

Providing additional information to consumers

A second demand-side method is to provide additional information to consumers so that they can make decisions that are in their best interest with respect to choice of health plan, provider, and/or treatment. Indeed, this strategy is consistent with economic theory, which shows that in an otherwise well-functioning market, better information should improve the quality of consumer choices, enhancing their utilities.

It is probably safe to say that more attention has been paid to consumer information in the US than elsewhere, in part because of its reliance on competing health plans. Much work has taken place on 'report cards' that evaluate health plan performance (usually) or provider performance (occasionally). Currently in the US, this issue has been tied to a larger one labelled 'consumer driven health care.' The idea is to let the consumer rather than the provider or insurer be the one that makes the substantive decisions about health care treatments. There is now a considerable amount of information available about the quality of health plans, and increasingly, about the quality of hospitals and physicians groups as well. The major concern is whether consumers are able to effectively *use* such information in a way that improves their decision-making.

A considerable amount of research is now being conducted on these issues in the US so only a small amount can be reviewed here. One issue is whether consumers are able to make informed choices about health plans. In particular, can consumers discern plan quality from the written materials distributed through health plan report cards? Even if the information were collected by an independent organisation — which is *not* the case currently — there is little evidence to indicate that consumers would be able to use such information effectively. Researchers have found that consumers do not understand much of what is included on report cards. Relevant here is a study by Hibbard and Jewett (1997), which examined the type of

information consumers look for on report cards. The authors found that most consumers indicate that the key types of information for them in choosing a health plan are so-called 'desirable events' such as utilisation rates for mammograms, cholesterol screening, and paediatric immunisations. Less important to them are 'undesirable events' such as hospital death rates from heart attacks, rates of low birth weights, and hospital-acquired infections. Curiously, then, when given report cards on two alterative health plans — one with a better record on desirable events and the other with a better record on undesirable events — consumers overwhelmingly chose the latter.

In another study, Chernew and Scanlon (1998) examined data from 5800 single employees at one large firm, who were given health plan report card information prior to choosing a plan during an open enrolment period. The authors were mainly concerned with whether employees used information that was provided to them on the quality and satisfaction of alternative plans. They found little relationship between these ratings and the plan chosen. Curiously, one measure of quality — consumer satisfaction — had an impact opposite of what was predicted. Plans that scored higher on satisfaction were *less* likely to be chosen, controlling for other factors.[8]

Rodwin (2001) notes a number of problems with the report cards in use today. One problem is that they ignore key aspects concerning how health plans operate such as the stringency of utilisation review and the financial incentives that providers face. Another is that many of the tasks previously performed by health plans have now devolved to capitated physician groups, whose performance is only occasionally available from report cards. A third is that report cards — in order to simplify — tend to be aggregated and not focused on performance for particular medical conditions. But it is the management of chronic conditions that is perhaps the most important barometer of the success of a health plan.

It is therefore not surprising that a study of managed care in 15 representative communities during 1995 by Miller (1996, p. 116) concluded that, although there is much competition on the basis of price, 'in general, there was almost no competition on the basis of measured and reported technical quality process or outcome measures.' Although far more research is needed in this area, this evidence casts doubt on how well consumers can use report card information to make the best

[8] Chernew and Scanlon (1998, p. 18) are unable to determine the reason for this unexpected finding, but do offer one possibility, namely that the measure they use: 'incorporates both measures of satisfaction and of access, such as waiting times and the percentage of physicians accepting new patients. If popular physicians systematically are less likely to accept new patients and have longer waiting times for visits, employees systematically may prefer plans that score poorly on the satisfaction rating.'

choices for themselves. The mere existence and dissemination of information, even if objective and complete, does not guarantee that an individual will use it properly.

Defined contribution insurance

There is much discussion in employer circles about moving to a 'defined contribution' approach to health insurance. In general, there are two ways in which health insurance can be provided to a group of individuals: through a "defined benefit" system, or alternatively, through 'defined contribution.' More typical is the defined benefit approach. Under such a system, the benefits of health insurance are legislated (eg. all 'medically necessary' services might be provided). In contrast, defined contribution programs do not establish the particular set of benefits. Rather, the entity funding health insurance, such as government or an employer, provides a fixed monetary contribution towards premiums. Individuals and families use this contribution to purchase coverage. Such a system is used by some US employers, representing about 20 per cent of US employees (Trude and Ginsburg 2000).

The defined contribution approach is based on the work of US economist Alain Enthoven (see, for example: Enthoven 1980, 1988; Enthoven and Kronick 1989). To illustrate the approach, suppose an employer provides a voucher worth $4000 to an employee to purchase family coverage. Further suppose that the employer, as sponsor, offers a menu of four health plans, three HMOs and one fee-for-service. The HMOs cost $4000, $4500, and $5000 respectively, and the fee-for-service plan, $6000. If the employee chooses the cheapest HMO, he or she pays no premiums. In contrast, the other two HMOs would cost $500 and $1000, and the fee-for-service plan, $2000. Thus, the employee has a strong financial incentive to choose the cheapest plan. Nevertheless, he or she may choose another plan if its desirable features (perhaps fewer restrictions or better perceived quality) is worth the difference in premiums.

This is not the end of the story, however. By allowing choice on the part of the employee, a 'domino effect' could result that, proponents contend, will make the entire system more efficient. Because health plans must be attractive to employees, they have an incentive to keep costs down but at the same time, provide a quality product. Health plans, in turn, contract with providers such as hospitals and physicians. The latter must also strive to be attractive by keeping their fees reasonable and quality high, or else health plans will not select them into provider panels.

The description of defined contribution programs just presented refers to what has been tried in the past. More recently, defined contribution has been used in the US to refer to a more fundamental reform of health insurance. Rather than providing a

limited menu of choices, employees would be 'empowered' to construct their own health insurance plans, usually through Internet-based tools or companies. Under one such system, that currently has been adopted by some employers, employees are given a defined contribution and use it to select their particular primary care and specialists physicians from a large menu of participants. Every physician has an associated premium (which, in essence, is the capitation rate received by the provider). After the employee devises his or her own personal health plan, the component premiums are summed. The employee's share is simply the difference between total premiums and the employer's defined contribution. Advocates believe that this system will also reduce intrusions of third-parties into medical decision-making. Physicians who provide more testing, for example, will simply charge a higher rate to consumers who choose them. No regulator will tell them that they are providing too many services.

There are, however, a number of concerns about defined contribution plans. The first and perhaps primary one is whether consumers can indeed use information provided to them about the quality of alternative health plans and providers — an issue discussed in detail in the previous section. A second concern relates to selection bias. Under competitive-based reform proposals, there is an intense pressure on the part of health plans to attract enrollees by keeping premiums at a competitive level. One way to do this is through bringing about true efficiencies, but another is to try to obtain a *favourable selection* of patients. It is in the interest of plans to avoid groups whose costs are likely to be high, as well as individuals with chronic conditions (Light 1995). Although, in theory, adverse selection could be ameliorated by risk-adjusting premiums for the health status of enrollees, the current state-of-the art is not sufficient for doing so.[9]

In addition, because enrolling in better health plans is likely to be more expensive, it is possible that the lowest-cost plans in an area will be the least desirable ones — for example, the ones having a limited provider network, offering little choice, paying for only the most basic services, making it difficult to obtain referrals, and so forth (Rice et al. 1989). Indeed, to the extent that putting providers at considerable risk is effective in controlling costs, one would expect less expensive plans to employ more severe physician incentives to conserve resources.

A related and final issue about defined contribution programs concerns equity, particularly for those in poorer health. The fear is that those in poor health will not

[9] One way to deal with this problem would be to 'risk-adjust' payments to health plans — that is, to pay them more if they have sicker patients. Although health services researchers are devoting much attention to this problem, there are few instances in which health plan contributions use risk adjustment, and in most of those cases, adjustments are done based just on demographic characteristics of enrollees, such as age and sex.

receive a sufficient amount of money to purchase adequate coverage — especially given the inability to risk adjust premiums adequately to account for sicker health status. It is possible to create a system in which this is not a problem — for example, having employers require that any insurers take all applicants. But as insurance becomes more individual in scope, where employees can choose, say, any health plan in their area, it will be harder for employers (or even government) to successfully enforce these kinds of requirements.

4.3 Cross-national evidence on costs, quality and access

This section provides recent data on the performance of different countries' health systems. It is divided into six sub-sections. The first provides cross-national information on expenditures, whereas the next four examine *implications* of these expenditure figures with respect to: utilisation, access, quality/satisfaction, and equity of financing. The final part draws some tentative observations about factors that affect the success of cost containment in particular, and health care systems in general. The focus is on the ten countries that have drawn attention from cross-national studies of health systems: Australia, Canada, France, Germany, the Netherlands, Japan, Sweden, Switzerland, the UK, and the US. Because comparable data are scarce, in some instances only a subset of countries is compared. For brevity's sake, much of the discussion focuses on the US and Australia.

Expenditures

The first column of table 4.2 shows per capita expenditures on health in each of the ten countries during 1998. These figures have been adjusted by 'purchasing power parities,' which account for different price levels across countries so that a given amount of money will purchase the same market basket of goods and services (OECD 2001). To aid in viewing these numbers, the second column shows the ratio of expenditures in the US to each country. The 2.00 figure for Australia, for example, means that per capita expenditures were twice as high in the US. The final column shows the percentage of GDP devoted to health in each country during 1998.

Among half of the countries, per capita expenditures are fairly similar, falling in a narrow range from $2085 and $2361. The US is far above all others at with a figure of $4165, with Switzerland a distant second at $2853. The UK spends the least on health at $1510 per person, with Sweden and Japan fairly close. Australia's figure is

$2085. The patterns are similar with respect to the percentage of GDP spent on health, although the range among countries is narrower.

Table 4.2 **Total health care expenditures, 1998**

	Per capita expenditures in US dollars	*Ratio of US expenditures to individual country's level*	*Health expenditure as a percentage of gross domestic product*
Australia	2 085	2.00	8.6
Canada	2 360	1.76	9.3
France	2 043	2.04	9.4
Germany	2 361	1.76	10.3
Japan	1 795	2.32	7.4
Netherlands	2 150	1.94	8.7
Sweden	1 732	2.40	7.9
Switzerland	2 853	1.46	10.4
United Kingdom	1 510	2.76	6.8
United States	4 165	1.00	12.9

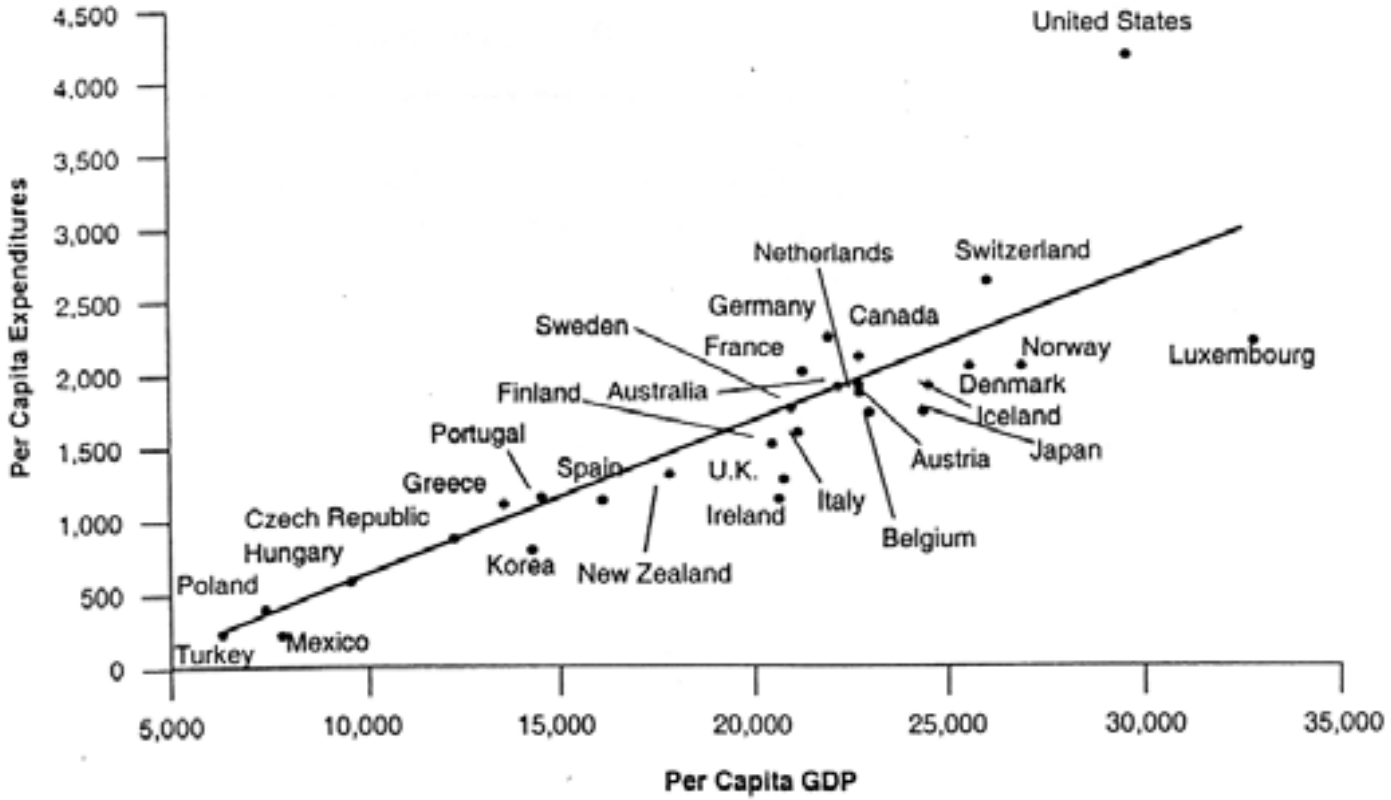
Source: OECD (2001).

Because wealthier countries can devote a larger share of national income to health, it is useful to control for this factor when comparing countries. Figure 4.1 shows the relationship between wealth and health expenditures for all OECD countries in 1997. In almost all instances, a country's health spending can be predicted quite accurately by just knowing the level of per capita GDP; almost all fall on the diagonal line. Australia, for example, falls exactly on the prediction line. The main exception is the US, which spends far more on health than would be predicted based simply on its income.

Utilisation

Utilisation is not a measure of a country's health system performance. Rather, it is an input into the process of providing and delivering care. It is discussed here briefly, however, because utilisation figures provide a glimpse into how different countries manage their resources.

Figure 4.1 **Relationship between national wealth and health expenditures, 1997**



Data source: Huber (1999).

Table 4.3 shows four measures of usage: inpatient (acute care bed days per capita), outpatient (physician consultations or visits per capita), and cardiovascular (coronary artery bypass and coronary angioplasty operations per 100 000 population). Most countries have comparable rates of inpatient utilisation, with the US having somewhat lower rates than the others. Two countries, Germany and Switzerland, have rates considerably higher than the rest. There is more variation in physician consultation rates, with Sweden much lower than the others and Japan and Switzerland substantially higher. Japan's rate is well more than double that of all counties except Switzerland. This is attributable both to a very low fee schedule, which encourages physicians to see many patients for short visits, as well as historically high levels of prescription drug use (Ikegami and Campbell 1999).

Table 4.3 **Utilisation of selected services**

	Acute care bed days per capita[a]	*Physician consultations per capita*[b]	*Coronary artery bypass operations per 100 000 population*[c]	*Coronary angioplasy operations per 100 000 population*[d]
Australia	1.0	6.3	83	91
Canada	1.0	6.4	65	70
France	1.1	6.5	35	73
Germany	1.9	6.5	38	86
Japan	na	16.0	na	na
Netherlands	0.9	5.8	60	72
Sweden	0.8	2.8	54	na
Switzerland	1.7	11.0	60	65
United Kingdom	1.0	5.4	41	35
United States	0.7	5.8	203	339

a Data are from the most recent year available between 1996 and 1999, which varies by country. **b** Data are from the most recent year available between 1996 and 1999, which varies by country. Data from Switzerland are from 1992. **c** Data are from the most recent year available between 1991 and 1998, which varies by country. **d** Data are from the most recent year available between 1993 and 1998, which varies by country. **na** Not available.

Source: OECD (2001).

The other noteworthy pattern in table 4.3 is the extremely high rates of use of the two coronary procedures in the United States. The US rate is almost four times the average of the other countries for bypass operations and almost five times as high for angioplasty, a finding confirmed by a more systematic cross-national research study on differences in heart attack care around the world (Technological Change in Health Care Research Network 2001). This is due in part to the explicit 'supply side' rationing of medical technologies and the use of strict global budgets in several of the other countries (see, for example: Saltman and Figueras 1998; Technological Change in Health Care Research Network 2001; McClellan and

Kessler 1999). Although far lower than the US, of the ten countries examined, Australia had the second highest rates for both procedures.

The use of cardiovascular procedures appears to be especially high in the United States for the 'oldest old.' In a study of data from the US and Canada in 1992, it was found that the difference in usage between the two countries rose dramatically with age. For example, among coronary artery bypass procedures, the ratio between US and Canadian usage was 1.4 for ages 65-69, 2.6 for ages 70-74, 4.2 for ages 75-79, and 7.2 for those over age 80. The pattern for angioplasty (1.9, 3.2, 4.9, and 7.7) was very similar. The authors (Verrilli et al. 1998, p. 482) conclude that:

> As a result of both resource constraints and societal and physician attitudes towards care of the elderly, physicians in Canada appear to use age as a basis for limiting the provision of technologically oriented medical care. In contrast, since the threshold for providing cardiovascular services to the elderly is higher in the United States than it is in Canada, it appears that US physicians consider age a less important factor in determining who receives cardiovascular services. In the general absence of budgetary constraints, whether this encourages profligate service use or whether it contributes to improved outcomes among elderly persons in the United States is uncertain.

Comparing the expenditures figures shown earlier in table 4.2 to the utilisation patterns in table 4.3, it is also noteworthy that the US is so much more expensive given that its overall usage rates for hospital and physician services are low by international standards. One explanation is the higher usage rates for the two cardiac procedures shown, which likely is indicative of patterns for many other high cost procedures as well. Another explanation, not shown in these tables, are differences in unit prices between countries. Some research has been conducted that compares unit prices for medical care in the US versus Canada. One study, using data from the mid-1980s, found that the ratio of US private insurance physician fees to those paid by the Canadian provinces averaged 2.4, with ratios exceeding 3.0 for surgery (Fuchs and Hahn 1990).

It must be stressed, however, that higher unit costs are not necessarily a reflection of waste. This is because the services being priced might not be comparable in terms of quality. A day in the hospital in the US, for example, might entail better quality or more desirable amenities than one in Canada. Similarly, US physicians could produce more for their higher fees. Thus comparing quality and satisfaction across countries is important (see below).

Access

This section presents data on three different aspects of access to care: insurance rates, individuals' perceptions about their previous ability to obtain care when

needed, and waiting lists for obtaining procedures. The first of these is a measure of potential access, whereas the second and third are gauges for realised access. A strong argument can be made that countries spending more on health care should provide better access. If they do not, it is a sign that the money is not being spent as efficiently as possible.

Unfortunately, comparable cross-national data are not available on insurance rates. Although most developed countries have systems with universal coverage, in some of these countries a subset of the population receives insurance through private rather than public sources. Table 4.4 shows eligibility for health benefits under *public programs*. In seven of the ten countries, including Australia, over 99 per cent of the population is covered in this manner. The figures are lower in Germany (92 per cent), the Netherlands (74 per cent), and the US (45 per cent). In the case of Germany and the Netherlands, almost everyone who does not have public coverage has private insurance. This is not the case in the US, however.

Table 4.4 **Eligibility for health care benefits under public programs**[a]

	Percentage of population covered
Australia	100.0
Canada	100.0
France	99.5
Germany	92.2
Japan	100.0
Netherlands	74.2
Sweden	100.0
Switzerland	100.0
United Kingdom	100.0
United States	45.0

a Data are from the most recent year available between 1996 and 1999, which varies by country.

Source: OECD (2001).

Table 4.5, which is based on data collected from telephone surveys of individuals in Australia, Canada, the UK, and the US, examines various indicators of realised (as opposed to potential) patient access to health services across these four countries. Somewhat more Americans — 14 per cent — indicated that there was a time during the last year that they needed medical care but did not receive it. Of the four countries, Australia had the lowest rate, at 8 per cent. With respect to two measures of affordability — having problems paying medical bills in the last year and not filling a prescription because of its costs — the US residents experienced the most problems (18 and 17 per cent, respectively), with Australia a clear second (10 and 12 per cent).

Table 4.5 **Consumers' reports on access to and cost of care, 1998**
Per cent

	Australia	*Canada*	*United Kingdom*	*United States*
There was a time in the past 12 months when they needed medical care but did not get it	8	10	10	14
Difficulties seeing specialists and consultants when they needed it:				
Extremely difficult	5	6	3	9
Very difficult	9	10	7	6
Somewhat difficult	21	30	19	24
Not too difficult	25	22	30	24
Not at all difficult	29	25	25	32
Having problems paying medical bills in past year	10	5	3	18
That they or a family member have not filled a prescription because they could not afford it	12	7	6	17

Source: Donelan et al. (1999).

In contrast, respondents from all countries reported fairly similar amounts of difficulty in seeing specialists and consultants when they needed such care — although residents of the UK reported the least difficulty in obtaining care from specialists. Americans were more likely to report extreme difficulty but also were more likely to report no difficulty at all. This is, in part, due to differential access between the insured and uninsured populations in the US, and perhaps because some enrollees in HMOs find that they have trouble getting referrals. In regard to the former, twice as many uninsured as insured Americans (67 per cent versus 34 per cent) said that they had somewhat or more difficulty accessing specialists (not shown in table 4.5).

The same study also examined consumer anxiety about accessing care in the future (table 4.6). Residents of the UK are less worried about the affordability of care than are those in the other three countries. Interestingly, Australians showed the most worry, although the percentage (25 per cent) is not too much higher than those of Canada (22 per cent) and the US (23 per cent). Canadians are most concerned about not obtaining the most advanced treatments, and along with Australians, that they will wait too long for care.

Table 4.6 **Consumers' worries and anxieties about their health care, 1998**

Per cent

	Australia	*Canada*	*United Kingdom*	*United States*
How worried are you that if you become seriously ill, you will not be able to get the most advanced medical care, including medicines, tests, or treatment?				
Very worried	19	29	16	21
Somewhat worried	29	34	30	26
Not too worried	52	37	51	53
How worried are you that if you become seriously ill, you will not be able to get medical care you need because you cannot afford it?				
Very worried	25	22	14	23
Somewhat worried	26	23	23	24
Not too worried	48	54	60	52
How worried are you that you will wait too long to get non-emergency medical care?				
Very worried	25	20	12	14
Somewhat worried	28	32	30	22
Not too worried	46	47	55	64

Source: Donelan et al. (1999).

One issue that has received a great deal of attention internationally is waiting lists, particularly for obtaining surgical care and tests. Unfortunately, it is nearly impossible to compile comparable cross-national data on waiting lists. Countries rarely keep consolidated lists of patients who are waiting for treatment. An alternative, using hospital records, is problematic because patients may be listed at more than one hospital.

However, one instead can ask consumers about their experiences. Table 4.7 shows the results of one such study. Americans had, by far, the shortest average waits for non-emergency surgery. Seventy per cent reported waiting less than one month, and only 1 per cent waited over four months. Residents of all three other countries reported considerably more waiting. One-third of UK residents reported waiting four or more months, compared to 12 per cent of Canadians and 17 per cent of Australians.

Table 4.7 **Self-reporting waiting times, 1998**
Per cent

	Australia	*Canada*	*United Kingdom*	*United States*
Waiting times for non-emergency surgery for themselves or a family member:				
None	5	16	7	10
Less than one month	46	28	23	60
1–3.9 months	32	43	36	28
4 months or more	17	12	33	1

Source: Donelan et al. (1999).

Quality and satisfaction

As in the case of access, countries spending more on health care should be able to provide better quality care, and presumably, better be able to satisfy their residents. In spite of the importance of quality to policy discussions on health system reform and the potential for cost containment measures to jeopardise quality of care, there is very little cross-national information available on the quality dimension of health systems. The most common data available concern vital statistics such as life expectancy and infant mortality. Although extremely important, these figures are more reflective of sociodemographic conditions in a country rather than the quality of its medical care system. Perhaps a better way of assessing quality across countries might be to *ask* individuals and physicians about their perceptions, although this obviously is subjective. Consequently, an even better way would be to conduct rigorous studies of important health outcomes across countries, controlling, as much as possible, for differences in population characteristics. Unfortunately, few such studies have been conducted, the main ones being comparisons of surgical outcomes between the US and Canada (see: Roos et al. 1992; Verrilli et al. 1998).

Unlike quality, satisfaction is somewhat easier to evaluate across countries. It is sometimes criticised, however, as being overly subjective and not targeted on aspects of quality that are of most interest to policy makers. Furthermore, compared to objective measures of quality, satisfaction measures based on survey responses are more prone to shift over time.

Beginning with the vital statistics, table 4.8 shows average life expectancy and infant mortality rates for the ten countries. Life expectancy shows relatively little dispersion. Among the small differences, the averages are higher in Japan and lower in the US than elsewhere. There is a much greater difference, however, in infant

mortality rates. Rates for Sweden (3.5 per 1000 live births) and Japan (3.6) are just half those of the US (7.2). Australia falls near the average, at 5.0. The much higher infant mortality rates in the US are due, in part, to lack of insurance and poorer living conditions among poorer residents.

Table 4.8 **Life expectancy and infant mortality rates, 1998**

	Life expectancy at birth (years)	*Infant deaths per 1000 live births*
Australia	78.7	5.0
Canada[a]	78.6	5.5
France	78.4	4.6
Germany	77.5	4.7
Japan	80.6	3.6
Netherlands	78.0	5.2
Sweden	79.4	3.5
Switzerland	79.5	4.6
United Kingdom	77.3	5.8
United States	76.7	7.2

a Data for Canada are for 1997.

Source: OECD (2001).

It would be useful to have mortality data across countries that could be related more directly to the medical care system itself. Unfortunately, little information of this type has been published. Perhaps the most notable study to date was conducted by Roos et al. (1992), who examined post surgical mortality in the New England states versus Manitoba. The researchers divided procedures according to low, moderate, and high mortality, and looked at mortality rates 30 days, one year, and three years after surgery. After adjusting the best they could for case-mix differences, they found mortality rates to be lower in Manitoba for both low- and moderate-risk procedures, over all three time intervals. Thirty-day mortality rates were lower in New England for high-mortality procedures, but these differences subsided over time. Another study examined cancer survival rates in the US and Ontario (US General Accounting Office 1994). Specifically, it examined survival of a large sample of patients over the period 1978 and 1990 for four types of cancer: breast, lung, colon, and Hodgkin's Disease. In general, the study found similar survival rates for three of the cancers, but higher survival rates in the US for breast cancer patients. Ten years after diagnosis, 65 per cent of US breast cancer patients were still alive, compared to 60 per cent of Canadians.

Cross-national satisfaction surveys have been conducted among both individual residents and physicians. Tables 4.9 and 4.10 are from the same telephone survey of individuals in Australia, Canada, the UK, and the US cited above in the section on access to care (Donelan et al. 1999). Table 4.9 focuses on overall satisfaction with

the system. In general, UK residents exhibit more satisfaction and less dissatisfaction than those in other countries, with Canada a clear second. The US and Australia were the least satisfied, with almost one-third believing that the system needs to be completely rebuilt.

Table 4.9 **Consumers' views of their health care system, 1998**

Per cent

	Australia	*Canada*	*United Kingdom*	*United States*
On the whole the system works pretty well, and only minor changes are necessary to make it work better	19	20	25	17
There are some good things in our health care system, but fundamental changes are needed to make it work better	49	56	58	46
Out health care system has so much wrong with it that we need to completely rebuild it	30	23	14	33

Source: Donelan et al. (1999).

Table 4.10 focuses on consumers' views of the actual medical care that they receive. The first set of rows concerns overall medical care, the next three physician visits, and the last two, hospital stays. There is little difference between views on overall medical care. In all four countries, 49-54 per cent rated it as excellent or very good, and 13-15 per cent as fair or poor. Similarly, the bottom two sets of rows show almost no differences concerning overall satisfaction and lengths of hospital stays. The main differences — which are, by and large, still relatively small — involve physician care. American and British respondents were slightly less favourable about their overall physician care than Australians and Canadians. More revealing are the rows concerning length of visits. UK residents report considerably more short visits, and Americans far more long visits. But Americans are also much more likely than others to say that the time the doctor spent with them was too short. There appears to be a clear difference in expectations.

Table 4.10 **Consumers' views of their medical care, 1998**

Per cent

	Australia	*Canada*	*United Kingdom*	*United States*
Medical care they and their family received in the past 12 months was:				
Excellent	19	24	15	19
Very good	35	30	35	30
Good	31	30	31	33
Fair	11	11	12	12
Poor	2	2	2	3
Care received at last doctor visit was:				
Excellent	36	37	19	29
Very good	32	30	37	30
Good	21	22	25	24
Fair	9	6	10	12
Poor	2	4	4	4
Length of most recent doctor visit was:				
5 minutes or fewer	17	12	31	11
6–10 minutes	26	21	34	19
11–15 minutes	29	25	13	19
16–20 minutes	15	19	7	18
More than 20 minutes	12	20	5	30
Time their doctor spent with them was:				
About right	84	82	78	74
Too short	13	15	14	23
Too long	2	2	2	1
Overall hospital experience was:				
Excellent	27	28	28	26
Very good	30	26	34	28
Good	22	18	20	28
Fair	10	17	8	7
Poor	11	10	10	11
Length of their hospital stay was:				
About right	73	72	77	78
Too short	17	19	11	12
Too long	9	8	12	10

Source: Donelan et al. (1999).

Another survey by some of the same authors, conducted in 2000, asked physicians (about 400 general practitioners and primary care physicians, and about 100 cardiologists, gastroenterologists, and oncologists per country) about their

perceptions of care in these same countries (Blendon 2001). Table 4.11 shows that physicians are far more likely than consumers to show cross-national differences in their views. The top half of the table examines physician perceptions that community resources are inadequate in six areas: medical and diagnostic equipment, hospital beds, general practitioners, specialists/consultants, home care, and long-term care and rehabilitation facilities. In all six areas, physicians from other countries perceive more inadequacy of resources than do US physicians. In the case of hospital beds, only 12 per cent of US physicians find the supply inadequate, compared to 67-79 per cent in the other countries. Among the other three countries, Canadian and UK physicians are more likely than Australians to note insufficient resources for several of the measures.

Table 4.11 **Generalist and medical specialist physicians' views on problems in health care, 1998**

Per cent

	Australia	*Canada*	*United Kingdom*	*United States*
Inadequate community resources				
Latest medical and diagnostic equipment	13[a]	63[a]	47[a]	8
Hospital beds	67[a]	72[a]	79[a]	12
General practitioners	17	55[a]	44[a]	19
Medical specialists or consultants	30[a]	61[a]	62	13
Home care	55[a]	60[a]	66[a]	24
Long-term care and rehab. facilities	74[a]	74[a]	81[a]	35
'Major problem' for their own medical practices				
Limitations on hospital care	34	35	51[a]	38
Limits/long waits for specialist referrals	54[a]	66[a]	84[a]	27
Long waits for surgical or hospital care	66[a]	64[a]	77[a]	7
Limits in ordering diagnostic tests/procedures	9[a]	37[a]	30[a]	21
Patients can't afford necessary drugs	10[a]	17[a]	10[a]	48
Limitations on drugs one can prescribe	12[a]	17[a]	8[a]	41
External review of clinical decisions to control costs	21[a]	13[a]	19[a]	37
Not having enough time with patients	37	42	62[a]	42

a Statistically significant difference from the United States value at the 95 per cent confidence level.

Source: Blendon et al. (2001).

The second half of the table focuses on physicians' own practices. US physicians are much less likely to express concerns about long waits for specialist or for surgical or hospital referrals. The largest difference is surgical or hospital care, where only 7 per cent of US physicians find this to be a major problem, compared to 64-77 per cent of those in the other countries. In contrast, US physicians are far more likely than others to cite as a major problem patient inability to afford necessary drugs, limitations on drugs they can prescribe, and external review of clinical decisions to control costs.

Equity of health sector financing

Each of the cross-national outcome measures shown above concerns the delivery of care — who has access to it, how much they use, how much it costs, and resulting impacts on quality and satisfaction. Here we examine a different issue: the equity of the system used to finance this care. Fortunately, there is a set of studies that address just this topic that covers seven of the ten countries considered in this section — all except Australia, Canada, and Japan (see: Wagstaff et al. 1999; Doorslaer et al. 1999).

The authors first examine the sources for financing health services, dividing them into five types, the first three of which are public and the last two, private: direct taxes, indirect taxes, social insurance, private insurance, and direct payments. Direct taxes are those that are paid directly by the taxpayer (eg. income, sales, or property taxes). Indirect taxes are those that are borne, but not paid directly, by the consumer (eg. value added or excise taxes). Social insurance is the direct contribution to welfare or health programs (eg. payroll taxes for the US Medicare program). Private insurance is the premium payments by enrollees, while direct payments are out-of-pocket costs incurred by consumers when services are used.

Table 4.12 shows the distribution of financing sources by country, and indicates a large amount of cross-national variation. Only two of the countries, Switzerland and the US, rely mostly on private funding sources. Both have relatively high portions paid directly by consumers of health services, although the figure for France is also high. The other five countries rely on public funding sources, predominantly taxes (Sweden and the UK) or social insurance payments (France, Germany, and the Netherlands).

Table 4.12 **Sources of funds for health sector financing**[a]

Per cent

	Direct taxes	*Indirect taxes*	*Social insurance*	*Private insurance*	*Direct payments*
France	na	na	74	6	20
Germany	11	7	65	7	10
Netherlands	6	5	65	16	8
Sweden	64	8	18	0	10
Switzerland	24	5	7	41	24
United Kingdom	29	35	20	7	9
United States	28	7	13	29	22

a Data from the most recent year available between 1987 to 1993, which varies by country. **na** Not available.

Source: Wagstaff et al. (1999).

The authors then seek to compare this information on the incidence of the financial burden of health services with income data from the countries to see whether these payments are regressive or progressive. If a system is progressive, then wealthier people will pay more than their share, and poorer people, less. They find that Switzerland and the US have the most regressive systems, and the UK, the most progressive. France is mildly progressive, Sweden moderately regressive, and Germany and the Netherlands, somewhat more regressive (Wagstaff et al. 1999). One of the main reasons that Switzerland and the US are so regressive is their reliance on private insurance and out-of-pocket costs — in effect, a system in which people pay their own way, with little in the form of cross-subsidisation. Tax-based systems, such as that in the UK, tend to be more progressive because income taxes rates are higher for wealthier people. The mixed findings for the countries relying mainly on social insurance are explained largely by the fact that in France (a progressive country) all workers participate in the system, whereas in Germany and the Netherlands (regressive countries) many wealthier individuals opt out of the public system.

If it difficult to assess whether the progressivity/regressivity of the health care financing system affects a country's ability to contain costs. Table 4.12 lists only seven countries; correlating financing progressivity with health care spending, although easy to do, does not establish causality. The primary reason for enacting a more progressive system would seem to be for the sake of equity rather than efficiency. Having said that, there are two reasons to believe that more progressive systems could contain costs better. First, it could be argued that systems relying more on taxes to finance health care will find themselves under greater pressure to control spending in order to keep taxes down. Tax-based financing tends to result in more equity (eg. the UK), although as noted Sweden's system was rated as somewhat regressive. Second, as argued above, the existence of private insurance

may result in higher costs because providers have an avenue for obtaining more revenues from wealthier patients; it was also shown that such systems tend to be more regressive.

Some concluding observations

It is very difficult to draw strong conclusions from the tables shown in this section, for several reasons: the data are somewhat cosmetic, providing little in the way of depth about any particular country's system; on the other hand, in some sense there is *too much* data (eg. among ten countries, there are 45 possible comparisons between two different countries); there are obvious trade-offs between costs on the one hand, and quality on the other — so the fact that a country like the US spends so much and the UK so little doesn't tell us anything definitive on which is the better approach; and finally, there is a problem of causality.

This latter issue is particularly important. If one wants to know which cost containment methods provide the best policy, it is necessary to determine their impacts on costs, quality, and the like. Unfortunately (from an analytic standpoint), establishing causality in a macro-type analysis such as international comparisons is nearly impossible. To illustrate, the US, more so than perhaps any other country, employs a number of potentially strong cost containment measures such as capitation, DRGs, expenditure targets (in its Medicare program). But if one correlates this with expenditures, it would appear that these strategies might *cause* higher expenditures. Obviously, the opposite is the case: they were enacted as a way of controlling these expenditures. Whether they do so is a researchable question.

All of this, coupled with the author's somewhat limited knowledge of any particular health care system outside of North America, makes it difficult to make any sort of policy recommendations based on the data presented above. The following observations should be viewed as quite tentative.

- Monopsony power on the part of government, although not a cost containment strategy per se, *allows* government to more successfully implement a range of cost containment strategies. If, from a financing standpoint, government is the 'only game in town,' then it will likely be more successful in enacting such things are tight fee schedules and strict technology controls.
- Related to this, a single payer system has the greatest potential to control costs, but short of that, an all-payer system can also be effective. When there is more than one payer, cost containment is much easier if payment levels are coordinated. In contrast, when there are many different payers, providers have the luxury of playing one against another.

- The existence of a strong private insurance market may take some pressure off government spending, but it likely to raise overall health care expenditures. This is true for a number of reasons: private insurance usually provides more attractive benefits, stimulating utilisation; providers tend to charge more to private paying patients; issues of selection bias makes it difficult to determine the appropriateness of spending; the administrative costs of private coverage tend to be high; and as noted, when there are multiple payers, providers have the ability to play one payer off another — that is, 'cost shift.'
- Strategies that rely on limiting unit prices are most effective when providers are less able to 'game' the system. Hospitals, for example, are less able to induce demand for their services than are physicians. And to the extent that services are 'bundled' (eg. paying hospitals per DRG rather than per patient day) also reduces providers' ability to induce demand.
- Utilisation controls are more effective when they are applied at the 'macro' rather than 'micro' level. Micro-utilisation controls would include such things as assessing the appropriateness of each service, whereas an example of macro-utilisation controls would be limiting the diffusion of medical technologies. The former are problematic for several reasons: providers and patients alike often resent being told what services they can or cannot use; over time, physicians learn to present cases in a manner than will be approved by the authorities; and micromanagement tends to result in high administrative costs.
- The direct control of expenditures — when it is politically and administratively feasible — is probably the most effective way to control costs in a fee-for-service system. However, moving away from fee-for-service to a capitated system offers another avenue to control costs effectively. Whether this sort of reform is desirable, however, depends to a large extent on whether incentives can be added to pure capitation so there is less concern that necessary services will be underprovided.
- In general, it is the author's conclusion that supply-side strategies are more effective than demand-side ones, both in controlling costs and in ensuring an equitable health care system. This may seem odd in that it was argued earlier that future cost pressures are likely to be concentrated on the demand side. The main problem with demand-side approaches to cost control, however, is that they are few in number (examples are higher co-payments and providing more information) and they have not shown themselves up to the challenge (in the case of information) or have serious issues regarding equity (co-payments).

4.4 Application to Australia and implications for future research

Having spent only a handful of hours reading about the (rather complicated) Australian health care system, there is obviously little that the author can offer an audience of Australian experts concerning the application of the above material to your situation. Furthermore, you hardly need someone from the US — a country that spends 50 per cent more proportionately of national income than does Australia on health care, yet has an uninsurance rate of over 15 per cent — telling you how to make your system more efficient and equitable. Nevertheless, the conference organisers have asked me to make a few comments on your cost containment efforts, as well as future research — which may perhaps stimulate some discussion.

To an outsider, it would appear that Australia has been fairly successful in controlling costs. As shown earlier in table 4.2, of the 10 countries examined only Japan, Sweden and the UK spend less of their national income on health. There are undoubtedly historical reasons explaining your relative success, but is also appears that there are several things Australia is 'doing right' in its efforts to keep costs manageable. These include:[10]

- Efforts to keep rising pharmaceutical costs down by taking advantage of government's monopsonistic purchasing power, encouraging the use of generics, and by innovative efforts in using cost-effectiveness criteria in approving new drugs. (Australia was the first country in the world to do the last of these (Hall 1999).)
- Efforts to keep public hospital costs in check by developing case-based reimbursement systems and moving towards a system of global budgets.
- The use of primary care physicians as gatekeepers, and recent efforts to reward 'best practices' in primary care.
- Keeping the supply of physicians down through limits on foreign medical graduates and restrictions on the number who can bill Medicare.
- Establishing expenditure targets for pathology and radiology services.
- Rules that prevent private insurance from covering 'extra billing' by physicians.

This is not to imply that Australia has done all that can be done in these and other areas. Whether it *wants* to go farther is, of course, a key question. One could imagine the following sorts of extensions or additions to the country's cost containment efforts: extending cost-effectiveness analyses beyond pharmaceuticals;

[10] This list was culled from several sources including Podger et al. (1999), Ross et al. (1999), Hall (1999) and Hall et al. (1999).

likewise, extending expenditure targets to specialties beyond pathologists and radiologists; experimenting with physician payment methods that rely on mixes of fee-for-service and capitation, for both primary care and specialty services; and making some efforts to coordinate the payments of public and private payers. These are important areas for future research.

The focus will be on one overriding issue here: the role of private health insurance. The Australian government has, of late, carried out a number of strategies for increasing the coverage of private insurance. The two main ones are providing tax subsidies and relaxing community rating rules.[11]

Regarding the first of these, in 1997 subsidies were provided to low-income individuals and families who purchased private coverage, and taxes were levied on those with high incomes who did not. In 1999 this was amended so that individuals and families were given a 30 per cent rebate on premiums if they purchased private coverage (interestingly, high income people were now eligible for the rebate, but had to pay the tax if they did not purchase coverage). Regarding the second of these, in 2000 a policy of 'lifetime community rating' was introduced. This policy states that those who do not have private insurance coverage will have to pay more for it if they purchase it after age 30. Individuals and families without the coverage had nine months to obtain it in order to be 'grandfathered' out of the legislation's provisions. For those purchasing coverage later than that age, rates would be 2 per cent higher per year, up to a maximum of a 70 per cent 'age premium' for those purchasing private coverage at or after age 65.

These initiatives have been quite successful in increasing private insurance coverage rates, which skyrocketed from about 30 per cent of the population in the beginning of 1999 to 46 per cent by September of 2000 (Willcox 2001). It appears that the community rating initiative was the most effective of the policies in increasing these coverage rates (Butler 2001).

The issue to address is whether this reliance on private insurance is likely to contain costs, as well as other 'spillover' effects that might result (eg. reductions in the quality of public hospital care as more (wealthier) patients seek care in private facilities). Although it is perhaps understandable that government would wish to shift costs on to private payers, this would appear myopic — if government wishes to contain health care costs, it *should* be concerned about overall health spending rather than just its own spending. Thus, the first issue to consider is how encouraging private insurance would be expected to affect total costs.

11 The material on these government initiatives designed to encourage private insurance is drawn from Butler (2001) and Willcox (2001).

Evans (1983) has argued, quite convincingly, that the existence of a strong private insurance sector significantly detracts from a country's ability to control its costs. The argument is that if the government provides the vast majority of payments, it has greater ability to control total health-related costs through this monopsonistic power. Providers are unable to obtain additional revenues outside of the system if the system encompasses the entire population and the great majority of services are covered.

This conclusion holds not only in Canada but in Europe as well, where Abel-Smith (1992, p. 414) concluded his analysis of European systems by stating:

> The key to Europe's success is the use of monopsony power whereby one purchaser dominates the market, and not just the hospital market. Where there are many purchasers, as in Germany, they are forced to act together. Because the insurers are not allowed more revenue, either from tax or contributions, and because what they can charge the insured in copayments is centrally determined, they are forced either to confront providers or to ration their allowable resources. In most countries this does not lead to lines of patients waiting for treatment.

There are other reasons to be concerned about cost containment in an environment where there is private insurance. One is administrative costs. Most analysts agree that administrative costs are higher in the US than in other countries largely due to the role of private insurance. To give a single example, the cost of administering the Canadian health system represents only about 0.1 per cent of the country's gross national product, far less than the 0.6 per cent figure for the US (Evans 1990). Another is selection bias. If sicker individuals are encouraged to supplement their insurance coverage, they will be more likely to use additional services. In the short-term this does not appear to be a problem in Australia, as the above reforms 'improved' the age structure of private insurance ownership. It is, nevertheless, a long-term concern. A final reason is that it is not clear that the cost to the Australian government of the subsidies will be less than the savings from a reduction in the use of government-financed services (Butler 2001).

In addition to cost concerns, there other spillovers that need to be considered. To put these in context, it is useful to think about: (a) who is likely to purchase private coverage; and (b) *why* they would do so. Clearly, those with the economic means to do so are most likely to purchase private coverage. As to why they would want it, a 1997 Australian public opinion poll found that one of the reasons private coverage was thought to be desirable is that it provided 'quick attention/avoid public hospital waiting lists.' Related reasons include being able to go to a private hospital and being able to receive treatment by medical specialists in public and private hospitals (Willcox 2001; Hall et al. 1999).

This presents a major equity problem. Patients covered by private insurance potentially are more valuable to physicians. Thus, by allowing preferred access, it means that those without such coverage — who tend to have lower incomes — may have to wait longer for services. This does not *have* to be the case, however; it is possible that allowing a private outlet for wealthier individuals will shorten queues in public facilities. Such a scenario is doubtful, however, in that individuals are unlikely to pay for private insurance if they believe queues are acceptable in public facilities. Indeed, as noted in the previous paragraph, an Australian public opinion poll showed that the main reason Australians desired private insurance was quick attention and to avoid public hospital waiting lists. This has the potential of putting a rift between different population groups. One can therefore conclude that a major area for future research is the impact (now) and anticipated impact of private insurance on the cost and equity of health services in Australia.

There is one final area for future research to mention. When policy makers discuss cost containment, it is usually with the mindset that costs *must* be controlled. This is unfortunate. Although, as argued in the introduction to this paper, there are significant opportunity costs when health care expenditures rise, this does not mean that the additional spending is not worth the money.

In two books, Frank (1985, 1999) argues that consumer behaviour is badly skewed away from the things that would bring the most benefit because people care so much about how their possessions rank compared to those of their peers. As a result, people spend far more of their resources on consumables that bring about (in their minds) status, and less on arguably more valuable thing such as additional leisure time or travel. To provide a single example, he argues that a 4000 square foot house, compared to one with 3000 square feet, will do little to make a person happier — but constitutes a considerable increase in resources. He further argues that people buy houses of this size, along with expensive cars, clothes, and the like, to distinguish themselves from others. But if everyone else does so, overall societal happiness is no higher, and thus, much of a country's wealth has been expended needlessly. (His solution is progressive taxes on consumption expenditures.)

One might argue that expenditures on improving health are the type that Frank would want to encourage. Generally, these are not done to "keep up with the Joneses" nor does better health usually connote higher social status (although perhaps it does in the author's home town of Los Angeles). If everyone were healthier, society would be better off – your better health does not detract from mine.

This has an important implication: additional societal spending on health care — *if* it leads to better health — would appear to be an attractive investment. Thus, research should focus on such things as the types of medical spending that have the

best opportunity for improving health, as well as the preferences of individuals and communities in this regard. Australian researchers have taken a lead in this (see, for example, Stephen et al. 2000).

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Introduction

I have a difficult task in this commentary as I agree with most of what Tom Rice has said in his paper. Thus I will mostly be providing Australian examples to illustrate his points. But I will also be looking at the impact of spending too little on health services. Tom Rice's figure 4.1 compared the health expenditure and GDP of different countries, and showed how far the US is above the regression line. But it is also noteworthy that the UK is far below the line. We now have data which gives an indication of the effects of such low health expenditure. I will argue that Australia is at the golden mean - right on the line, and, as it happens, the outcomes are also golden.

Trends in health expenditure in Australia

The trends in health expenditure growth in Australia in recent years are shown in table 4.13.[12] The most striking area of growth is in pharmaceuticals, where the real growth has been 7.5 per cent per annum in the last decade. For government subsidised pharmaceuticals, the growth has been 9.2 per cent per annum. For other pharmaceuticals and medicaments (including herbal remedies), the growth has been 5.1 per cent per annum. Part of the reason for the high growth recently is that Australia has lost the ability to purchase new drugs for listing on the PBS at half or less of the world price. We were able do this during the 1970s and 1980s by using monopsony powers to exploit the large difference that exists between the marginal and average price of pharmaceuticals, and because we were a small country. But then the rest of the world noticed that Australia was getting a good deal, so they asked the pharmaceutical companies for the same prices as Australia paid. This led to the pharmaceutical companies tightening up in Australia, and so for the last decade we have been paying close to the world price for new listings.

All new pharmaceuticals have to pass cost-effectiveness tests, so we expect that, in general, the benefits of new listings exceed the costs, but there is a problem that some drugs once approved are then used for particular types of patients or conditions which have not been approved by the Pharmaceutical Benefits Advisory

[*] The views expressed in this paper are those of the author and are not necessarily the views of the Australian Institute of Health and Welfare.

[12] This table and all subsequent tables and figures are included at the end of this paper.

Committee. It is very difficult to police this. There are efforts to minimise this problem by appropriate education of doctors. The very large advertising and promotion activities of the pharmaceutical companies contribute to the large increases in pharmaceutical expenditure.

Health price increases

A major factor influencing health expenditure as a ratio of GDP is excess health inflation. Table 4.14 decomposes nominal health expenditure growth in the period 1990 to 1999 into its different components. Note that real health expenditure growth per person in Australia is at 3 per cent per annum which is higher than the 1.6 per cent seen in Canada and the UK, and the 1.5 per cent in the US, but lower than the 6 per cent in Japan.

Excess health inflation is the amount health prices increase over and above the general rate of inflation in the economy. This has been high in the US in the last 30 years. Australia has had a good record in this regard. If we had had the same excess health inflation as the US in the period 1980 to 1999, we would have had health expenditure over GDP at 11.3 per cent instead of the 8.4 per cent we did in 1998-99.

However, some of the low excess health inflation in Australia is illusory. First, during the period of the wages and prices accord under the Hawke Government, increases in remuneration were often given by means other than award wage rate rises. So in the 1980s, nurses were given an effective wage rise by reclassifying many positions at a higher level. This did not appear in the award rate indexes from which the health deflators are derived, but it did substantially increase cost per 'full-time equivalent' nurse.

Also, in the last 15 years, there has been increasing usage of the fringe benefits tax exemption for public benevolent institutions, so many hospital staff have had the value of their salary package increased without the cash paid out increasing. This incidentally has increased the effective financing burden of the Commonwealth Government vis-a-vis the State and Territory Governments. It is estimated the cost to the Commonwealth budget of this tax expenditure was $230 million in 1999-00, but this could be a significant underestimation (Commonwealth of Australia 2001).

Despite the above issues, it is clear that the salaries of health workers in Australia are lower, relative to average weekly earnings, as compared to the US. Remuneration for general practitioners is only about twice average weekly earnings in Australia, whereas it is 3 to 4 times average weekly earnings in the US (Anderson 1998). This is reflected in the fact that the average fee charged for a general practitioner service in Australia in 1999-2000 was $26.35 (Department of Health

and Aged Care 2000), whereas in the US it is much higher. Why doctors have been able to obtain greater remuneration increases in the US is not entirely clear, but in looking at the international comparisons it would seem that it is the private health insurance system that is associated with market failure in this area. In Australia, our dental system is largely private. Much of the expenditure is funded by private health insurance, though there are high co-payments as well, even for the insured. It is interesting to note that the price increases in dental services (59 per cent in the period 1989-90 to 1999-00) are substantially above price increases for other health services (figure 4.2). Other components of the health price index, like hospital prices and medical prices, which both grew by 25 per cent from 1989-90 to 1999-00, have increased at slightly below the non-defence private final consumption expenditure deflator (27 per cent growth).

Is Australia getting value for money from its health expenditure?

The crucial question that needs answering is whether a health system is delivering value for money. Value can be defined in terms of mortality levels, disability and responsiveness (WHO 2000). Let us first look at trends in mortality rates for different countries. Figure 4.3 shows the declines in age-standardised mortality rates for the OECD countries which have shown large declines and for Denmark which has shown the least decline. The mortality rate in Japan has declined 48 per cent in the period 1970 to 1995, Australia has declined 44 per cent and Denmark only 10 per cent (table 4.15). This is a very large variation in performance. Figure 4.4 shows Australia's decline in relation to some other European countries. Australia started well behind, but is now up with the best. The comparison with the English speaking countries in figure 4.5 is revealing. Australia was much worse than Canada in 1970, but has now surpassed that country. The US has shown a fair decline in mortality rates in the period, as have the UK and New Zealand — who are very similar — but as they have experienced slower declines than Australia they are now substantially behind.

The reason for the declines is the 2 trillion dollar question. What proportion of the improvements is due to the $US2.2 trillion[13] spent on health services by the OECD countries (WHO 2001), and what proportion is due to other factors? Or (2000a) has done some regression analyses on this and the results of one of these regressions are reported in table 4.16. All the variables are significant.

[13] Total expenditure on health services by the 20 higher income OECD countries as estimated by the WHO is $2170 billion (US Purchasing Power Parity equivalents).

You can see there is a mix of different types of factors — lifestyle factors like smoking, alcohol consumption and sugar and butter consumption; some health system factors such as health expenditure and the share of public health expenditure in total health expenditure; and some non health system factors like GDP per person, share of white-collar workers in the workforce and air pollution.

We need further work to understand exactly how these factors affect premature mortality. We understand fairly well how risk factors affect mortality. Up to 40 per cent of the Australian burden of disease is due to 10 risk factors (AIHW 1999). We are also gaining a better understanding of how public health interventions affect risk factors, although it is difficult to disentangle the impact of specific public health interventions from the impact of other factors. A recent Australian study estimated the impact of public health programs in the areas of tobacco reduction, prevention of coronary heart disease, HIV/AIDS and immunisation against measles and Hib-related diseases (Abelson 2001). It showed that for all of these programs, the benefits exceeded the costs, and for most the benefits were many times the cost. Tobacco reduction programs had an estimated benefit of $8427 million compared to a cost of $176 million. For HIV/AIDS the estimated benefit was $3105 million compared to a cost of $697 million. (A benefit value of $60 000 per disability-adjusted life year was applied in this study, with a discount rate of 5 per cent.)

It is still unclear how higher GDP per person in developed countries leads to lower mortality, but it is clear that it is not all mediated through health system factors such as health expenditure and doctor supply. Further work needs to be done to explicate the impact of education on mortality, because the high correlation between education and GDP may explain part of the GDP association.

When regressions have been done in the past on data from OECD countries, we have not always seen health system factors coming up as significant, or when they do show up it can be with the wrong sign. A high doctor supply, for example, has often shown negative effects. But, in a recent regression by Or (2000b), doctor supply came in with a positive sign.

Cancer survival rates are one indicator we have of health system performance. Five year relative survival rates for men for the period around 1987 to 1991 were 58 per cent for the US, followed by 48 per cent for Australia and 31 per cent for England and Wales. For women, it was 61 per cent for the US, 59 per cent for Australia and 43 per cent for England and Wales (see table 4.17 and figure 4.6). Higher five year survival rates are sometimes due to earlier detection rather than more effective treatment, so these numbers should be used with caution, but on the face of it they suggest a deficiency in cancer treatment programs in England and Wales.

Figures 4.7 to 4.12 from the OECD, look at the relationship between doctor supply, health expenditure and measures of quality in the health system. European data (figure 4.7) suggests there is a relationship between health expenditure and expressed satisfaction with the health system. Waiting times for CABGs are correlated with doctor supply and expenditure per person (figures 4.8 and 4.9). The Commonwealth fund data on waiting times is correlated with doctor supply, and note again that it is the UK at one extreme end (figure 4.12). Waiting times for elective surgery in Australia tend to be mid-range compared to European countries (table 4.18)

All of this data suggest that low health expenditure in the UK is having a negative impact on the quality and quantity of health services delivered. As Tom Rice mentioned, it is easier to constrain costs in a health system almost entirely funded by taxes, as in the UK, but this does not mean that such constraint is good for us.

Variation in procedure rates

There is a very large unexplained variation in procedure rates in Australia as in other countries (figure 4.13). There is a good case for utilisation review to understand why there are such differences, as a first step on the way to best practice. It is clear that private patient status increases the probability of being operated on. It is likely that private patients on average receive too many procedures, and it is possible that public patients have too few.

Impact of demography on expected expenditures

The impact of demography on health expenditure was dealt with at the Productivity Commission/Melbourne Institute conference in 1999 on the 'Policy Implications of the Ageing of Australia's Population', so I will not discuss it in any detail here (see, for example: Richardson and Robertson 1999; Howe and Sarjeant 1999; Creedy 1999). Demographic factors themselves make only a moderate contribution to health expenditure growth. Assuming a GDP growth of 2.6 per cent per annum, health expenditure as a proportion of GDP would decline from 8.4 per cent in 1995 to 7.1 per cent in 2021 if ageing and population growth were the only factors increasing health expenditure (Richardson and Robertson 1999, table 13.4). Most of the expected growth in health expenditure in the next 20 to 30 years is due to the greater quantum and quality of health services that we expect will occur due to technological and knowledge improvements.

The growth in real health expenditure in the period 1975-76 to 1993-94 averaged 3.5 per cent per year. This can be decomposed into the population growth component of 1.4 per cent per year, the ageing component of 0.6 per cent per year and the remaining component of 1.5 per cent per year which represents real per person increases in health services delivered. The ageing component will increase over the next 20 years, reaching a peak of 1.1 per cent per year in 2022 and then declining to an average 0.7 per cent per year from 2030 to 2035 and then to an average 0.4 per cent per year over 2040 to 2050 (table 4.19).

Disability rates

There is concern expressed in some quarters that, as we age and people live longer, disability rates will increase and therefore, that there will be a much greater burden on the health system in caring for people with disabilities. The data in this area are not clear. Some US researchers argue that in fact age-standardised disability rates are declining (Manton 2000), but there is evidence that the decline is almost entirely in mild disability which requires very little, if any, assistance from others (Schoeni et al. 2001). The Australian data from the ageing and disability surveys show no evidence of a decrease in disability where assistance is required (Madden et al. 2001). Also, it is not clear how much different results from different surveys reflect changes in expectations over time.

Benefits arising from the health sector

It is clear that the health sector has been delivering very large benefits in recent years. Nordhaus (1999) notes that the improvement in life expectancy in the last 50 years has a monetary value which is about the same as, or greater than, the increase in GDP per person in the last 50 years. Not all of this life expectancy improvement has, of course, been due to the health sector, but a substantial portion has been — and I include public health interventions as well as treatments when I talk about the health system.

It is not clear that the importance of the health system in adding to our well-being has been adequately recognised. Studies in the US indicate that governments pay much more to save life through environmental health regulation than through health system programs (figure 4.14). The monetary values of life used in the different agencies in the US vary from $0.7 million per life in the USDA to $1.2 million per life in the Food and Drug Administration, $3 million in the Department of Transport and $4.8 million in the Environmental Protection Agency (Kenkel 2002). There is

an inconsistency here, which I think we see sometimes in our own government decision making, and it should be addressed.

Conclusion

Finally, let me quote from a paper by Richardson (1997) called 'How much should we spend on health services?', which addresses many of the issues we are considering in this session.

> It is entirely a matter of social choice whether health services are financed collectively through taxation or through some private mechanism. The claim that governments cannot or will soon be unable to afford the cost of a health service but that the private sector can, is simply untrue or, at best, a convenient myth to obscure some other objective (possibly the political objective of reducing taxation) which reflects (or promotes) an unwillingness by the healthy/wealthy to transfer resources to the unhealthy/poor. This is particularly true for countries such as Australia where the government share of the health budget is lower than in most comparable countries and where taxation as a percentage of the GDP is the fifth lowest in the OECD after Mexico, Turkey, the USA and Japan (OECD 1995). More generally there is no known relationship between the overall level of taxation and the performance or growth of the economy (Saunders 1996). This implies that the decision concerning government or private financing in the foreseeable future is not subject to some economic imperative but should reflect social attitudes towards collective versus individual responsibility for the financing of health care…...
>
> The optimal level of health expenditure in a country will therefore depend on the extent to which it is decided to collectivise the health service, the extent to which there is a (large or small) 'window' for purely individual decision making and the extent to which health outcome is valued differently under these two systems. Finally, if private markets remain technically inefficient then the optimal level of expenditure will also reflect the amount that people are prepared to pay to achieve the personal benefits of a free market component in the system; viz, the reduced subsidy to the poor and unhealthy and the greater flexibility in the purchase of health services…….
>
> It is undoubtedly true that health expenditures should not expand until all possible benefits are exhausted. This conclusion must follow from the fact that our resources are scarce and that health expenditures have an opportunity cost. Greater health outlays imply less benefits somewhere else. The most fundamental principle of economics is that these competing benefits should be compared before committing resources to any task.
>
> Beyond this self evident statement there is comparatively little we can say with any confidence about the optimal level of spending. It is not true that ageing or even the introduction of new and expensive technologies will inevitably precipitate a crisis. The impact of ageing will be comparatively modest and has already been accommodated in many developed countries. The overall level of health spending is very largely a matter of social choice. If it is believed that greater benefits are obtained through increased health and specifically for the elderly than are obtained from alternative uses of our

resources and if these benefits are obtained more efficiently inside than outside the health sector then there is no reason why the health sector should not expand significantly. Similarly it is untrue that governments cannot afford to finance these services through taxation. This is, once again, a matter of social and political choice. The reluctance to devote ever increasing sums of money to the health sector is at least in part a result of the limited evidence that substantial benefits will be obtained by further indiscriminate spending.

In principle, the optimal size of the health sector could be determined by the economic evaluation of the cost and benefits of each of the services provided. In practice, this exercise has encountered not only formidable practical problems but serious conceptual difficulties in the measurement of benefits. The size of the optimal health sector depends largely upon the value placed upon these benefits and the relationship between health expenditure and benefits is very poorly understood.

I am less pessimistic than Jeff as to our ability to determine a more optimal size for the health sector. There remain technical difficulties and unresolved ethical problems in measuring health benefits, but in most cases I think we are accurate to plus or minus 30 per cent. Cost effectiveness techniques have been applied to the PBS since 1991-92 (34 per cent of drugs listed in 1998-99 had been subjected to cost effectiveness evaluation). They are now also being applied with regard to new listings on the Medicare Schedule and they are usually applied with regard to public health interventions, so we have most of the services in the health sector covered. A major nettle that still needs to be grasped is resource allocation in the health sector vis-a-vis other sectors, which at base is an issue as to the monetary amount we are willing to pay per defined health benefit.

Table 4.13 **Average annual growth in real Australian recurrent health expenditure, 1989-90 to 1998-99**

Per cent

	Average annual growth
Hospitals	3.4
Public (non-psychiatric) hospitals	2.9
Private hospitals	7.4
High care residential aged care	4.5
Medical services	4.6
Other health professionals	4.8
Pharmaceuticals & medicaments	7.5
Benefit paid pharmaceuticals	9.2
Other pharmaceuticals	5.1
Community/public health	4.7
Health administration	0.3
Research	4.3
Total recurrent	**4.0**

Source: Calculated from data contained in AIHW (2001a).

Table 4.14 **Components of health expenditure growth, 1990 to 1999**

Per cent

	Aust	*Can*	*Japan*	*UK*	*US*
Nominal growth in health services expenditure	6.2	4.8	7.9	6.9	6.4
Health services inflation	1.9	2.0	1.5	4.9	3.8
General inflation	1.4	1.6	0.3	3.0	2.2
Excess health inflation	0.5	0.3	1.2	1.8	1.6
Real growth in health services expenditure	4.2	2.8	6.3	1.9	2.5
Population growth	1.2	1.1	0.3	0.4	1.0
Per person real growth	3.0	1.6	6.0	1.6	1.5

Source: AIHW (2001a).

Table 4.15 **Changes in mortality rates, selected OECD countries, 1970 to 1995**

	Decline in age standardised mortality rates, males and females, 1970 to 1995	*Age-standardised mortality rates in 1995*
	%	
Japan	-48	547
Australia	-44	625
Austria	-39	704
Spain	-37	639
Switzerland	-37	596
Italy	-37	635
Belgium	-36	707
Germany	-35	725
France	-35	600
New Zealand	-35	710
Canada	-33	626
United Kingdom	-30	739
United States	-28	733
Sweden	-27	616
Ireland	-26	848
Netherlands	-25	690
Iceland	-25	661
Norway	-24	678
Greece	-20	672
Denmark	-10	821

Source: OECD (2001).

Table 4.16 **Fixed-effect estimates of the determinants of premature mortality in 21 OECD countries, 1970 to 1992**

Variable	*Women*		*Men*	
	Coefficient	*t-statistic*	*Coefficient*	*t-statistic*
Texp	-0.1771	-4.5	-0.0375	-1.1
Pubexp	-0.1663	-2.6	-0.1774	-3.2
GDP	-0.3499	-5.3	-0.4395	-7.7
Status	-0.8098	-10.2	-0.7441	-10.7
Polut	0.0496	2.0	0.0949	4.4
Alcohol	0.2049	6.4	0.1621	5.8
Tobacco	0.0916	3.2	0.1790	7.1
Sugar	0.1220	3.5	0.1096	3.6
Fat	0.0148	0.9	0.0445	3.1
R^2	0.94		0.95	
F	252		292	
DurbinWatson	2.08		2.20	

Definitions of variables

H (Dependent variable)	Potential years of life lost (per 100 000 persons aged from 0 to 69 years) - all causes except suicides.
Texp	Total health expenditure per capita, US$ at 1990 price levels and PPPs from medical consumption.
Pubexp	Share of public expenditure in total health expenditure.
GDP	Gross Domestic Product per capita, US$ at 1990 price levels and PPPs for GDP.
Status	Share of white-collar workers in total workforce.
Polut	Nitrous oxide (NOx) emissions per capita, kg.
Alcohol	Consumption of alcoholic beverages, litres per head population aged 15 and over.
Tobacco	Consumption expenditure on tobacco per head of population aged 15 and over, US$ at 1990 price levels and PPPs for tobacco consumption.
Fat	Butter consumption per head, kg.
Sugar	Sugar consumption per head, kg.

Source: Or (2000a).

Table 4.17 **Five-year relative survival proportions for all cancers, selected countries**

Percentage

Country	*Relative survival for males*	*Relative survival for females*
Australia (1987–1991)	48	59
Denmark (1985–1989)	32	47
England and Wales (1986–1990)	31	43
Europe[a] (1985–1989)	35	50
Finland (1985–1989)	38	54
Iceland (1985–1989)	47	56
Italy (1985–1989)	34	52
Scotland (1985–1989)	29	41
United States (1984-1990)	58	61

a A weighted average.

Source: AIHW (2001b).

Table 4.18 **Waiting times in Australian public hospitals, 1999-2000**

Indicator procedures	*Days waited at 50th percentile*	*Days waited at 90th percentile*	*Per cent waited over year*
Cataract extraction	73	316	7.0
Cholecystectomy	42	195	2.5
Coronary artery by-pass graft	15	88	0.1
Tonsillectomy	64	349	8.9
Total hip replacement	88	345	8.9
Varicose veins	69	410	12.3
Total	27	175	3.1

Source: AIHW (2002).

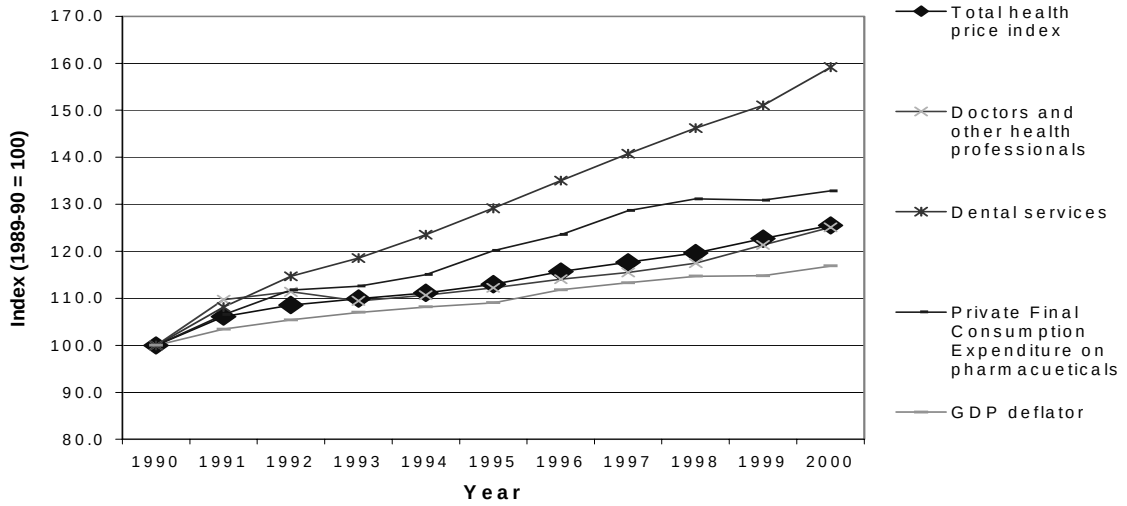
Table 4.19 **Average annual impact of ageing on Australian health expenditure; five year intervals, 2000 to 2050**

Years	*Average annual percentage impact of ageing on Australian health expenditure (a)*
2000–2005	0.62
2005–2010	0.60
2010–2015	0.75
2015–2020	0.86
2020–2025	1.00
2025–2030	0.91
2030–2035	0.72
2035–2040	0.61
2040–2045	0.36
2045–2050	0.36
2000–2050	0.69

a Based on 1993-94 age-sex distribution of health expenditure.

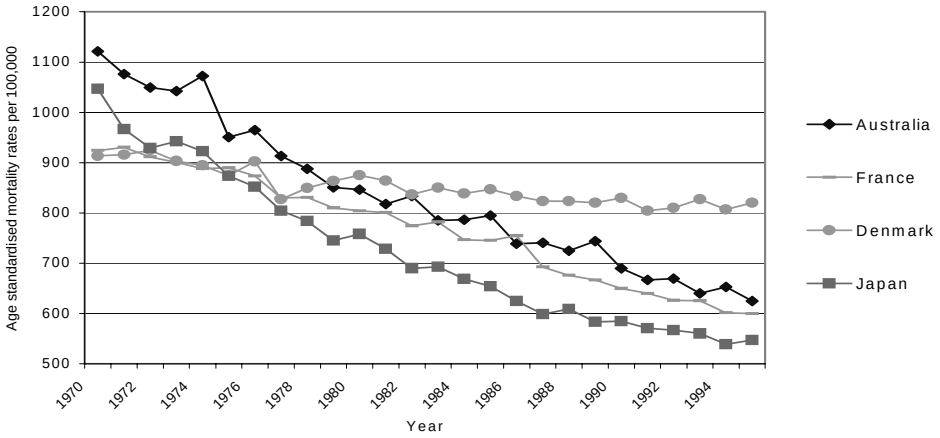
Source: Calculated by AIHW using ABS population projections 1999 to 2051, series Q.

Figure 4.2 **Changes in health and other prices, Australia, 1989-90 to 1999-00**



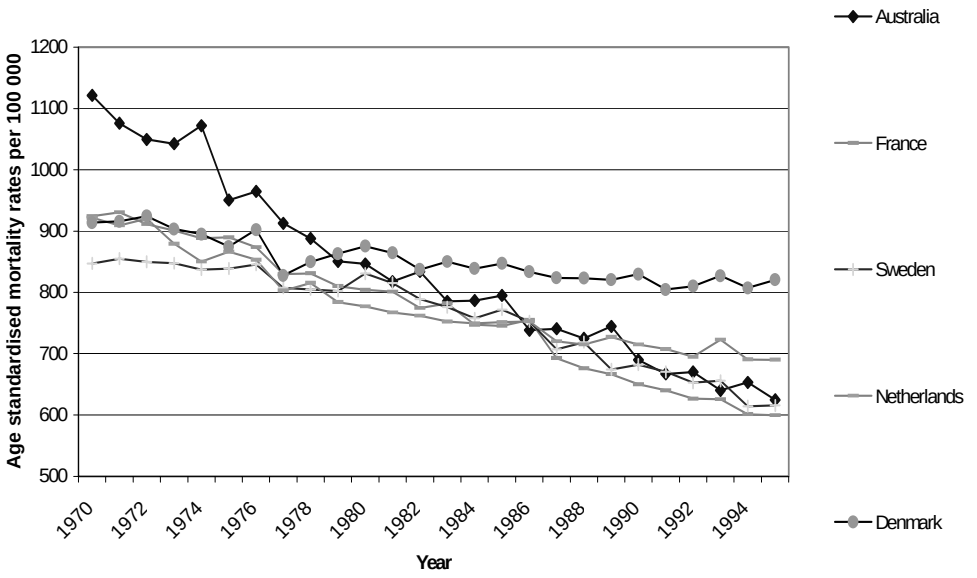
Data source: AIHW (2001a).

Figure 4.3 **Mortality rates, selected countries, 1970 to 1995**



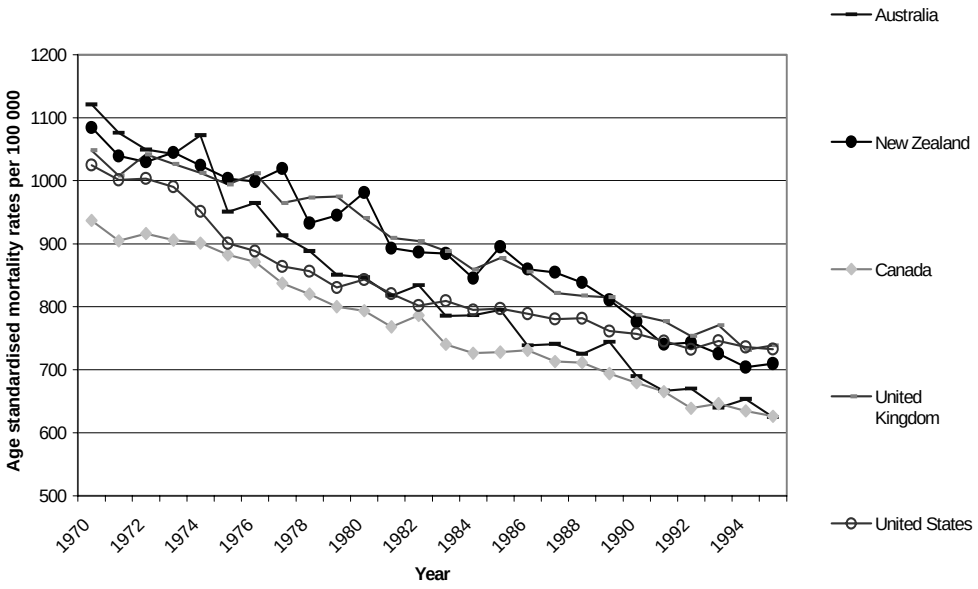
Data source: Mortality rates standardised to the OECD reference population from OECD (2001).

Figure 4.4 **Mortality rates, selected countries, 1970 to 1995**



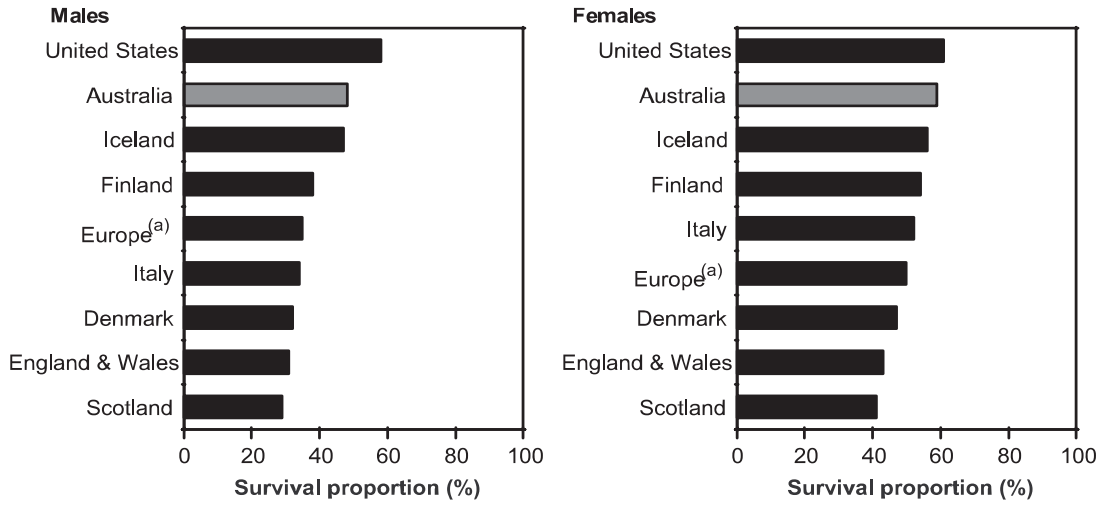
Data source: Mortality rates standardised to the OECD reference population from OECD (2001).

Figure 4.5 **Mortality rates, selected countries, 1970 to 1995**



Data source: OECD (2001).

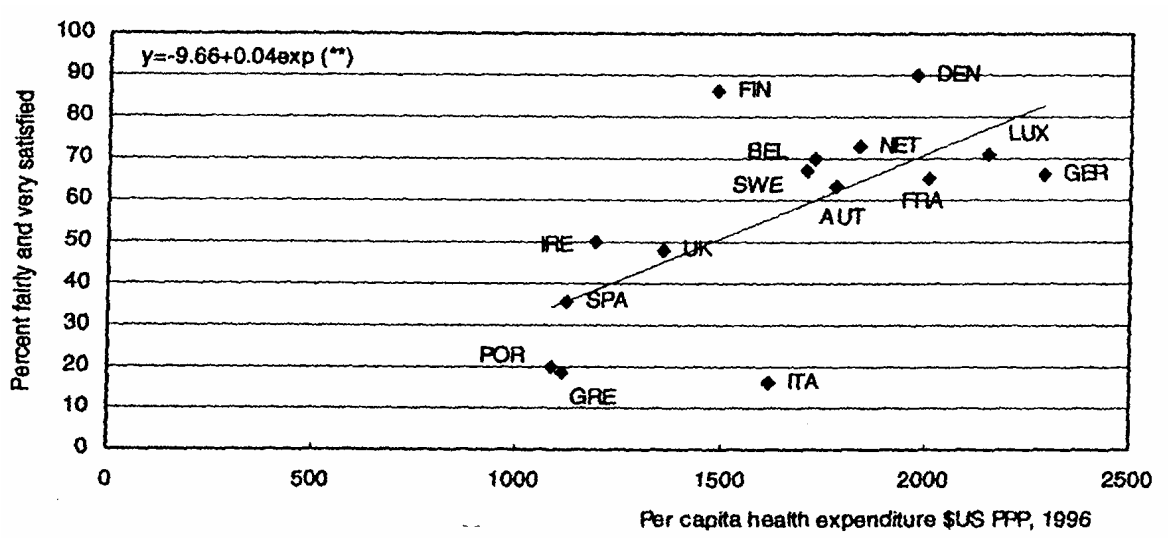
Figure 4.6 **Cancer, five year survival rate, selected countries, 1987 to 1991**



a Weighted average.

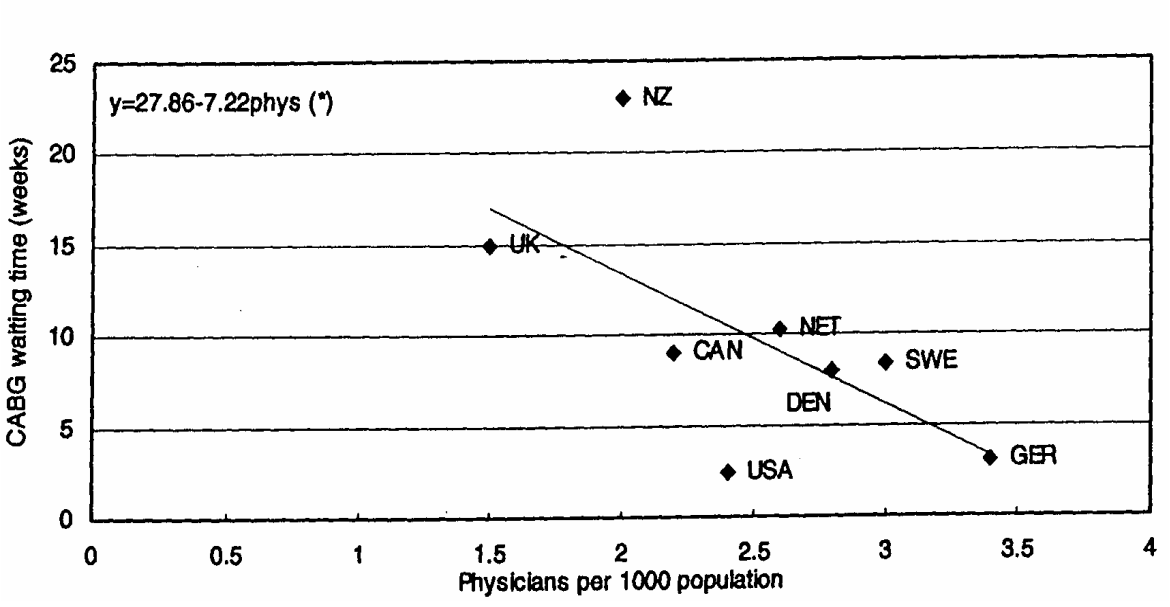
Data source: AIHW (2001b).

Figure 4.7 **Per capita expenditure on health in $US purchasing power parities as compared to satisfaction with health care system, selected OECD countries, 1996**



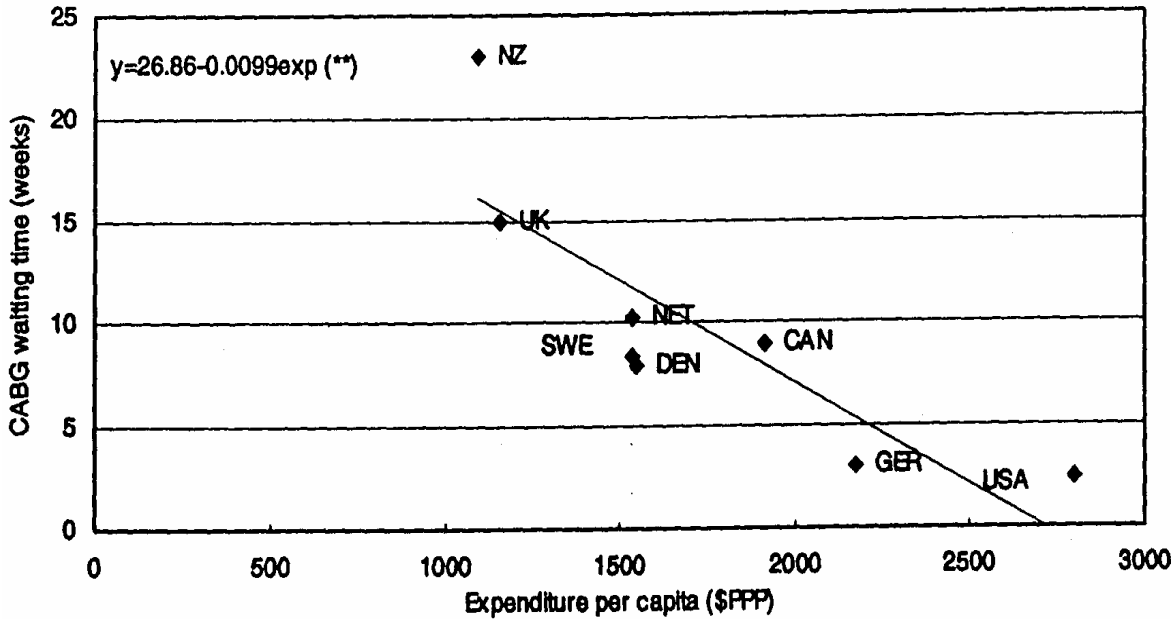
Data source: OECD (1999, unpublished).

Figure 4.8 **Waiting times for CABGs and total physicians per 1000 population, selected OECD countries, early 1990s**



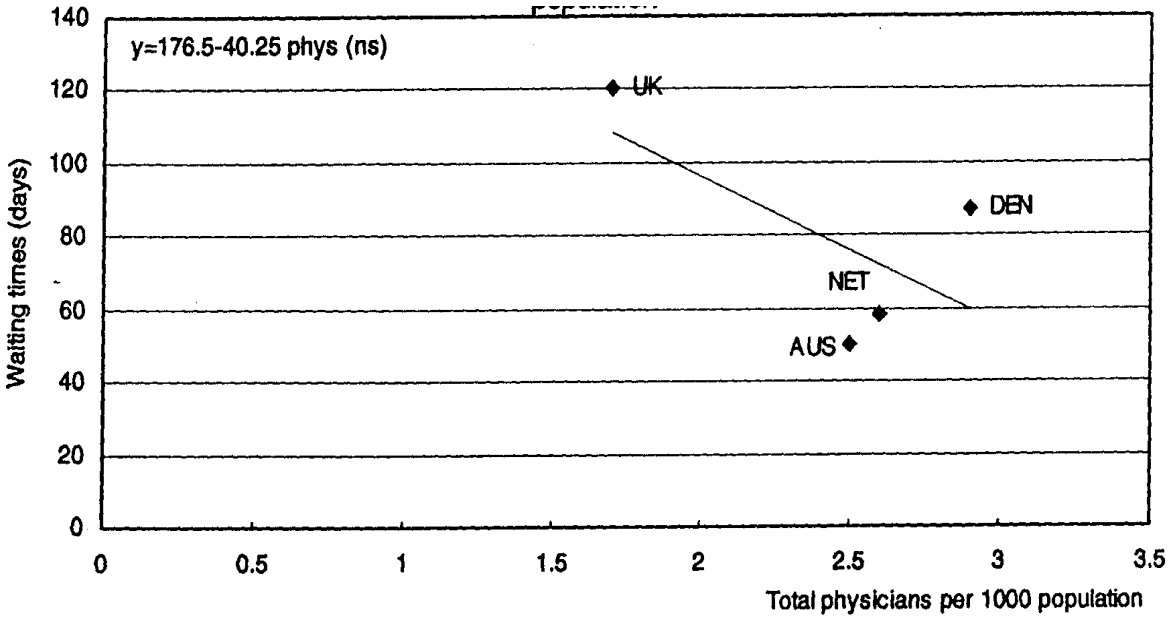
Data sources: OECD (1999), using unpublished data from Carrol et al. (1995), Silber et al. (1996) and Bernstein et al. (1997) and Fitzpatrick (1992).

Figure 4.9 **Waiting times for CABGs and per capita expenditure on health in $US purchasing power parities, selected OECD countries, early 1990s**



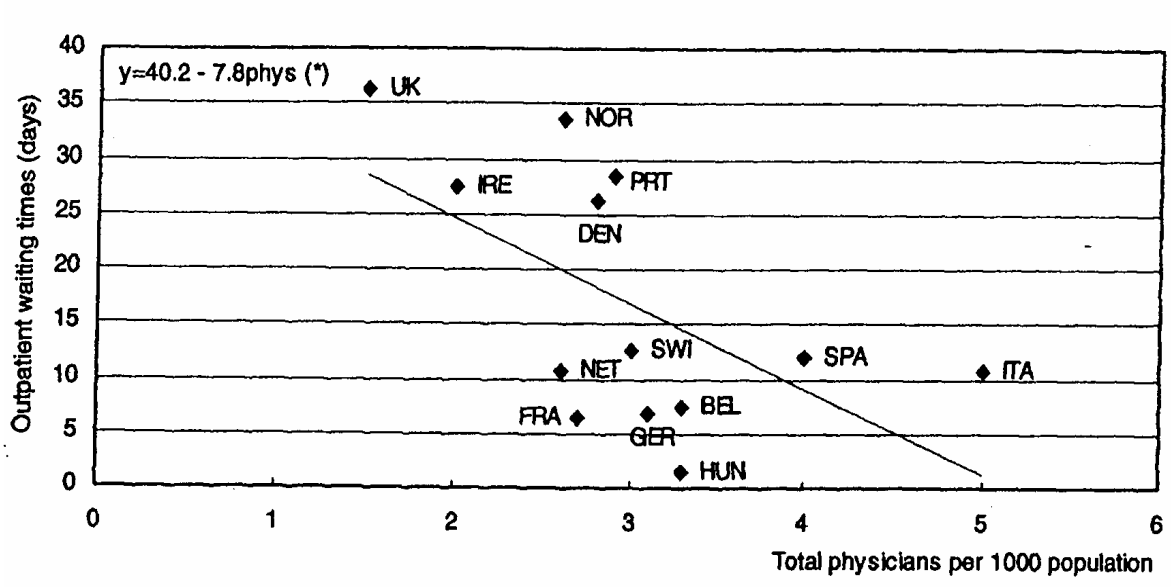
Data sources: OECD (1999), using unpublished data from Carrol et al. (1995), Silber et al. (1996), Bernstein et al. (1997) and Fitzpatrick (1992).

Figure 4.10 **Waiting times (official national data) and total physicians per 1000 population, selected OECD countries, mid 1990s**



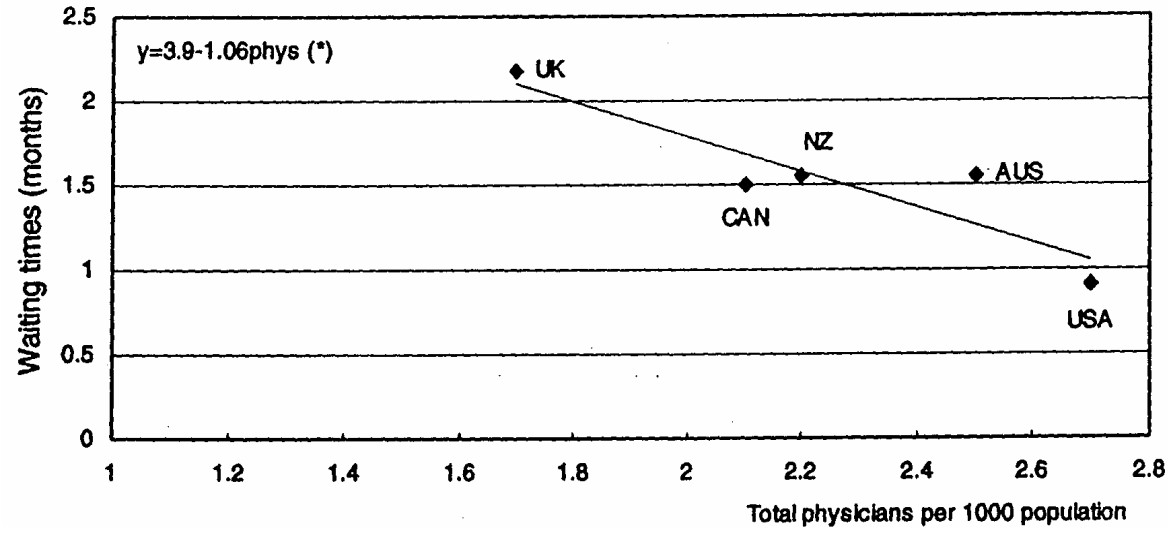
Data sources: OECD (1999 unpublished) using data from Australia's Health (1998), Danish MOH, English NHS, and Statistics Netherlands.

Figure 4.11 **Outpatient waiting times and total physicians per 1000 population, selected OECD countries, 1992**



Data source: OECD (1999, unpublished).

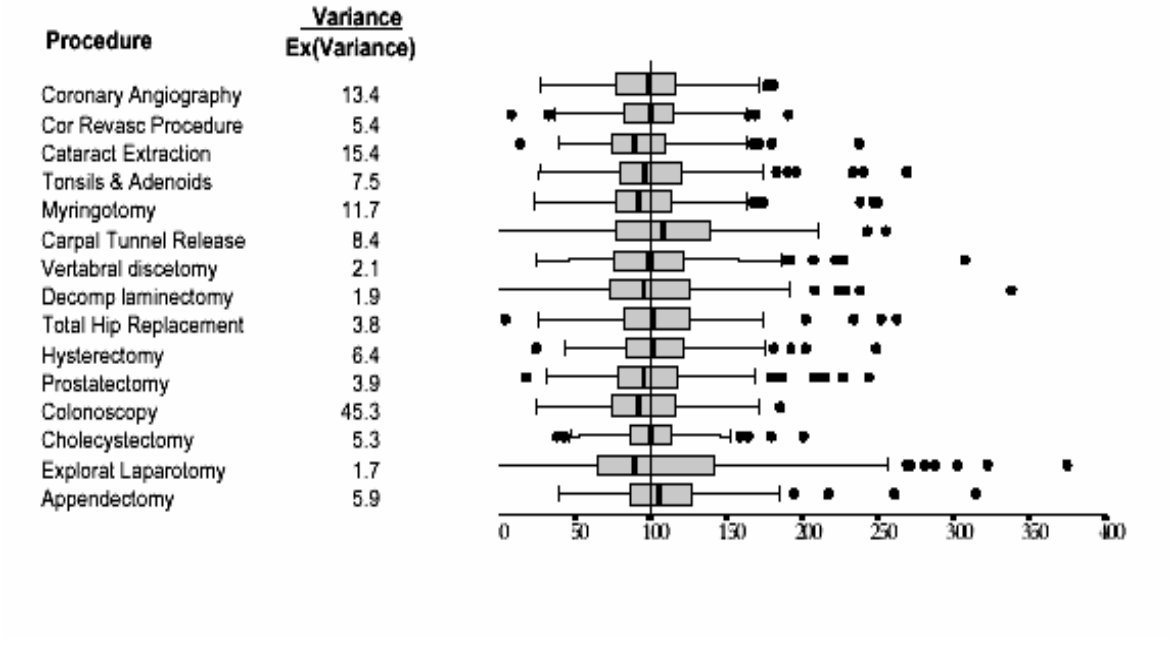
Figure 4.12 **Waiting times (Commonwealth fund data) and total physicians per 1000 population, selected OECD countries, 1998**



Data sources: OECD (1999, unpublished); Donelan et al. (1999).

Figure 4.13 **Variation in procedure rates**

Standardised rate ratios for various operations in Statistical Local Areas in Victoria, compared to the rate ratios for all Victoria

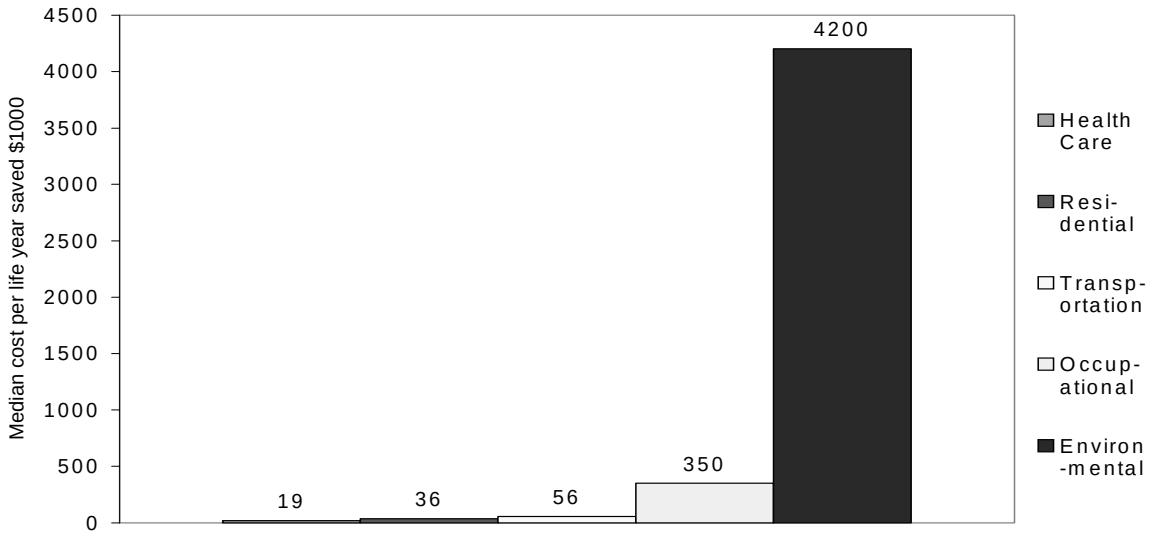


Note: Standardised rate ratio: median, range, 25th & 27th centiles for statistical local areas, standardised to Victorian state ratio = 100. Extreme values greater than 3 times 50th–75th and 25th–50th centile intervals are recorded as separate points.

Source: Richardson (1998).

Figure 4.14 **Median cost per life — year saved, United States, 1993**

Different sectors ($US)



Data source: Lomburg (1998).

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Introduction

It is a struggle for anyone to come to grips with a sector of the economy as large and as complex as health in order to contribute to good policy in an area of the economy which is greatly influenced by government.

While criticisms of how a country's health system is organised and performs abound (bolstered by plausible explanations and observed correlations), what is scarce (because it is so difficult) is solid evidence of causation: for example, what works, for whom, why, and at what cost? Being confident of the answers to such questions would greatly assist health planners and policy makers in their attempts to improve health outcomes in cost-effective ways. Instead, governments have to juggle a strife of 'stakeholder' interests — each lobbying for their favoured fixes for what commentators widely regard as a badly flawed health system (and therefore an inefficient sector of the economy badly in need of reform).

Tom Rice's paper picks its way carefully though a subject of universal concern to government in a lucid and informative way.

But why are governments so heavily involved in health?

For economists, the rationale for government involvement tends to revolve around the following:

- some health services have strong *public good* aspects (eg. controlling contagious disease and the provision of information to better inform individuals' choices concerning their health);
- others are associated with significant *externalities* (eg. by slowing the transmission of disease, successful childhood immunisation programs create positive externalities, while drunk drivers and polluters create negative ones);
- provision of cost-effective health services to the poor is an effective and socially accepted approach to addressing poverty (and disadvantage more generally) — by effectively redistributing access to the goods and services produced in an economy independently of the distribution of income;
- government intervention may be needed to address *uncertainty and insurance market failure*: uncertainty about the risk of illness and associated costs (leading to a strong demand for insurance, especially long-term insurance) and the likelihood of an undesirable response on the part of unregulated markets (eg. on

the one hand, companies refusing to insure the very people who most need it (ie. those who are already sick or likely to become so — a problem sometimes referred to as *adverse selection)* and, on the other hand, *moral hazard* problems on the part of the insured, whereby insurance lessens the incentive to avoid risk and potential expense by prudent behaviour, and can create both incentives and opportunities for health care providers to offer more care than is justifiably necessary);

- there is also the problem of *asymmetry of information* between health care providers and consumers concerning treatment options and their possible consequences: providers advise patients on choice of interventions, and when the provider's income is linked to that advice, the result can be over-treatment; and
- if moral hazard and information asymmetry problems remain unaddressed in unregulated private markets, costs can be expected to escalate without appreciable health gains to the population.

While these may be persuasive arguments favouring government involvement in health, they are not unique to health care markets nor, without a good deal of further analysis, do they justify a particular level or extent of involvement. But, realisation of the unquestionable benefits government interventions in health could achieve in terms of people enjoying longer, healthier and more productive lives needs to be cognisant, as Tom points out in his paper, of the risk that resources will be misallocated, wasted or that there will be an inequitable access to health care. This potential for undesired outcomes is only heightened when governments control large health budgets (eg. of the order of one-tenth of all spending in the economy).[14]

For non-economists, the rationale for government involvement in health has little or nothing to do with economics for all sorts of reasons, and most especially because any moves to weigh costs and benefits to guide the extent and nature of care offered (implying as it does placing a value on pain and suffering — and, *in extremis*, human life itself) is to be rejected as bordering on the repugnant. For many, access to the best health care money can buy is a goal to be pursued at any cost, since it has become a basic human right.[15]

But whether one is wearing an economic hat or not, the problem for government, as addressed so capably in Tom Rice's paper, is that:

[14] If the need for extensive government intervention in health means that it cannot rely on competitive forces to drive prices down and quality up, the problem becomes akin to running a 'command and control' economy — with all the risks of inefficiencies that entails.

[15] Embodied, for example, admittedly somewhat pragmatically, in goals such as 'to improve the health of the worst off in society and to narrow the health gap.'

- growth in expenditure on health and aged care is already high, and threatens to verge on the unsustainable (particularly with the prospect of ageing populations);
- yet not all care which is justifiable is provided;
- while, at the same time, care of doubtful value can end up being paid for.

I sometimes muse on what economists can contribute to the health care debate given that they must compete with a myriad of other 'advisers' actively lobbying government to pursue particular courses of action. While my observation is that they are not particularly influential in competing in this 'marketplace' for ideas about how to build a better health care system, what they can do is emphasise the key role incentives play in conditioning the behaviour of the various 'players' whose interactions comprise a country's health care system. Such observations can be framed in the form of 'if changed circumstances create incentives favouring certain kinds of behaviour, don't be surprised if such behaviour duly emerges.' Three examples are:

- If the prices consumers face represent only a fraction of the cost of providing health care goods and services, don't be surprised if supply struggles to satisfy seemingly insatiable demand (and queues form). As Rice puts it, 'the over-riding pressures on future costs are due to the demand-side of the health care market.'
- If health care providers can make more money out of some patients than others, don't be surprised if the former group is accorded preference over the latter.
- And, if health insurance premiums are not risk-rated, do not expect relatively healthy people to voluntarily insure themselves (except for a small minority who are truly risk-averse).

Addressing cost pressures: not just a problem for government

While cash-strapped governments understandably view the burgeoning bill for health care with understandable concern, addressing inefficiencies caused, for example, by a misallocation of resources is a societal problem, not just a problem for government.

Supply-side options

In theory, a government intent on publicly subsidising health care can nevertheless keep its health spending in check by controlling eligible goods and services and the

extent of subsidies (provided it can anticipate what demand will be at the subsidised prices).[16] In practice, of course, things are not that simple nor straightforward.

Choosing what to subsidise

If government had the luxury of starting *ab initio*, it might very soon be persuaded only to list on schedules of health care goods and services (whose consumption is to be publicly subsidised) those that unequivocally qualify as constituting 'basic' care for all. Setting aside niceties of just what would be in or out under such a definition, in practice the net tends to be cast both widely (eg. services provided by registered medical practitioners) and narrowly (eg. services provided by allied health care professionals do not qualify).

However initial services attracting public subsidy is decided, the pressure is soon on — driven by the discoveries of researchers and reinforced by public demand/expectations — to enlarge the list. Concerned about possible budgetary implications, government may well respond by moving to erect more hurdles to new listings (eg. by running a cost-effectiveness ruler over proposed additions, as well as insisting that they be safe and efficacious). Compounding the problem of the push being all in one direction, limited resources may militate against the same ruler being retrospectively run over goods and services already on the list — in spite of the evidence basis being possibly lacking in relation to the revised hurdles on the one hand, and possibly significant savings associated with delisting on the other.

New candidate technologies for public subsidy — in the form, for example, of new pharmaceuticals, diagnostic tests, medical procedures and implantable devices — seem to present something of a conundrum (especially for economists). Whereas in 'normal' markets price mediates adoption of new technologies (with a typical progression being modest penetration initially, when prices are high, followed by greater penetration as the technology matures, with prices falling as sales volumes increase), this does not seem to hold true when it comes to health. With doctors largely ignorant of the costs involved and third-party payers similarly shielding patients from prices which would reflect those costs, it is no wonder that providers advocate, and consumers demand, the very latest that the health care industry has to offer.

16 If anticipating demand is too problematic, it can seek to enter into capped expenditure arrangements with suppliers. Such a course is, however, not without its problems — especially if, as a result of the incentives created, suppliers seek to aggressively expand market share (much like fish tend to be caught early in the season under global catch quotas, as fishers vie to maximise their income).

Choosing how much to subsidise

It is possible in Australia to enjoy first-world health care at little or no cost:

- there will be no charge if, for example, you choose to consult only doctors who 'bulk bill' Medicare;
- there will similarly be no charge if you insist on being admitted to hospital as a public patient, should that become necessary; and
- you will be liable, at most, for only a nominal co-payment for prescribed pharmaceuticals provided you qualify as a 'concessional' consumer under the Pharmaceutical Benefits Schedule.

Not surprisingly, Australians tend not to favour politicians intent on reforming Australia's universal health care system: we are a healthy mob (and getting progressively healthier) and the cost does not seem to be exorbitant (currently equivalent to around 8.5 per cent of GDP, which is only slightly above the average for industrialised OECD countries; albeit Australia has a relatively young population structure, which undermines the comparison somewhat).

As Tom's paper points out, however — and especially in view of the current extent of health subsidies in Australia — it is not hard to think of reasons why the health care bill might tend toward inexorable increase (to likely account for an ever-increasing share of GDP). Indeed, we have the evidence before us in the form of a rising trend in Australians' per capita consumption of health care goods and services, which tends at times to outpace corresponding growth in per capita GDP — driven by:

- increasing intensity of use (with a tendency for Australians to make increasing demands on their health care system over time, in turn driven by rising consumer expectations and factors such as the ageing of the population); and
- increasing prices (as the cost of new drugs and other health care technologies exceeds general price increases in the economy, as do the prices charged by some health care providers).

Cost-shifting: a game for all payers?

As Tom's paper points out, where there are multiple payers and it is difficult to control one's costs, the temptation is to try to get someone else to pay.[17] Although not, perhaps, a 'game' played with quite the same intensity and finesse as it may be

[17] Cost shifting would still be a game worth playing even if it were not such a challenge to contain outlays, so long as cost-shifting is less costly than the alternative of cost control.

in the US, it is not unknown in Australia (in spite of there being relatively few 'players' and conclusive evidence of the various possible strategies actually being pursued being difficult to come by). Examples of such 'gaming strategies' in Australia would include:

- State and Territory governments effectively transferring costs to the Commonwealth Government by discharging patients prematurely from public hospitals (since responsibility for paying the publicly subsidised component of their medical and pharmaceutical bills will then fall to the Commonwealth Government).
- In turn, the Commonwealth Government can effectively transfer costs to State and Territory governments by not providing them with sufficient funds to run their public hospitals (so that they are forced to supplement federally supplied funds from their own resources).
- Governments can effectively transfer costs to individual health care consumers by introducing (or forcing up) co-payments in the form of out-of-pocket contributions to the health care goods and services that they consume.
- To which consumers might respond by threatening to oust the offending government at the polls (thereby forcing an increasing proportion of health care costs to be met from the public purse).
- Governments can at least attempt to transfer costs to the private health insurance industry (and ultimately to premium payers) by making the taking out of such insurance more attractive in the eyes of individuals and families, for example by mandating (progressive) taxes earmarked for health, by embracing risk-rated premiums (eg. by abandoning 'community rating') and by subsidising premiums themselves.
- To which private health insurers might respond by attempting to 'pick and choose' individuals whose health claims they prefer to meet (eg. by encouraging high-cost claimants to look to public hospitals to meet their needs).

Experimenting with capitation

Acknowledgment that public and private payers find it increasingly difficult to manage the risk that costs could spin out of control has heightened interest in alternative ways of organising health care, in particular devolving resourcing decisions down to the level of clinical decision making.

Regional health budgets?

One idea that is attracting attention in Australia is the possibility of framing health budgets at a regional level and devolving decisions about how best to spend the budget down to individual regions, in the hope that those close to the problems are in the best position to drive the health dollar furthest. One issue here is how many health care consumers would have to be in the region for it to be in a reasonable position to manage its risks (ie. balancing the risk that a relatively few high-cost consumers might cost more than budgeted for versus that likelihood that, in that event, sufficient offsetting savings could be made among the largely healthy majority to still conform to the overall budgetary cap).

Individual transferable health entitlements?

The ultimate devolution would be an individual entitlement to an 'average' level of publicly financed support for ones health care, along with an efficient mechanism for transferring all or part of one's entitlement to someone else to cater for significant variation in the demands individuals make on the health care system. While it could be expected that a market would soon emerge to put a price on a dollar of entitlement (and so provide an efficient transfer mechanism), a parallel altruistic market could also be expected to emerge whereby, for example, healthy individuals donate unwanted entitlements to a charitable organisation for onward gift to those not in a position to buy further entitlements on-market. One could further anticipate forward thinkers to 'bank' unused entitlements against the risk of falling unexpectedly ill at some future time. In effect, what would have been created would be a special 'health' currency redeemable for ordinary currency when health care goods and services were actually provided.

Rationing health care

When demand exceeds supply at a given price queues form. As elsewhere, Australians are well used to this phenomenon when it comes to their treatment as public patients in state and territory government-financed public hospitals. Understandably, various strategies have emerged to address the problem, including:

- providing people with more choices (eg. admission to non-public hospitals in the case of those with private health insurance);
- active management of queues on the part of gate-keepers (eg. by creating multiple queues based on the urgency of people's situations, in the process making some people wait longer, such as for so called 'elective surgery');

- emphasising waiting times (rather than the length of queues) since how long the patient has to wait to be admitted to hospital is what really matters (and short waiting times can still be achieved in the face of long queues provided queue turnover is sufficiently high); and
- by fiat — as, for example, where Health Ministers declare that people should not have to wait longer than a nominated time and expect hospitals to comply (hopefully, from the hospital's perspective, they also make available sufficient additional acute care resources to make good on the promise).

Not surprisingly some of these strategies meet with indifferent success and the risk is that, indeed, 'not all care which is easily justifiable is provided.' Indeed, health care rationing in the face of unmet (and perhaps unmeetable) demand is a fraught subject — how to ration care in a way that the public finds acceptable, yet makes it clear that the resources which society can afford to devote to health care are not unlimited awaits a satisfactory answer![18]

Demand-side options

Most health care systems have, historically, been run by governments from the supply side (for example, on expert advice on what health care goods and services should be publicly subsidised, and by how much). Demand-side options — such as using co-payments to temper demand — have thus not played much of a role, largely on grounds that they would represent a (strongly) regressive tax on health.

Co-payments

Nevertheless, patient cost sharing is becoming increasingly common in health care systems, and it likely to become more so over time as, one way or another, governments seek to transfer more of the burden of paying the bills to individuals. Already in Australia, one-in-three health care dollars is paid privately (mostly in the form of private health insurance premiums but also as co-payments in the form of out-of-pocket costs for health care goods and services — so called 'gap' payments).

I note a reference in Rice's paper to the RAND Health Insurance Experiment, which provided evidence on consumers' responsiveness to co-payments in terms of their demand for care — a responsiveness that tends to be brushed aside in Australia by

[18] An inability to make headway with (public) hospital queues breeds cynicism when finance departments respond to health care spending initiatives whose virtue is an alleged ability to keep people out of hospital: the one thing they feel quite certain about is that hospital beds are unlikely ever to lack patients to fill them (so that claimed savings will, in all likelihood, never be observed).

opponents of co-payments as a means of tempering demand. Surely the time has come to repeat the experiment to obtain contemporary information on the likely behaviour of consumers to various mechanisms for cost sharing — mechanisms that are increasingly being experimented with in (rich) industrialised countries and, as I say, are increasing likely to be resorted to in the years ahead.

Informing choice

Shifting the focus of health care from providers (the historical reality) to consumers (something of a novel idea) has become something of a mantra — both in Australia and overseas.

But how to achieve informed, joint provider-consumer decision making when it comes to individual and family health care when one of the parties is typically at such a disadvantage in terms of knowledge about possible interventions and their possible outcomes?

Certainly one can detect increasing interest on the part of many health care consumers in becoming more involved in decisions which potentially vitally affect them (spurred, for example, by the ready availability on the Internet of any amount of information — some of which is of doubtful value). And governments have become increasingly active in the health information arena, most particularly when it comes to public health issues (eg. the harm smoking, drinking and drug-taking can do). But, as in the case of the US, we have struggled in Australia to come up with good measures of performance (and in particular, the quality of health care being provided).

Perhaps more promising and practical is a push in Australia (and overseas) to make patient health histories available at the point of care in the form of electronic health records — so that more informed decisions can be made (given the impossibility of assembling paper records in time to be of much use). Of course, there are many hurdles to be cleared before such a promise can be delivered — but such a development would mean huge productivity gains because of the time currently spent retrieving and recalling relevant information and repeating diagnostic tests because previous results are unavailable.

International comparisons

International comparisons of national health and aged care systems are interesting and potentially insightful, though fraught with 'apples and oranges' comparisons on the one hand and a tendency to sometimes 'draw too long a bow' on the other.[19]

Such comparisons also suffer from the overarching problem of not really knowing the extent to which observed health outcomes are properly attributable to the workings of a country's health system — as opposed to, for example, the efforts of engineers to construct infrastructure in support of sanitation and potable water supplies.

My colleague from the Australian Institute of Health and Welfare commented on this issue in his paper, so I will only offer a few observations in the nature of reinforcing the questions rather than providing any answers.

Extra spending just a luxury?

It is probably true that considerable government health spending could be eliminated without significantly affecting health outcomes (eg. by focussing public subsidies on what experts would agree are basic services). That said, the statement is clearly not true in the case of those who, for one reason or another, do not get access to the kind of care which would make a great deal of difference to the morbidity and premature mortality that they currently suffer. (An obvious Australian example here is our indigenous people — whose health is poor by any standard.) So whether extra health spending is just a luxury is not the kind of question that can be answered by appeal to aggregate statistics.

Explaining variations in utilisation

It is true in Australia, as seems to be the case elsewhere, that there is enormous variation in utilisation rates — both at the level of individual health interventions and regionally — which are largely unaccountable and therefore raise serious issues of effectiveness and efficiency.

[19] The World Health Organization's (2000) 'World Health Report on Health Systems: Improving Performance', although well-intentioned, arguably provides an example of this latter tendency.

Access unequal?

There is Australian evidence, as there is elsewhere, that people do not enjoy equal access to health care goods and services. One of the reasons in Australia is the enormous cost of providing the kinds of services which are available in the cities to the 'bush' — a relatively small population in relation to the size of Australia, by world standards which militates against such provision.

Health care quality and consumer (dis)satisfaction

Measuring the quality of health care is a vexed problem, made the more difficult when the legal system is ready to pounce on any hint of 'medical error'. There is now an emerging 'indicator' industry bent on measuring performance in all its dimensions — with an as yet unestablished track record.

Is financing fair?

Putting to one side the (largely unanswerable) question of what is 'fair', Australia probably does not do too badly in the sense of requiring the relatively well off to shoulder a disproportionate proportion of health care — which remains two-thirds financed in Australia by the public purse.

Concluding comments

With health care so dominated by government, the temptation is to reach for the 'regulatory gun' whenever behaviour is observed which is disapproved of, or the system is judged not to be 'producing the goods' in some respect. Far more difficult is to encourage market forces to substitute for the 'dead hand of government' — the kinds of responses economists tend to prefer to adding yet further layers of regulation.

Yet for all the ills diagnosed of the government-controlled modern health care system, it does seem to be producing at least some of the goods: Australians, along with the citizens of other relatively rich countries, are living longer, healthier lives (although just how much of the credit for this trend can be claimed by the spending of the health care dollar is moot, though clearly significant).

I will conclude my commentary on Rice's paper with a couple of observations on Australia's health care system as it currently operates.

- Although health care is clearly a zero-sum game for society as a whole (in the sense that the bills end up being paid by somebody), at the same time it is perceived by many individuals as a potentially positive-sum game for them (when the time comes to make demands on the system).
- Health care is a game in which government-imposed supply-side controls are pitted against rampant demand — with government seemingly inexorably losing the war, albeit winning the odd battle.

General discussion

The discussion focused on:

- current and future trends in health spending;
- the public and private sector shares of total health spending; and
- the role of health expenditure in improving health.

Current and future trends in health spending

The discussion session began with one participant calling into question the usefulness of long term health expenditure projections. It was suggested that these projections are often simply mathematical calculations which show what could happen if current institutional arrangements continue in concert with other changes. Where this yields unsustainable outcomes, policy changes will of necessity occur. This precipitated a wide-ranging debate about current and future trends in health expenditures.

With regard to current health spending, several participants made comments drawing on figure 4.1 from Tom Rice's paper. (This shows the levels of GDP per capita and per capita health care expenditures across OECD countries in 1997.) One participant questioned the relevance of the balance between GDP and health spending, arguing for the need to consider the specific outcomes that resulted in the different countries. Were superior health outcomes achieved in countries with a relatively balanced relationship between GDP per capita and health spending per capita? What were outcomes like in countries with either relatively high or relatively low health expenditures per capita? Tom Rice responded by pointing out that the figure was simply illustrative of current spending patterns and not of the quality of health outcomes relative to spending levels.

There appeared to be general consensus that total health spending as a proportion of GDP would rise in the future. There were, however, different views on what would drive the increase. One participant questioned the tendency to single out ageing and population growth as the causes of rising health spending. Technological change generally, and drugs arising from the human genome project in particular, will allow people to live longer with disabilities. This carried with it the potential for large increases in expenditure.

Public and private sector shares of health spending

A large amount of discussion focused on the issue of the relative size of public and private sector shares of total health expenditure and the efficiency and cost implications of this split.

A number of participants suggested that total health expenditure, as opposed to public or private sector shares of this spending, needed to be the focus of attention. Tom Rice, for example, argued strongly for a focus on total spending because of the society-wide opportunity costs associated with health expenditure. Another participant supported this view by citing studies of OECD countries that suggested that increases in total expenditure — and not public sector spending alone — lead to significant decreases in premature mortality. Another participant pointed out that the choice about where to focus — total expenditure or on the public sector share — depended in large part upon one's views about the health system. Broader notions about the role of the health system, based on either social capital or social solidarity considerations would arguably lead to a different focus than individual-based views about health care.

The question of the likely future split between public and private sector spending was discussed at length with some participants suggesting that the private share of health spending may need to rise to accommodate future increases in overall spending. The existence of open-ended fee-for-service remuneration and payment arrangements, inertia and vested interests within the health system were cited by several participants as possible reasons for future rises in public sector spending. Regardless of its cause, it was suggested that a majority of the Australian public would be willing to fund such an increase, either indirectly, or via a hypothecated tax. One participant, citing recent Danish surveys of public willingness to spend on health, argued that it was a relatively straightforward process to establish community views on future health spending. Another disagreed, suggesting that it was easy to secure a positive answer when asking people if they would like to see increased spending on health. However, responses were likely to vary depending on where any increased spending was directed and the mechanism used to finance such increases – higher general levels of taxation and/or reductions in government spending in other areas.

The experiences of several countries were referred to during discussion about the current and likely future role of the private sector within health. One participant questioned why the private sector had remained so small in the UK, particularly given that the overall proportion of health expenditure to GDP was so low in relative terms. Another participant, with some knowledge of the UK, responded by suggesting that the uptake of private health insurance was very limited — about 10

per cent of the population — because private providers had proven to be poor at cost and efficiency control. He suggested that the current Blair government had raised expectations that taxes will rise to fund the National Health Service and that, were this to result in reduced waiting times for elective surgery, one could expect further shrinkage of the private system.

Discussion about the US centred on its experience with Health Maintenance Organisations (HMOs) and Defined Contribution Insurance (DCI). One participant asked Tom Rice if the move from a not-for-profit model for HMOs to a for-profit model was perhaps what led to problems with managed care? Tom Rice pointed out that most HMOs are for-profit in the US, one exception being Kaiser. Experience suggested that the for-profit HMOs kept costs low and yielded good value via onerous utilisation controls, in concert with financial incentives towards providers. The adverse reaction to HMOs generally was seen as due to the techniques used by the newer, for-profit HMOs, to control costs, rather than due to their for-profit status per se. Another participant argued that HMOs were inevitably unpopular because they are the ones doing the rationing within the US, whereas in a country like Australia, it is the public hospitals which administer the waiting lists.

Tom Rice was also questioned about the trend within the US from defined benefit systems to DCI systems. He argued that choice of DCI was not driven by individual customers but by employers, as over 90 per cent of the insured do so through their employers. In looser labour markets, employers had greater scope to encourage employee membership in DCI schemes. This was seen as a way for employers to cap their own liability and shift risk to the individual. The move to encourage consumers to make long-term decisions about choice of practitioners raises some important information issues. In this context, Tom Rice questioned both the quality of information provided to consumers and their ability to choose correctly in such cases.

Discussion of Australia focussed on recent changes in the private health insurance (PHI) system and on the possibility of introducing Medical Savings Accounts (MSAs). A number of participants observed that PHI was taken up primarily as a queue-jumping exercise. One participant argued that transferring patients to private hospitals would drag proportionately more doctors over to the private system and increase queues in the public hospital system. Another participant pointed out that PHI currently paid for more bed days in public hospitals than before the introduction of lifetime community rating. One participant asked whether the Department of Health and Aging was on the verge of introducing a system of MSAs for individuals. Such a system represented the ultimate sort of redistribution of risk. However, given the complex and uncertain nature of health care and the high

information costs to the individual, such empowerment of the individual may not be desired or valued.

Health expenditure and health outcomes

Tom Rice was questioned about the idea that direct health expenditure may be becoming increasingly effective in generating health improvements. He suggested that the evidence for this is relatively recent and not very clear and at this stage based on casual observation rather than detailed analysis. He mentioned the work of Cutler and McClelland that is actively trying to measure benefits and costs in health care. Cholesterol-lowering drugs were cited as an example of relatively new drugs that can extend life although they are quite expensive. More research is needed for these and other drugs, as well as other treatments, to see whether their benefit to cost ratios are widening. However, he cautioned for the need to distinguish between technological availability and uptake, suggesting that it was not the existence of new technologies and pharmaceuticals that was the key issue but the level of their application. Whilst agreeing with these points, another participant suggested that the benefits of technological change were not being distributed uniformly across all socio-economic groups in society. He argued that, at some stage, the issue of equity in relation to the differential uptake of technologies would need to be addressed.

PART D

ACCESS AND SERVICE DELIVERY ISSUES

5 Access and service delivery issues

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5.1 Introduction

This paper examines various aspects of equity in health care both conceptually and empirically in Australia but also draws on some international messages. It argues that policies to promote equity in health care have largely failed in Australia (although that is true also of other countries). Beyond attempting to diagnose why such efforts have failed, the paper concentrates on what might be done specifically in Australia to bring about a more equitable health care system.

The stance adopted is somewhat eclectic. It recommends a new approach to equity based largely in political economy, with considerations of communitarianism. It also draws on some of the ideas of Sen (1992) and Nussbaum (2001), particularly with respect to capabilities and more generally Sen's critique of welfarism.

The key parameters of inequity (or more strictly disadvantage) in health and health care in Australia are Aboriginality, remoteness geographically and socio-economic. There are other possible candidates such as gender, age, mental illness and people with a non-English speaking background.

While the focus of this paper is equity in health care, nonetheless it is important to set that in the wider context of equity in health. This is done briefly in the next section. Various definitions of equity are possible. These are discussed in section 5.3 along with the difficulties of selecting a preferred one. Section 5.4 raises some

∗ In preparing this paper, I received excellent feedback from Ian Monday of the Productivity Commission on a skeleton and an earlier draft. He managed to achieve a nigh perfect balance between acknowledging my academic freedom and making helpful suggestions while encouraging me to put more of my own value judgments in the text.
I have also received assistance from Aboriginal colleagues. My thanks to them. I would emphasise, however, that in no sense am I attempting to write on their behalf. In this context, it was, in my view, unfortunate that no Aboriginal people were invited to the Roundtable.
I am grateful to the Health Department of Western Australia for funding my chair.

of the key problems encountered currently in pursuing equity in health care in Australia. Some issues in examining equity internationally are laid out in section 5.5, while section 5.6 discusses resource allocation formulae as a means of promoting equity. A new paradigm to overcome some of the existing methodological problems in pursuing equity is outlined in section 5.7. Some of the implications of the ideas in this paper for proceeding down a more equitable path in Australian health care are set out in the concluding section.

5.2 Health equity (as opposed to health care equity)

While the focus of this paper is equity in health care, there are wider issues that merit consideration than would emerge if the focus were to be solely on the formal health services (such as hospitals and general practice). In any economy or society, health and its distribution are affected by a wide range of institutions and agencies and not just health services. Clearly factors such as housing, nutrition, transport services and education can have an impact on a population's health. It can also be affected by the behaviour of individuals in how they take care of their own health. Second, there can be a wider social impact on the health of the population to the extent that various social, cultural and institutional factors influence the degree to which a society is compassionate. The recent upsurge of interest in the social determinants of health (see, for example, Marmot 2000) is at least, in part, concerned with these matters.

While these are issues that some economists, particularly neo-classicists, may well ignore, they are very relevant to any analysis of equity in health care. Australia does not have a good track record as a compassionate society. Some key indicators include:

- the racist attitudes of many Australians to Aboriginal people;
- the fact that to Aboriginal people — and as noted with 'concern' by the Committee on the Elimination of Racial Discrimination (2000, p. 3) — 'the Commonwealth Government does not support a formal national apology…that it considers inappropriate the provision of monetary compensation for those forcibly and unjustifiably separated from their families.' The Committee recommended that there is a 'need to address appropriately the extraordinary harm inflicted by these racially discriminatory practices';
- our apparent willingness to accept the demonisation of asylum seekers (see, for example, Manne 2001); and
- our low tax base with limited redistributive impact.

It is argued that these influences in turn inhibit the ability of our society to adopt a caring stance when it comes to allocating health care resources. These attitudes underpin the nature of our health services. Any health care system is first and foremost a social institution built on the cultural stance of the nation it serves.

It is thus not happenstance that the individualistic US, with its strong emphasis on neo-liberal values and a market economy, has a much larger private health sector than the Scandinavian countries, where social solidarity represents a major cultural and political underpinning of much of the institutional decision making in these countries.

On equity in health, there is a wealth of evidence about the links between poor health and low socio-economic status both in Australia and overseas. There are many Australian studies that point in this direction. Turrell and Mengerson (2000, p. 1221) showed that 'during the mid-to-late 1980s rates of infant mortality were highest in major urban areas with disproportionately greater concentrations in low income and single parent families, Aboriginal and Torres Strait Islanders, unemployed, semi and unskilled workers and immigrants from non-English speaking backgrounds.' Trevena et al. (2001, p. 302) suggested that there are 'marked health inequalities between the self-reported health status of patrons at a charity-run meals service and the general Sydney population.'

Cass et al. (2001, p. 324) indicated that 'variations in relative disadvantage are significantly associated with the standardised incidence of ESRD (End Stage Renal Disease)'. Gracey et al. (2000) showed that there is a widening gap between Aboriginal and non-Aboriginal death rates over the period from the late 80s to the early 90s. Yu et al. (1999, p. 368) found that, in rural NSW in the period from 1981 to 1995, 'although there has been a reduction for both the most and the least disadvantaged [Local Government Areas], the mortality differentials widened between the two groups.'

These are but a handful of examples of studies that show this health status gradient with income or social disadvantage. Other Australian studies are summarised in Hupalo and Herden (1999).

At an international level, a study by Clarke and Smith (2000) is particularly relevant. Their analysis, based on self-reported health by income, indicated that inequality of health in Australia is 'not significantly different from the US or the UK' (p. 370) but significantly higher than East Germany and six Western European countries. They suggested that the fact that the English speaking countries may be more individualistic 'leads on to lower accumulation of social capital than in other developed nations' (p. 372). This is echoed by the work of Navarro (1998), even if not specifically in the health care sector, where he challenges the view that 'the US

economy is highly efficient' and that the EU economies are 'sclerotic' due to their 'excessive' welfare states and 'rigid' labour markets' (p. 607). It is also the case that the welfare states of the Scandinavian countries, with their more social democratic structures, with high progressive taxation systems and with larger proportions of the GDP being spent in the public sector, tend to have better health status than their counterparts in the rest of Europe (WHO 2000).

This work of Navarro (1998) encourages us to recognise that the debate about health inequalities until very recently has started with considerations of both poverty and income inequalities as causal factors (Marmot et al. 1991 and Wilkinson 1997). More recent work, however, has begun to question whether inequality adds anything to poverty as an explanatory variable on poor population health (see, for example, Saunders 1997 and Deaton 2001). There seems no doubt about the role of poverty.

More recently still, we have seen an attempt to look further back in the chain and examine *why* poverty and income inequalities might exist. Coburn (2000, p. 135) argues that much of the problem rests in neo-liberalism which 'produces both higher income inequality and lowered social cohesion' partly as a result of an 'undermining of the welfare state'. He argues that there is a need to gain more understanding of the causes of income inequalities because these are neither necessary nor inevitable. Given that Australia has, after the US, embraced neo-liberalism more than many countries, the prospects for creating a cohesive community, advancing social capital and furthering equity in health and health care do not seem particularly bright.

5.3 Defining health care equity

A major question with respect to equity is the one that Sen (1980) poses: what is in the evaluative space? There is no agreed uniquely correct *definition* of equity in health care nor agreement as to how important equity is as a health care objective. Given that equity is inevitably a value laden, social and cultural phenomenon, it would be wrong to think that there could be such agreement. Even within a country, such as Australia, it is unlikely that there would be an agreed definition of, or weight attached to, equity between for example non-Aboriginal and Aboriginal Australians.

There are, however, a range of possibilities, with the most common being equal health, equal access (for equal need) and equal use (for equal need). Others are possible and even within these there are different interpretations (for example, as discussed later, both access and need can be construed in many different ways).

Donaldson and Gerard (1993) suggest that in the countries they examined the most common definition of equity is equal access for equal need.

There are also different ways of *conceiving* of equity. For example, horizontal equity is about the equal treatment of equals, while vertical equity is about the unequal but equitable treatment of unequals. It is also possible to distinguish usefully between distributive justice and procedural justice, where the former is consequentialist and concerned only with outcomes and the latter with the fairness of processes or procedures.

I have no intention of advocating any particular definition of equity. I believe this is a decision that should be made on an informed basis by the Australian community. To date they have not been given the chance to do so. One example, that at least starts down this road, is the equity stance which Citizens' Juries in Perth adopted at a meeting organised under the auspices of the Medical Council (2001). That may be summarised as follows:

Equal access for equal need, where equality of access means that two or more groups face barriers of the same height and where the judgement of the heights is made by each group for their own group; where need is defined as capacity to benefit; and where nominally equal benefits may be weighted according to social preferences such that the benefits to more disadvantaged groups may have a higher weight attached to them than those to the better off.

This allows for a number of features. First, the concept allows for consideration of whatever the potential users perceive as barriers to use and the importance they attach to the various components of these barriers. Thus cultural and racist barriers, if these are perceived to exist, can be included in the concept of access. Second, it avoids the somewhat sterile construct of need as amount of sickness. (This issue is discussed in more detail later.) It concentrates instead on the scope for providing extra benefits to different groups (ie. 'value added'). Third, by weighting benefits differentially according to degrees of disadvantage, it endorses vertical equity.

It does not, however, address certain other problems which are worthy of note. First, it is implied that all groupings, social and cultural, will have the same perceptions or constructs of health or of health needs. This is a very common assumption or presumption in definitions of equity. It is, in fact, difficult to see how any of the three main definitions of equal health, equal access for equal need and equal use for equal need can avoid incorporating a common construct of health or of health need. Yet even within Australia, the construct of health is not the same for Aboriginal people as it is for non-Aboriginal Australians (see, for example: Thompson and Gifford 2000; Houston 2001). Distributive justice in health care however, and as indicated above, requires measured outcomes or consequences, involving health or

health need. The implication of this is that it may not be possible, even if desirable, to work in practice with distributive justice. If there is no common outcome, in this instance a common construct of health, making distributive justice operational is problematical.

Given the importance attached to this issue in this paper it is worth stressing. No matter how equity in health care is defined, a notion of health is bound to be present, whether it be set in terms of health *per se* or health need. The difficulty then faced is that since health is a culturally specific construct, any concept of equality built into a definition of equity which also involves health or need is likely to be faced with the problem of attempting to equalise disparate entities. How can we allocate health care resources equitably from a single budget when health is conceived differently by two or more cultures?

Second, if not all groupings have the same ability to 'manage to desire' (Sen 1992) then this is likely to create problems in this definition. If the capacity to desire of two cultures is different (thus *inter alia* removing the prospects of using utility as a common measuring rod) how can we proceed? These vexed issues are addressed in more detail later.

5.4 Key issues

Some broad issues

Many problems exist in promoting equity in health care in Australia. The nature and relative importance of these are inevitably subjective, given how little research has been done into most of them. Beyond this sub-section, I have chosen to draw attention to those specific issues that I consider to be most important. Inevitably, not all will agree with my selection. In this sub-section, I want to indicate some broader, more pervasive issues that I believe inhibit the development of greater equity in health care in Australia.

The changes that are most fundamentally needed if progress is to be made in achieving more equitable health care are first for there to be the political will to do so; second to reduce complacency surrounding the idea that in Medicare we already have fairness; and third to become less obsessed in health policy with quantification and the quantifiable.

With respect to lack of political will, the most glaring examples of late are the government's schemes to promote greater uptake of private health insurance and subsequent use of the private sector. These are symptomatic of a desire to work

against the promotion of equity in health care. This is such an obvious point yet one that needs to be made.

Second on complacency, there is unfortunately a belief that we already have an equitable health care system. Let me make two points on this issue of complacency, the first in the very specific context of Medicare, the second related to Aboriginal health.

With respect to Medicare, there is a perception that this is first universal and second fair. There are reasons for believing (and evidence to support this) that even if that were the original intent, Medicare is in reality neither. The mistaken belief that it is fosters complacency with respect to equity in our health care system as a whole.

Let me exemplify this issue. Medicare is in principle and in intent a universal system with universal coverage; it is fair. In practice, in terms of Medicare primary care services, this turns out not to be true and is the reason why efforts have to be made, often far from successful, to plug various gaps that occur.

On average, Australians use Medicare funded primary health care to the extent of just over $530 per year (Wakerman et al. 1999). The people in Double Bay, a rich suburb in Sydney, use over $900 per annum in Medicare funded services.

In the Kutjungka Region in the Kimberley, which is one of the most remote areas of WA, the Aboriginal people are amongst the sickest in Australia. For example, as compared with Aboriginal people in Perth, overall death rates are between four and five times as high. They use less than $80 in Medicare primary health care funds per year (Wakerman et al. 1999). This challenges the ideas of universality and fairness of Medicare primary care services.

A second point with respect to complacency relates to Aboriginal health. Many of the inequities in health and health care for Aboriginal people are recognised, have been investigated and brought to the attention of the politicians and the public in various reports. The problem beyond that is the complacency which these reports face and the fact that so little action is taken to address these inequities. It is, for example, 23 years since the now Minister for Immigration, The Hon. P. Ruddock, MP, as then Chairman of the House of Representatives, Standing Committee on Aboriginal Affairs, argued:

> When innumerable reports on the poor state of Aboriginal health are released there are expressions of shock or surprise and outraged cries for immediate action. However, the report appears to have no real impact and the appalling state of Aboriginal health is soon forgotten until another report is released (Quoted in the House of Representatives, Standing Committee on Family and Community Affairs, 2000, p. 7).

As that report into Indigenous health in 2000 went on:

> Despite this, the continuing poor state of Indigenous health in Australia over the last twenty years…has generated a continuous (sic) flow of further reports about the problem. The Committee has identified at least 20 further reports into aspects of Indigenous health which have been undertaken since 1979 (House of Representatives,Standing Committee on Aboriginal Affairs, 2000, p. 7).

Some of these issues of lack of political will and lack of compassion in our society were summed up in a speech by Jonas (2000, p. 9), the Aboriginal and Torres Strait Islander Social Justice Commissioner, when he stated:

> I have been extremely disappointed this year by Australia's reaction to criticisms from three of the United Nations Treaty Committees. If ever there was acknowledgment that we cannot develop as a country and a nation in isolation it is through our acknowledgment of the United Nations and our becoming a party to the various treaties. We agree, voluntarily, to abide by a system of values, which we regard as being right for our citizens, and we accept that on-going dialogue and international scrutiny help us to do that. And, as with economies, and politics, and sport, we can expect from time to time that there may be some criticism. We may not always agree with the criticism but surely some of the knee-jerk reactions, some of the shooting of the messengers, and some of the blaming of the processes that we have seen this year are as parochial and as short-sighted as if we neglected the rest of the world in terms of trade and sport.

A third issue that is problematical in health care in Australia with respect to many policies but particularly on equity is the dominance or perhaps even obsession with quantification and the quantifiable. (See section 5.6 below.) An example of this is case mix funding. Who believes that our hospitals are about maximising cost weighted cases? Yet that is how we attempt to measure their 'outputs.'

What is needed generally and more specifically with respect to equity is to find out what the community seeks from its health care services. Current policy has failed on equity. While the new paradigm suggested below may prove problematical with respect to quantification, it is built on a clear and explicit recognition that quantification can only be taken so far. The demands that it then makes on quantification are much more limited than current practices. The issue is thus not strictly one of quantification per se but rather whether we accept explicitly the limits of such quantification.

Aboriginal cultural security

The issue of cultural security and the barriers that Aboriginal people face in using health services are important in any debate about equity in health care.

The definition of cultural security and some of its implications have been summarised by Houston (2001, p. 8) as follows:

> Cultural Security is a commitment that the construct and provision of services offered by the health system will not compromise the legitimate cultural rights, views, values and expectations of Aboriginal people. It is a recognition, appreciation and response to the impact of cultural diversity on the utilisation and provision of effective clinical care, public health and health systems administration.
>
> Cultural Security is about ensuring that the delivery of health services is of such a quality that no one person is afforded a less favourable outcome simply because they hold a different cultural outlook.

Aboriginal culture describes and prescribes minimum and expected cultural obligations first between different people and second between people and their environment. Aboriginal people have long seen the nature of health and health servicing as encompassing the physical, mental, spiritual and environmental domains of life and therefore reflective of culture (Commonwealth Grants Commission 2001b). The inclusion in the health domain of these matters is more an extension of culture than it is of modern concepts of intersectoral linkages and aetiology. These — what are in essence cultural obligations — have been supplanted over the past three decades by the evolution of western health science. This western conceptualisation has come to see the provision of services to the whole person and their environment as 'holistic care'. To Aboriginal people holistic care is different; it is fundamentally a cultural obligation.

As indicated earlier, where different groups have different constructs of health this creates problems for any equity policy where the allocation of resources is to be according to health or health need.

One major difficulty with any analysis of equity in health care in Australia is the lack of operational guidance on what constitutes a culturally secure service. In principle it would be one where there was the same access to services for Aboriginal as for non-Aboriginal people, this being defined in terms of the perceived heights of the barriers. This has not, with one exception (see the case study on Derbarl Yerrigan below), been identified clearly (but, see Houston 2001) in any jurisdiction in Australia.

In a study of the services of Derbarl Yerrigan Health Service, an attempt was made to separate out those services which are deemed to be 'equivalent to mainstream' and those provided for reasons of 'cultural security' (Wilkes et al. 2001). (The methodology adopted is less than ideal as it denies the very concept of holistic health care.) It was concluded that for every dollar spent on services that might be deemed equivalent to mainstream, there were 75 cents spent on culturally secure aspects of care.

There is a need for more research on, and more funding for, cultural security both in Aboriginal health services and mainstream health services if access barriers for Aboriginal people are to be reduced and equity improved.

Aboriginal health funding and the distribution of power

Very real inequities exist in Aboriginal health care. There are three reasons why spending on Aboriginal people's health should be higher per capita than for non-Aboriginal people.

- The health problems of Aboriginal people are much greater. (See, for example, House of Representatives, Standing Committee on Family and Community Affairs, 2000.)
- There is some evidence (Mooney 2000) that, as a form of positive discrimination in favour of Aboriginal people, health gains for Aboriginal people are valued more highly by the Australian community in general than health gains for non-Aboriginal people (ie. vertical equity is considered appropriate).
- The problems of access — particularly with respect to cultural barriers — are greater for Aboriginal people (as indicated above).

There are precedents in various health service jurisdictions for having a higher level of spending on Aboriginal health services. A ratio of 3 was used to reflect relative need in Aboriginal people compared with non-Aboriginal people in the resource allocation funding formula for Queensland (Runciman et al. 1996). In the DHAC allocation formula for General Practice Divisions, there is currently a special weighting for Aboriginal people of 2.9. McDermott and Beaver (1996) showed that in the Northern Territory, on the basis of relative needs of Aboriginal people, the ratio of spending per capita in primary care should be approximately 4 times that of a straight per capita basis. In the calculations below, the lowest figure, ie. 2.9, is used.

The 'standard' approach to equity — horizontal equity — argues that all health gains, no matter to whom they accrue, should be weighted equally (ie. by one). Vertical equity suggests that those poorly off in comparison to some average should be given priority in terms of positive discrimination and that any benefits to them, such as health gains, be weighted above one. The concept does not appear controversial although trying to agree what weights above 1 should be applied for which groups may well be difficult to establish consensually. In the Citizens' Juries in Perth, the ratio proposed was 1.2 (Medical Council 2001). In the Resource Development Formula in NSW (NSW Health Department, 1996), health gains to Aboriginal people are weighted by a factor of 2.5.

To arrive at a composite figure for weighting Aboriginal people for the three factors listed above, these three ratios (2.9 for relative need, 1.2 for positive discrimination, and 1.75 for cultural security from the Derbarl Yerrigan study) are multiplied together. Accepting these assumptions, this gives an overall factor of over 5 as the appropriate ratio of funding for Aboriginal clients at Derbarl Yerrigan as compared with Perth residents generally for similar primary care services.

The level of spending in the general population in Perth on Medicare Community Doctor Services (which are broadly equivalent to the sorts of services that Derbarl Yerrigan provides) was $765 per capita. Multiplying this by 5 gives a figure for Aboriginal clients at Derbarl Yerrigan of over $3800. The level of expenditure at Derbarl Yerrigan at that time (2000-2001) was $829, slightly higher than the Perth overall figure ($765) but well short of $3800.

The level of funding of Derbarl Yerrigan was about 10 per cent ($800 000) below their level of expenditure. As a result, in the wake of a management consultants' report into their spending (but not their funding), they were forced to close one of their successful branches which was providing services to clients in the Midland area on the outskirts of Perth. Yet it can be argued that it was a direct result of Midland's success that they had over spent. Midland had increased its client base from 400 to 2100, at an extra cost that exceeded their 'overspend' of $800 000.

About the same time as management consultants were examining Derbarl Yerrigan's financial arrangements and they had to cut their costs and their services, the Perth teaching hospitals were overspending by $100 million, about 12 per cent of their budget and about 120 times the overspend at Derbarl Yerrigan (West Australian, 2001). The Perth teaching hospitals did not have to close anything. Yet again — it is not the first time this has happened — they were bailed out.

Not only does this say something about the inadequate funding of this Aboriginal Medical Service but about the inequitable distribution of power over resource allocation in health care. It is also an example of institutionalised racism. While there is a need to reform our health care systems if we are to promote greater equity, first we need to reform any racist tendencies which exist in the system to ensure that with respect to our most disadvantaged peoples, future primary care in this country is more equitable.

Private funding

Australia has a relatively large share of private spending on health care in comparison with most OECD countries. All private health care is inequitable. The ability of the rich to pay is greater than that of the poor. While there may be some

truth in the argument that those who have private health insurance take the burden off the state and leave more for the poor, as a policy it leaves behind divisiveness and poor prospects for social solidarity. There is an argument that any payment system for health care should be progressive but the most equitable way to achieve this is, as in the Scandinavian model, by getting the rich to pay more *in taxation* for the public health care system. The attempts to cajole more people into private health insurance increase inequities across income groups in Australia. Private health insurance has been taxpayer subsidised to the extent of an additional $2 billion per annum. Yet a speech by the UK Chancellor of the Exchequer, Gordon Brown (2002, p. 7), states: 'private insurance fails the equity test'. There was little if any health justification for these efforts; certainly none in terms of equity. As an earlier UK Chancellor, Nigel Lawson, stated (quoted in Brown 2002, p. 7), on the question of tax relief on private health insurance, 'if we simply boost demand…by tax concessions to the private sector without improving supply, the result would not be so much a growth in private health care but higher prices'.

It is difficult, some would say impossible, to think of an acceptable definition of equity in health care which would support the existence of private health care. Given, for example, a definition of equity of equal access for equal need, all private health care provision and insurance is inequitable, most commonly seen as such from the perspective of the potential patient's ability to pay.

Public funding does seem likely to lead to greater equity. We can learn about funding for equity from Scandinavia where compared to Australia public funding dominates and the tax-based system is much more progressive, allowing the redistribution of the burden of health care costs from the well to the sick and from the rich to the poor. There can be no doubt that the larger the private sector, the more problems there are at a number of levels for achieving equity. Where ability to pay is a significant factor in access to health care, then the existence of a private sector creates barriers for the poor.

Private funding is also likely to create problems for geographical equity. Private health care is internationally almost always concentrated in cities. It thus makes it more difficult to staff services in rural and remote areas as the incomes to be obtained in the private sector make working in the cities more attractive financially for doctors. It would seem most likely that universality (eg. a tax funded system available to all such as the UK National Health Service) in relatively rich countries like Australia is most conducive to equity. It may also be more cost effective than targeted programs but that is less clear.

What is in danger of happening in Australia is that as the private sector grows, Medicare will become more a safety net for the poor and in reality and in perception cease to be a universal system (see Rice in this publication). Indeed, that would

seem to be the intent of the current government with its recent initiatives on increasing take up of private health insurance, running now at over 40 per cent. (See Butler 2001 for an analysis of the effects of these recent initiatives.)

Margolis' (1982) fair shares model would predict that the utility that individuals get from contributing to the 'group' — 'participation utility' as he calls it — and which here is to be interpreted as paying taxes for health care for all, will, beyond some point, not be stable. A key aspect of Margolis' model is that the individual is a member of the group and thus the concern for the group is not strictly altruism, not 'the rich paying for the poor'. When feelings of social solidarity are breached however — '*we* are paying for *them*' — the decline in participation utility is likely to be rapid. It may well be that we are approaching that point in Australia.

Little discussion takes place in Australia on the impact of the existence of the private sector on the whole ethos of health care in general and, in particular, on medical doctors. While it is difficult to pin this down, it is argued that many Australian doctors appear to be much more driven by concerns for financial gain than doctors in some other countries. Just how valid this point is is difficult to judge. Mixed public and private systems cannot run along side each other without some sort of cross pollination (or pollution, depending on how one views any interactions). Potentially the impact of this may be large in terms of the continuance of inequities. There is a need for evaluation of this phenomenon in Australia.

General practice

Equitable health care systems in general are more likely to have accessible primary care sectors. General practice and the MBS have metropolitan friendly designs. There is competition for patients, more bulk billing than outside the cities and an adequate flow of patients to allow fee-for-service medicine to give general practitioners reasonable incomes. In examining the availability of general practitioners, however, Johnston and Wilkinson (2000, p. 68) found that between 1986 and 1996, 'despite increasing numbers overall, the inequality and inequity in the distribution of GPs between metropolitan and non-metropolitan parts of Australia… has actually worsened'.

This is reflected in the report on the General Practice Workforce in Australia (AMWAC 2000). It is recommended, for example, that of the proposed 450 first year general practitioner trainees, 200 should be in a dedicated rural training program which clearly represents a proportionately larger increase per capita in rural areas.

Attracting and retaining general practitioners (and other health care staff) in non-metropolitan Australia is a major concern (AMWAC 2000). Partly it is a matter of professional and intellectual isolation but it is also a question of the relatively low status accorded such work (Britt et al. 2001). Here is an area that requires more research not to identify problems yet again but to outline workable solutions.

While general practice divisions ought to be taking more of a role in promoting greater equity, in practice they are currently not good value for money, have unclear objectives beyond some concerns for population health, and are being funded at the wrong level (Mooney 2001). They should either have their budgets cut and be simply concerned with reducing general practitioner isolation or have the number of divisions reduced and their budgets greatly increased. In the latter case, in pursuing more vigorously and with greater resources issues related to population health, they might then become a force for much greater equity in rural and remote areas, across socio-economic classes and for Aboriginal people.

There is a need to consider moving away more from fee-for-service general practice, which places individual patient care centre stage, and introducing some elements of capitation where general practitioners assume responsibility for a population. In the specific context of this paper, one relevant argument for this change is that it is easier to pursue equity in general practice when there is a general practice population.

Yet there is opposition to blended payments in Australia when part of the blend involves capitation. For example, in a recent ADGP Newsletter (ADGP 2001, p. 1) in a report on the Divisions Financing Summit, Dr Julie Thompson the CEO is reported as saying to the Minister on behalf of participants that 'Fee-for-service is the cornerstone of General Practice' and 'Blended payments are too complex.'

The Danes operate a system of blended payments involving capitation plus fee-for-service (Sundhedsministeriet 1997). This works well in terms of both efficiency and equity (Hurst 2002). The impact of changing from a largely capitation system to half fee-for-service and half capitation has been evaluated (Krasnik et al. 1990). Having an element of capitation allows the opportunity at least for a more equitable service rather than the inevitably individualistic service that fee-for-service engenders. In Norway, capitation was introduced in 2001 as part of a blended system. Iversen and Luras (2000) predicted it would improve access to general practitioners but might prove less cost-effective.

Community preferences for equity

At a WA Medical Council meeting in 2000, both a randomly selected group of Perth citizens and a group of senior health care professionals, including many clinicians, argued for greater investment in both public health and for greater equity (Medical Council 2000). In 2001, where the topic was narrowed to equity, Citizens' Juries argued for both horizontal and vertical equity (see their definition in section 5.3). Of the three areas of inequity in WA with which they were presented, Aboriginal health, rural and remote health and aged care, their greatest strength of preferences for spending more health service money was in Aboriginal health. Such evidence is tentative and based on small numbers.

In a mailed survey of the South Australian community respondents were asked about the principles (including equity) they wished to underpin their health services (Mooney et al. 1999 and Jan et al. 2000). One half of the respondents were randomly given some basic information about Aboriginal health and the other half no such information. Both groups argued for vertical equity/ positive discrimination (ie. they gave a higher weighting when it came to allocating resources to health gains to Aboriginal people than to non-Aboriginal people). The group who were given the basic information about Aboriginal health gains gave even higher weights to health gains to Aboriginal people, although, in a small survey, the difference between the two groups was not statistically significant. Clearly any attempt to elicit the preferences of the community needs to try to ensure that the community is adequately informed (as is an advantage of the Citizens' Jury approach) as well as being aware of the resource consequences if their preferences were to be used.

Thus it seems — but the evidence is tentative — that the public want some greater degree of equity in health care, a point confirmed by others (Nord et al. 1995). Two things here: first it is rather disturbing that the evidence-base for this is so tentative. Largely, professionals in public health think they know and seek to impose their values on others. Yet giving people greater autonomy and thereby building their self-esteem is likely to have a positive influence on their health. Health advocacy by health care professionals risks reducing people's autonomy, with potential adverse effects on their health. (See, for example, Anderson et al. 1995 and Goodyear-Smith and Buetow 2001.)

Second, if it were possible to firm up on this tentative evidence, what might be the implications? Most fundamentally there would need to be a substantial shift of resources from metropolitan Australia to the rest of the country and a major injection of funds into Aboriginal health. If the tentative values of the community were confirmed and the values of equity were to lead, we might genuinely make inroads into health service inequities. If health service resources were to reflect such

community preferences for equity, the turmoil in both resource allocation and power in health care could be considerable.

There is additionally poor recognition of the need to allow articulation and elicitation of the values of the disadvantaged who are deemed to be being treated inequitably. In this context, there is no single value system which extends all the way across advantaged and the various disadvantaged groups. It follows that we cannot adopt a paradigm based on a single value system that is universally applicable.

5.5 An international league table on equity?

There is much work internationally on the burden of disease and its role in equity and in priority setting more generally (see, for example, Murray et al. 1994 and Murray and Lopez, 1997, 2000.) The value of this approach, however, has been challenged, largely on the grounds that it measures problems and not the benefit of solutions (Wiseman and Mooney 1998; and Williams 2000). For example, the notion that differences in the burden of disease can be used as measures of degrees of inequity seems at best illogical. This section takes a critical look at the 'world view' presented in the World Health Report (WHO 2000) which implies that there is some universal value base, including for equity, to all health care systems.

Specifically, the WHO report argues that equity can be defined in the same way across all countries and that the relative weight attached to it in any health care objective function is the same across all countries. At a policy level, this is demonstrably not the case as an even fleeting glance at the health care systems in, say, the US, Sweden and the Netherlands reveals.

WHO (2000, p. 27) argues that to assess a health system 'one must measure five things: the overall level of health; the distribution of health in the population; the overall level of responsiveness; the distribution of responsiveness; and the distribution of financial burden'. For each, different types of data are needed for each country to calculate measures of attainment. The implication is that the objectives of all health systems can be measured in terms of increases in and the distribution of disability-adjusted life expectancy; improved levels of and the distribution of responsiveness; and the fair distribution of the financing burden. It is claimed that, since a system can do well on some dimensions and poorly on others, comparison across countries or through time requires that the five measures be aggregated. A weight reflecting relative importance is assigned to each. This provides an overall score for each system which in turn allows some 'ranking' of

countries in terms of how well they perform. A second measure of performance is proposed which relates overall attainment to the availability of resources.

Why however would one expect or want to apply a common set of values across different countries? Where is the recognition that preferences may vary across different countries? As any basic summary measure of health is extended to include other factors, no matter how desirable this might be in principle, the prospects of its applying within a common set of values across different cultures would seem to diminish. Thus equity, the focus of this paper and as discussed above in section 5.3, can be viewed in several different ways and, in turn, the extent to which different cultures value equity will also vary. There is the yet more fundamental question of whether all health services do or should subscribe to the same set of goals.

The most crucial conclusions to emerge from this discussion are two. First, there is no sense in drawing up a league table internationally on equity which fails to account for inter-country differences in key dimensions of health and of equity in health care. Australians' concept and weight attached to equity are most unlikely to be the same as those of the Danes or the Canadians or the Indians. Second, we cannot steal from others; we need to decide as Australians what concept of equity we wish for our health care system and what weight we want to attach to it.

This also has implications closer to home. If we were to endorse the idea that health and equity can be defined and weighted the same across different cultures internationally, it might lead to the idea that within Australia, as between for example Aboriginal people and non-Aboriginal people, we do not have to take account of cultural differences in the way in which health is constructed and equity perceived and weighted. If any lesson is to be learned from the history of Aboriginal health in this country, it is the need to respect such cultural differences.

5.6 Resource allocation formulae

In a number of settings (for example, in Australia, NSW Health Department 1996 and, internationally for Canada, Eyles et al. 1994 and Regional Funding Formula 1996), formulae for allocating resources have been used to try to further equity in health care across different regions of individual countries, states or provinces. The idea is simple. If region A has some greater need for health care than region B then, *ceteris paribus*, it should get more resources.

Such 'resource allocation formulae' represent a fairly common approach to promoting equity. They were first spawned by the Resource Allocation Working Party (1976) in England which published the 'RAWP Report' in 1976 and fuelled a research industry for the next quarter of a century. There are a number of problems

with such formulae: for example, the lack of incentives to ensure that monies go to where they are supposed to go, frequently they do not incorporate vertical equity, and the fact that they are usually *money* allocation formulae and not *resource* allocation formulae. Here, however, I want to deal with what I see as a yet more major problem.

Frequently these formulae draw heavily on the notion of health need and, where this occurs, it is commonly assumed that, *ceteris paribus,* the more the need — essentially the greater the health problems — the more spending should be allocated, often indeed *pro rata*. (See, for example, for Canada, Eyles et al. 1994 and Regional Funding Formula 1996.) In South Africa, however, the Department of Finance Formula (McIntyre and Gilson 2000) has a *positive* weight for the richer provinces on the basis that such funding will help to promote economic growth!

On whatever basis resources are to be allocated, it is important as a starting point to identify what is being attempted with the resources. What is the nature of the objective that is sought? With respect to concerns for allocative efficiency, it is necessary to try to elicit or identify that objective rather than simply assume that it is to maximise health. With respect to equity, when this is cast in terms of need, defined as amount of sickness, the nature of the objective being pursued is unclear. For example, allocating resources *pro rata* according to sickness-based need or the size of the problem does not say anything very clearly or explicitly about the desired outcome, *unless* it is assumed that the impact on need is known. In practice, this is seldom the case. It is most unlikely that allocating *pro rata* according to the *size of the problem* represents a rational approach to deciding the level of *the inputs* required to address the problem of need. To be clear: why should we expect that the relative size of the problem would determine the relative size of the solutions? There is a faulty logic here.

The concept of need as capacity to benefit (Culyer 1995) is recommended as an alternative. It recognises that health services in different locations can have varying capacities to provide benefits in terms of both the population receiving the care and the impact that health services, as opposed to other services, can have. This was advocated in the submission by the Health Department of Western Australia to the Commonwealth Grants Commission Inquiry into Indigenous Funding (CGC 2001a,b).

As an example of some of the problems of using degrees of sickness as measures of need, let us take the use of Standardised Mortality Ratios (SMRs — ie. death rates adjusted for variations in the age and sex of the population) in resource allocation formulae. In several of these, for example, in the original RAWP formula in the UK (Resource Allocation Working Party, 1976), SMRs are used to reflect the degree of sickness in different regions or areas. It is then assumed that *ceteris paribus* an

SMR of 110 translates into an additional 10 per cent of resources. Now there are three reasons why this might be problematic. First, as debated at length in the literature, the fact that death rates are 10 per cent higher does not mean that any sickness arising will also be 10 per cent higher. Second, even if it did, there is no reason why a higher sickness rate of 10 per cent should translate into 10 per cent more resources. Implicitly, there is an assumption about the efficiency of any change in resource use and its likely impact on whatever is the (usually unstated) objective function. Even if the objective function were health maximisation, on what basis can it be reasonable to assume that it would always, indeed ever, be the case that an X per cent increase in resources would result in an X per cent increase in health? Third, even if that were the case, it is not immediately clear that that would result in an equitable outcome. What the assumed outcome is is not apparent. There are no simple arithmetic guiding rules here; there is no reason why the cardinal ratios for SMRs should translate into the same cardinal ratios for need and in turn no reason why the cardinal ratios of need should translate as a one to one relationship for allocating resources. There are several value judgements needed to translate any differential sickness to differential resource allocation. The task only *seems* easy because such mechanical interpretations are in practice used to operationalise the measurement process. What is sought as the end product with such a process? What is the impact of differential resource allocations? And what is fair with respect to process or outcome?

We have here an example of where data have been used because they are available (see section 5.4 above) and where, as a result, too little thought has been given to the policy objectives. The need here is to think through what the policy objective is with respect to equity and only then consider how to make that operational. It is not appropriate to distort the policy objective on the basis of what quantified data are currently available for measuring equity.

The sickness-based needs approach, using for example SMRs, allocates resources according to *the size of the problem as it is*. It does not consider trying to ameliorate the problem or assessing what the impact might be in terms of *where populations end up*, in other words the 'value added' by the resources. The approach using capacity to benefit, and recommended by the Health Department of Western Australia in its submission to the CGC's Indigenous Funding Inquiry (CGC 2001a,b), is about determining what capacity there is for improvement.

5.7 Communitarian claims

I want to challenge the appropriateness for equity in health care of the paradigms most commonly used in health economics — welfarism and extra-welfarism. I want

to propose a different paradigm. This involves four departures from welfarism: first, what is valued stretches beyond goods; second, processes should be valued as well as outcomes; third, what is included in society's objective function is not subject necessarily to individual preferences; and fourth, community preferences should determine/inform what is included in the objective function.

Similarly, I want to argue for three departures from the extra-welfarism of Culyer (1989): the allowance for the possibility of outcomes beyond health; of processes and not just consequences being in the objective function; and the idea that it is the community who should exercise the 'external judgement' (ie. the judgement about what it is that the health service is about).

Neither welfarism with its focus on utility (and which traditionally underpins neo-classical economics) nor extra-welfarism as currently espoused is an adequate basis for tackling equity in health care. Welfarism assumes that an individual is concerned only with maximising his or her own well-being and that nothing gets in the way of this. Thus, contextual issues or what Williamson (1975, p. 37) calls 'atmosphere' have no bearing. It matters not what lies behind choices; it is assumed that individuals maximise their utility or welfare and that they do so in a wholly self-interested way. In so far as they have any apparent concerns for others, it is only to the extent that the well-being of others impinges on their own well-being. Thus, if I am concerned at the illness of a friend or relative, I am assumed to be affected only in so far as I suffer as a result of that other person's illness. Within welfarism, the fact that the other individual suffers has no direct bearing on my utility.

It is also the case that welfarism assumes that individuals are both well placed and equally well placed to judge their own welfare. There is no allowance for a notion of community values which might be different from the sum of individual values. There is also no allowance for the possibility that Sen (1992) suggests that not everyone will have the same capacity 'to manage to desire' and consequently some, especially people who are disadvantaged or have been or are deprived in some sense or other, may suffer from an inability to 'manage to desire' adequately.

As Sen (1992 p. 6) expresses it: 'Welfarism in general and utilitarianism in particular see value, ultimately, only in individual utility…This is a restrictive approach to taking note of individual advantage in two distinct ways. First, it ignores freedom and concentrates only on achievements. Second, it ignores achievements other than those reflected in one of these mental metrics [pleasure, happiness or desire].' He continues (pp. 6-7): 'This way of seeing individual advantage is particularly limiting in the presence of entrenched inequalities. In situations of persistent adversity and deprivation, the victims do not go on grieving and grumbling all the time, and may even lack the motivation to desire a radical

change of circumstances… The extent of a person's deprivation may be substantially muffled in the utility metric'.

On extra-welfarism, Culyer (1989) suggests that this goes beyond welfarism in three important respects. Without excluding welfare (utility), it also allows for other aspects of individuals to be included. Potentially this opens the door to any *non-goods* based utility. That seems to be desirable and allows *inter alia* for a 'beyond consequentialist' approach which permits both outcomes and processes to be valued.

Particularly important to Culyer's position is that what is included in the social welfare function in extra-welfarism is determined by some external judgement. Nowhere, however, does he state where this external judgement comes from nor who is responsible for making it. The idea of an external judgement is something that I would wish to endorse. It is important, however, to pin down, as I will later, the source of this external judgement.

Culyer goes on to suggest that health is the principal output of health care. It is difficult to argue with that and it is most likely that welfarists would agree. In practical terms, however, the way that Culyer interprets extra-welfarism is to shift the contents of the evaluative space from goods to health *alone*. That seems too narrow.

The source of values in both welfarism and extra-welfarism is individuals *qua* individuals. Neither recognises the community as a source of values (except presumably where the community is simply the aggregation of individuals' values). Both also require the measurement of all relevant outcomes which, as Sen (1992, p. 49) indicates, may not be a useful or practical approach: '"Waiting for toto" may not be a cunning strategy in a practical exercise'. In practice, when there may also be different cultural constructs of health to contend with and the likelihood of different capacities to manage to desire across different cultures, such measurement problems become large. There is no recognition of this in either welfarism or extra-welfarism.

Equity is a social good. As a policy, it may be valued not only for what it achieves by way of outcomes but also for signalling the existence of a caring, compassionate society (ie. a communitarian goal) Also the concept of health is not just an individual but very much a social good in its own right.

In this context, equity involves not just sympathy (your pain is my pain) and the resultant externalities of welfarism (and extra-welfarism) which still leave individuals maximising their utility or their health. It also involves the notion of

commitment (Sen 1977) which is counter-preferential with respect to the individual but not the community (I am prepared to be worse off if it allows you to feel better).

It may be helpful to switch the emphasis away from utility in welfarism and health alone in extra-welfarism to the capabilities of Sen (1992) and Nussbaum (2001) and perhaps to consider these as both individual capabilities and community capabilities. Measurement of outcomes, the obsession with what Sen (1992, p. 19) calls 'waiting for toto', then becomes a secondary problem in broad allocation and equity decisions. Such measurement can still have a place at the more micro, largely clinical, level where, for example, there is a need to compare different pharmaceutical interventions for the same clinical problem. This outcome is no bad thing, as it is at the more macro end that the measurement problems of welfarism and extra-welfarism are greatest (ie. where we have to trade off equity with efficiency and better health for the elderly with that for pregnant mothers and their foetuses).

Turning more explicitly to 'communitarianism' (Sandel 1982; Aveneri and de Shalit 1992), those in favour of this philosophical stance argue for the community to be centre stage. 'Community' can be defined in different ways. For the purposes of this paper, it is simply a group of people with some common life through reciprocity, mutuality and sharing. Communitarianism is opposed to the atomism of modern liberalism. It is about not just community spirit but a recognition, beyond that, that the community is something to be valued in and of itself.

In the debate between the libertarians and individualists on the one hand and the communitarians on the other (see, for example, Aveneri and de Shalit 1992), the key difference lies in the question of how each views 'society'. Crucial in communitarianism are two factors: first is the implicit recognition that the nature of autonomy is a social phenomenon and second an emphasis on freedom.

What communitarianism does is provide us with an alternative to welfarism and to extra-welfarism. I have previously argued for the idea of a community determined 'constitution' as the vehicle for expressing this communitarianism (Mooney and Wiseman 2000). This comes from what Vanberg (1994, p. 135) describes as 'the constitutional paradigm' which 'draws attention to the procedural foundations that organisational action is *based upon'*. Such a constitution is a set of principles on which policy and actions might be based, such as equity, how important it is and how it might be defined.

Adam Smith's concerns for a society which respects human dignity, reciprocity and rules (Smith 1976), together with more recent work by institutionalist health economists (Jan 1998), can be called upon in support of this proposed alternative paradigm. This adopts a communitarian value system, incorporating a capabilities

framework based on the work of Sen (1992) and Nussbaum (2001) but extended to take greater account of *community* preferences.

Leading into this may best be done through communitarian claims. On the concept of claims, on which the communitarian version is based, Broome (1989) has proposed that a claim to a good involves a duty that a candidate for that good should in fact have it. His analysis concentrates on claims as a basis for fairness. Communitarian claims 'recognise first that the duty is owed by the community of which the candidate is a member and secondly that the carrying out of this duty is not just instrumental but is good in itself' (Mooney 1998, p. 1176).

One aspect of this that is crucially important is that these communitarian claims are not welfarist and not consequentialist. They allow the society or the community to decide who shall have access to what quantities of resources for what purposes. There is no need strictly for the recipients to be active in 'claiming' the resources. Further, it does not require a common construct of health or health needs nor that different groups have the same ability to manage to desire.

The use of the word 'claim' is perhaps an unfortunate one in this context as in everyday usage it tends to require an active role for the person who is to benefit from the claim. 'I claim' is standard usage where this is shorthand for 'I claim on my behalf'. Here *we the community* determine how resources are allocated on the basis of how *we the community* see various different groups' or individuals' strengths of claims for the resources involved. It is *our* preferences (the community's preferences), for *their* claims (the various groups' claims), that determine how the resources are allocated. It is *we the community* who also decide what is relevant in identifying and weighting claims in terms of the characteristics of the different potential recipient groups.

The actual consumption of the resources however remains determined by how individuals value the options with which they are then faced. The use of communitarian claims avoids the potential paternalism that might arise in such instances. Again this fits with Sen's fundamental criticism of welfarism (Sen 1992) that not everyone has an adequate capacity to manage to desire.

The two key attractions of the proposed paradigm based on the idea of 'communitarian claims' stem from its opposition first to *individualism* and secondly to the commensurability of all that is to be included in the objective function (in the case of welfarism utility and in the case of extra-welfarism health). It argues against the monopoly of individuals' considerations. Within communitarian claims, there is a very clear argument against relying on the values of individuals *qua* individuals in deciding how scarce resources are to be allocated.

Sen's notion of capabilities (Sen 1980) seems particularly germane in the context of valuing health. Quality adjusted life years (QALYs), for example, are normally restricted to what people achieve in a health state. They ignore what the person's capabilities are at two levels: first, the capabilities in moving to some state other than the one the individual is in; and second, the capabilities in the state that the individual is in currently. Individuals in a particular health state have certain functionings (which is where I interpret the QALY to lie) but they also have the opportunity or the freedom to choose from a range of functionings (ie. 'capabilities') in Sen's terms (but clearly constrained by their health status). Recently, I have found it useful to talk about health services seeking to do good. It is both possible and fruitful to get policy makers and others to debate the question: 'what is the good of health care?' It may also be fruitful to see the good in terms of capabilities.

5.8 Some implications for equity in Australian health care

A number of changes are needed if equity in Australian health care is to be pursued with greater vigour. No assessment of the problems or the possible solutions can be set out without bringing in some elements of personal judgment, partly because that is the nature of the beast, partly because so little has been done to evaluate access and equity. I have attempted to set out some ideas covering the key elements for moving towards a more equitable health care system in Australia. To analyse more objectively how best to foster such equity is a major research study in its own right.

It is less 'natural' in Australia (than, for example, in Denmark) to have a social value structure which promotes compassion and concern for the less well off. For example, redistributive taxation policies are too readily dubbed the politics of envy. We need a more compassionate society, an idea echoed by Sen (2001) when he writes, in this context, of the 'overwhelming role for intelligent and equitable social policies' (p. 344) and 'an appropriate social commitment' (p. 340). To move to a more compassionate society and, in turn, a more equitable health care system will require strong political leadership. As Nussbaum (1990, p. 101) argues: 'We want leaders whose hearts and imaginations acknowledge the humanity in human beings.' There are thus severe limits to making progress with equity in health care in Australia without the appropriate political will.

Currently neo-liberalism and market values dominate so much of the value system of Australian society (and not just the Australian economy). Welfarism will not get us an equitable health care system; nor will extra-welfarism, at least as currently construed. That is why I have advocated the adoption of a new paradigm.

This paradigm places emphasis on community values and community responsibility. Indeed it places greater emphasis on values *per se* and on the fact that the definition of equity and the importance attached to it are inevitably subjective. It can lead us down the road of not just horizontal equity but also vertical equity. It avoids the constraints imposed by equity policy being overly concerned at present with measurability. In so far as the community is a more compassionate one, so vertical equity will be strengthened. The approach shifts the ownership of the determination of and arbitration over 'claims' to the community and away from health care professionals. The latter can retain their role as technical experts. The approach allows a more explicit basis for adjudicating over priorities, essentially through the vehicle of the community's determination of the basis and the strengths of claims of different population groups for health care resources. This in turn recognises the importance of emotions in public health and in public policy making, as Adam Smith (1976) suggested and as Nussbaum (2001) reminds us. Habermas (1997) argues for modern communities to lay siege to the institutions that lie between our democratically elected rulers and the people. There is a need for *citizens* to inform the bureaucracy and to influence them in the *principles* they want to bring to bear on the governance of health care, especially equity.

Equity lies at the heart of public health. There is a responsibility in public health, currently too infrequently exercised, to promote debate about issues that have a potential impact on the health of the public. This is not advocacy for health *per se* but for debate to inform and question, to seek a more deliberative society and enhanced democracy. We cannot genuinely have aspirations for greater equity if we do not allow the citizenry to be informed, but also to make their own mistakes and to build a genuine community autonomy. *Homo economicus* is not renowned for his concern for the community or for his compassion.

We need much more research on access, conceptually, methodologically and empirically. In their review of equity in health care, Goddard and Smith (2001, p. 1159) report that: 'research focuses largely on variations in utilisation — realised access — and therefore makes it difficult to distinguish between demand and supply-side issues. As a result of these problems, and the lack of a clear theoretical framework within [which] much research is conducted, remarkably few firm conclusions can be drawn from the extensive literature on equity of access to health care, despite the central importance of the concept to the principles of the NHS' and I would add health care in Australia. This research thus needs to distinguish between use (ie. actual consumption which is a function of both supply and demand or need) and access (ie. opportunity to consume which is solely a supply-side phenomenon). More research is needed on access, particularly where a community view has been established of both the concept of access and the relative social weight to be attached to it.

Aboriginal health remains, as described by Ruddock in 1979 (quoted in the House of Representatives, Standing Committee on Family and Community Affairs, 2000, p. 7) 'appalling'. There is a sense in which it is yet more appalling today given the twenty or so reports on Aboriginal health that have occurred in the interim (House of Representatives, Standing Committee on Family and Community Affairs, 2000). This is true both of the gap between their health and that of non-Aboriginal Australians but also that between Indigenous and non-Indigenous people in similar countries. First and foremost however we need to reduce the gap between what is and what might be if health services for Aboriginal people reflected better their preferences, hopes and expectations.

Here is a situation where detailed analysis of the social determinants of health is needed. The links between Mabo, land rights, self-determination, self-esteem and health are here to be proved. Some very limited progress has been made on this (McDermott et al. 1998) in comparing two Aboriginal communities, one with a genuine community focus and the other not, the former having much better health status than the latter (for example, life expectancy at birth of 59 years compared to 48 years).

Research on Aboriginal health needs a new initiative supporting the call by Humphery (2001, p. 201) 'for a move *beyond the project'*. Consistent with the communitarian approach, he states (Humphery 2001 p. 201):

> In surveying the past 20 years of reform activity within the field of Indigenous health research, one major element stands out; the concentration on the individual act of research, on the particular project, as *the* site for transforming research practice…needed also is a much more integrated conception of the future path of Indigenous health research *as a whole*…. [this] means seeing research and its transformation as a collective enterprise of the broad research community and as involving shifts in institutional arrangements as well as local research practices.

Currently there is no national research strategy on Aboriginal health. This should be changed.

In so far as the community has a preference for certain types of choices in health care, then it may wish to trade more choice for less equity. In this context, there may be a place for a private sector of some form. Whatever, there needs to be a detailed inquiry into private health care spending with respect to its impact on equity. It currently appears to create major inequities in Australian health care. That inquiry needs to reflect the equity goals of the Australian community. Equity issues are likely to extend well beyond those of access for the poor and include also the impact of the private sector on health care labour supply in rural and remote Australia. The impact and influence of private health care on the ethos of health care providers, especially the medical profession, also warrants investigation.

Rural and remote health care services need to reflect the preferences of rural and remote communities. There then needs to be consideration given to adequate funding to allow the pursuit of what claims, and relative strengths of claims, Australians see as relevant to these areas. This debate can be made more informed by indicating the potential cost of making full allowance for attracting medical, nursing and other health care staff and retaining such staff in the bush, allowing for the differential productivity of these staff because of, for example, distance factors. The author with others have referred to such positions as Equally Productive, Equally Attractive (EPEA) positions in a submission to the Commonwealth Grants Commission (CGC 2001b). These would reflect the fact that (i) staff might be only 50 per cent as productive as in metropolitan areas and (ii) to recruit and retain staff might result in some extra cost of 80 per cent, thus raising the cost of an EPEA position to 3.6 times that of a metropolitan member of staff.

The key consideration in each instance, however, is to ask: what do the relevant citizens want in terms of general practice, their hospitals, Aboriginal health services, rural health services, etc? There are various ways of ascertaining this. What is essential is to get citizens to make resource constrained choices (so that the exercise does not degenerate into 'wish-listing') and to do so on an informed basis. There is Australian evidence, tentative thus far, (Nord et al. 1995, Jan et al. 2000 and Medical Council 2000, 2001), that this can be done. There is also wider and more substantial international evidence (see, for example, Vuori 1984, Abelson and Lomas 1996, Myllykangas et al. 1996, Coote and Leneghan 1997, Cookson and Dolan 1999, Leneghan 1999 and Coast 2001) about the feasibility and potential usefulness of such an approach. No doubt the methods can be developed further and improved. There is nothing, however, to suggest that informed community preferences cannot be elicited.

Some may wish to argue that it is difficult to operationalise the proposed new paradigm and to translate the ideas into a practical reality. While that may turn out to be true, the reality of the current policy on equity is that it is not succeeding in delivering equity, despite appearing to be more practical. While the new paradigm is challenging to operationalise, it can provide a richer basis for specifying equity goals and identifying and applying priorities to the use of resources across and within health programs.

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Discussant — *Jeff Richardson*

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Introduction

Despite the title of this session, I will be commenting, like Gavin Mooney, upon the broader issues of equity, social justice and fairness. (I shall be using the latter two terms interchangeably.) Access is a sub-set of these issues and the focus upon the broader questions may be justified, pedantically, since they are 'service delivery issues.' In the first section below I argue that these issues are unavoidable and that the common distinction between 'efficiency' and 'equity' is misleading. Particularly in the health sector, policies which seek to achieve efficiency have strong and obvious implications for equity and social justice.

Questions about 'fairness' focus upon the treatment of individuals *as compared with the treatment of others in the society.* In contrast, theoretical economics, and particularly welfare theory, is almost entirely concerned with the treatment of individuals and their absolute — not relative — income, or with their position in the social hierarchy. Consequently, it is unsurprising that economists are often uncomfortable with community-based notions of social justice. Even our vocabulary reinforces this discomfort. Apart from the vague notions of a 'merit good' or 'compassionate externalities' we have few concepts which can be used to analyse — accept or reject — ethical theories. At its crudest, our vocabulary can be misused to eliminate ethical objectives except for utility maximisation.[1]

One of the great strengths of Gavin Mooney's paper is its emphasis upon the importance of 'community.' Without it, we can scarcely talk about equity. A further important message is that social justice — fairness — is context and culture specific. This is again an issue where both the vocabulary and analyses in economics to date have been very limited. This is not because the subject matter is outside the scope of the economics discipline. To the extent that economics is concerned with the use of scarce resources to maximise social wellbeing, resource

[1] Any action or motivation may be *defined* as utility maximisation. Ethical discourse would then have to distinguish between utility arising from narrowly defined self interest; utility from duty; utility from community participation; utility from religious observance, etc. These cumbersome terms invite analysts to forget the distinctions and conclude that there is only one motivation. If language is purged of terms which capture particular concepts then analysis of the issues — their acceptance or rejection — becomes very difficult. (The notion that thinking may be regulated by purging language of particular words was one of the more interesting ideas in George Orwell's '1984' where the 'thought police' were charged with creating 'new-speak' which would only permit politically acceptable thoughts.)

related issues of social justice should be a central concern. This implies the need for a number of concepts which have been prominent in the ethics literature but absent from the usual economist's analytical tool kit.

More generally the paper is highly challenging along a number of dimensions. Economic theory, social policy and the management of that policy are all criticised and a number of clearly articulated problems and priorities are identified. Whatever their theoretical differences, most would agree that the status and health of aboriginals and inequalities associated with geographic location and social class are the main areas where policies have failed to achieve social justice.

Despite these strengths I will argue that there are also important weaknesses in the paper. First, some of the arguments are overdrawn. Second, the core suggestion for a new paradigm does not — as outlined here — appear to represent a significant departure from current practice. Third, and relating to this, there are significant omissions and, particularly, a disregard of an important literature. Finally, it is argued that the analytical core of the paper — the use of orthodox ethical argument — cannot demonstrate the superiority of a paradigm. Rather, the alternative empirical approach — already in the literature — is advocated. It is an approach where an economist's analytical and empirical skills can be usefully used.

Equity and economics

Issues of social justice — fairness — permeate health economics for three reasons. First, as an empirical fact, populations are concerned with fairness and particularly in the health sector. Second, the potential compensation (Kaldor-Hicks) principle cannot be used sensibly in the health sector. (Compensating the dead would be conceptually and practically challenging! Compensating taxpayers with a transfer from successfully treated patients would be almost as difficult!). Third, and following from this, virtually every policy — including those which affect allocative efficiency — also effect equity.

The latter point is easily illustrated. In equation 1 below, the ratio of marginal benefit (M Outcome) to marginal cost (M Cost) is greater for services provided to A than B. If the budget only allows the provision of one set of services then allocative efficiency is maximised by the provision of a service to A and not to B. However, B may legitimately argue that this is unfair. Empirical evidence suggests that the population agrees with this (Nord et al. 1995a).

$$\frac{(\text{M Outcome})_A}{(\text{M Cost})_A} > \frac{(\text{M Outcome})_B}{(\text{M Cost})_B} \qquad \text{Equation 1}$$

As a second example, consider table 5.1 which represents five diseases and the corresponding costs and benefits of their cure. The usual advice would be to fund the cure for A, B, C and D but not E. In a taxpayer funded health insurance scheme this would result in a transfer of benefits to the different individuals which would cost $10, $20, $30, $40, $0; that is, individual E who is equally ill, would receive no assistance despite the cost of their treatment being only $1 above the cost of treating disease D. The social subsidy would not be capped: it would be reduced to zero. This outcome is clearly not just of significance for efficiency; it has strong implications for equity.

Table 5.1 **Disease cost and fairness**

	Disease				
	A	B	C	D	E
Benefit of cure/person	40	40	40	40	40
Cost/person	10	20	30	40	41
Social spending ('subsidy')	10	20	30	40	0
Personal out-of-pocket cost	0	0	0	0	41

Source: Richardson (2002d).

Questions arising

The focus of an analysis of equity/fairness can be upon one of three levels of aggregation, viz:

- Systemic analysis;
- Priority setting; and
- (Micro) economic evaluation.

The major focus of Gavin's paper is upon the first and second analytical levels which include resource allocation formula, cross national comparisons of performance and the criteria for allocating resources in these contexts. However, at the third level, there is also an important literature concerning what should, or should not, be included in economic evaluation and how different elements should be weighted to take account of the social demand for fairness.

The second dimension concerns the *purpose* of an argument. It includes the following categories:

- Advocacy: an implied or explicit set of criteria is used to urge particular policies;

- Applied ethics: logical argument is used to demonstrate how (desirable or undesirable) consequences are implied by particular ethical principles;
- Measurement: the quantification of magnitudes relevant to ethical argument;
- Meta ethics: arguments advanced to establish various ethical principles — utilitarianism, contractarianism, etc; and
- Epistemology: arguments are used to establish the criteria for use in meta ethical debate; that is, arguments concerning the legitimacy of different types of logical or empirical argument in this context.

Gavin's paper includes all of these forms of analyses — and often moves between them with frustrating rapidity. I will not comment on the many points of agreement (the areas nominated as having the greatest inequity; problems with cross national and cross cultural measurement; and many of the 'applied ethical' arguments in section 5.4). Rather, the following sections concentrate upon the arguments which I find more worrying.

Ethical and other arguments

Most of those engaged in health services research will endorse the majority of the arguments in section 5.4 (and particularly those who have had applications for equity-related research repeatedly rejected!). However, I have some small reservations.

Minor issues

- Apart from the belief that our decision making in the health sector is complacent, stupid and racist, Gavin has unbounded admiration for the way our health services are run! However, the reservations expressed are not always well supported. Governments have learned that tampering with the health services of the majority is electorally hazardous. But smaller programs can be, and are, regularly cut. It may be unfortunate if one of these benefited Aboriginals but this, by itself, is insufficient grounds for the damaging accusation of racism which is usually reserved for situations where the motivation of statements or behaviours is linked to race per se.
- Being obsessed with quantification is an accusation which needs careful qualification in a field where implicit or explicit quantification is inevitable if a policy is to be implemented. This is illustrated by Gavin Mooney's calculation of the 'appropriate' ratio (importance weight) of per capita Aboriginal spending at Derbarl Yerrigan as compared to Perth residents.

- This latter calculation, which leads to a ratio over 5.0, is problematical. The three constituent importance weights almost certainly 'overlap' – there is 'double counting' of the concern about Aboriginal disadvantage. This violates the importance requirement in decision analytical modelling that the different elements combined in the calculation of an index of relative importance should be independent (orthogonal).
- The latter argument further appears to conflict with the position adopted in section 5.6 where the capacity to benefit is recommended as the basis for resource allocation and not the size of the problem. While it may be argued that 'relative need', the 'requirements of positive discrimination' and 'cultural security' all represent issues of social justice as distinct from the (DALY or QALY based) burden of disease, the result of three factors is that a problem 'exists' which in some sense is at least five times greater than an otherwise similar medical problem in Perth. Even though the aetiology of the problem is ethical, not medical, funding on the basis of such a ratio conflicts with the subsequent argument that 'it is most unlikely that allocating *pro rata* according to the *size of the problem* represents a rational approach to deciding the level of *the inputs* required to address the problem of need (see section 5.6).

Larger issues

Gavin asserts that all private health care is (necessarily?) inequitable and later that all private financing is likewise inequitable. At best this argument is — perhaps — consistent with the notion of equity in the definition in section 5.3. However, equity as defined there is not the only dimension of fairness. Another element is the right to spend personal income according to preferences and to obtain additional health care *albeit* an increment constrained for reasons of equity. Distinguishing 'equity' from 'fairness' might save the life of this argument but the true conclusion should be that, depending upon the importance of different dimensions of fairness, private financing may be problematical.

At worst the argument is wrong unless it can be shown that private care and private financing cannot be harnessed to achieve equity objectives. Canadian and West German payments for private fee-for-service doctors with their globally capped budgets appear to be a model of private delivery and public finance which is consistent with narrowly defined equity. Geographic equity — not guaranteed in a salaried NHS — can be achieved with geographically determined billing numbers for doctors (ie. a doctor's services attract reimbursement only if a billing number has been assigned). Alternatively, with Managed Competition (as described, for example, by Scotton 1999), publicly funded budget holders may receive an equitable premium per patient and purchase services from private providers.

More generally, there is no compelling nexus between the public/private status of the providers of healthcare and equity. Rather, equity depends (inter alia) upon financial and geographic access to these services and this may or may not be affected by the particular remuneration policies adopted in a country.

A scheme proposed by Chernichovsky in Israel represents an interesting model of equitable private finance and mixed (public-private) delivery. In this, private health insurance is compulsory and supplementary private payments above the mandated level is prohibited. Core and mandated services represent, perhaps, 75 per cent of the expenditure and private health funds may compete using the remaining 25 per cent of revenue (Chernichovsky 2001).

The arguments with respect to general practice are likewise problematical. The majority of Australian families have a family doctor but it is not clear why equity requires that they must. In contrast, considerations of efficiency might suggest the desirability of doctor lists (of assigned patients). This is the general practitioner gatekeeper model which ensures the more efficient use of costly downstream services. However, enforced efficiency is not always efficient if people do not want it!

Meta-ethics

Two meta-ethical arguments are presented in Gavin's paper. The first concerns the definition of equity and the second is the set of arguments advocating the adoption of a communitarian framework. The first of these is unproblematical although, as noted above, the narrow definition of equity does not exhaust the various dimensions of social justice that have been proposed and discussed in the literature. (Some of these are discussed further below.)

In contrast, the arguments for communitarianism — as presented — are difficult to follow and even the distinctive characteristics of communitarianism are unclear. Gavin argues that welfarism and extra-welfarism (the narrow version specifically discussed by Culyer Mark I) are inadequate. But this does not, as implied, demonstrate that communitarianism (undefined) is therefore correct. Rather it establishes that some form of 'non-welfarism' or 'supplemented welfarism' should be adopted and in much of the literature this is what is done.

Communitarianism is stated to involve 'communitarian claims'. But, as described, these are hard to distinguish from 'rights' and every health scheme, public or private, endows rights (to defined services under defined conditions). Further, communitarianism is said to be associated with 'society', with a recognition of 'autonomy'; there is an 'emphasis on freedom' and in this context 'capabilities' are

important. But these concepts are defined or discussed in a general way which is enigmatic and, as these terms are often used, consistent with market values. 'Community is something to be valued in and of itself'. Does this imply that if utility or subjective wellbeing is higher in individualistic cultures (which the evidence suggests) then community values should still be imposed despite the reduction in wellbeing? 'The community determines how resources are allocated.'

The pivotal argument appears to be that communitarian claims are determined by the community. 'We the community determine how resources are allocated…It is *our* preferences (the community preferences) for *their* claims (the various groups) that determine how resources are allocated'. In concrete terms this appears to imply, for example, that the citizen votes for and then funds a national health scheme which self interested individuals may or may not use and that the scope of the scheme – the services included – are also determined by the voting citizen. However, this is simply a description of a national health scheme. It is too general to assist with subsequent decision making.

The fact that the extant national health scheme was voter/citizen supported does not indicate whether there should be a redistribution of services; whether the value of a service should be based upon health gain, disease severity or the individual willingness to pay. It does not indicate whether or not there should be equity weights reflecting the recipient's age, ethnic or social status, etc. Since the values of the voter/citizen led to the creation of a national health scheme there are arguments (discussed below) for consulting the voter/citizen with respect to these additional issues. But this is what is currently being done by economists who are empirically investigating the 'social demand for health' which is the basis of 'cost value analysis' (Nord 1999).

Epistemology

The paper has two conflicting approaches to the epistemological question — the question of how meta-ethical issues are to be resolved. The first is used to achieve the general principle embodied in the definition of equity, viz. the use of empirical methods (in the form of a citizens' jury) to elicit population values. The second is used to argue the case for communitarianism, viz. *a priori* logical and rhetorical argument. The two approaches are likely to conflict. Community values will not necessarily endorse the communitarian approach (when this is clearly understood). Likewise in Richardson (2002b), I report a study in which the majority of respondents disagreed with the proposition that community values should be used in a particular example of the allocation of resources through time.

The second of these two approaches may or may not be presented in a way which is persuasive (depending upon the rhetorical force of the writer) but, as a matter of logic, it cannot demonstrate the superiority of one ethical theory over another. To do so requires a criterion, X, with which to evaluate the two theories. But the choice of X requires justification and this, in turn, requires a criterion, Y, which must be justified using criterion Z…. In sum, there is an infinite regress which prevents logical demonstration.

The rhetorical methodology inevitably depends upon the persuasiveness of particular words and a conclusion is reached by a process of linguistic osmosis. The process is hazardous. It is usually difficult to appreciate the possible implications of very general terms and an argument which appears plausible in abstract may cease to do so when particular consequences are deduced. In the present case the justification and relevance of the arguments depend upon the assertions that there are '*key attractions* in the idea of communitarian claims'; that it is in '*opposition to individualism*' (which, in the context, appears to be a virtue). 'Capabilities are *particularly germane'*: 'a claim to a good *involves a duty*' etc.

This form of argument is a legitimate way of establishing the credibility of a particular hypothesis and the importance of its further investigation. It should not, however, be accepted as establishing firm conclusions.

Empirical ethics

In contrast, the first epistemological approach is, I believe, an example of a more persuasive approach to the selection of ethical rules and, indeed, there is a significant literature which adopts this approach. In addition to the West Australian study cited earlier, there have been a number of Australian studies of this sort. They have, *inter alia*, analysed the following issues which arise in the context of economic evaluation studies:

- the need for age weights (Nord et al. 1995a);
- the discounting of long duration benefits (social discount rates) (Nord et al. 1995a);
- the possible need to discount the effect of cost in the cost benefit equation (Nord et al. 1995b);
- the perspective (individual or social) to be incorporated in decision making (Richardson and Nord 1997);
- the independent importance of severity (as distinct from health improvement) (Nord et al. 1999);

- the possible rejection of the inclusion of indirect benefits in economic evaluation (Olsen and Richardson 1999);
- the possible rejection of allocations based upon willingness to pay (Richardson 2001);
- a preference for realised rather than anticipated benefits as the basis for benefit evaluation (Richardson 2001);
- a demand for 'community empowerment' by a group of social decision makers (with community empowerment defined by the group) (Peacock et al. 1997); and
- a preference for resource allocation in the health sector according to health outcome rather than population preferences (Olsen et al. 1998).

In the general economics literature there has been, additionally, empirical work suggesting the importance of non discrimination against disabled patients (Ubel et al. 2000); the achievement of health potential; the relevance of social characteristics; and the maintenance of hope. Additionally, empirical work could usefully be carried out to determine social attitudes towards adaptation through time, the so-called 'Rule of Rescue', and the fair innings argument. (These issues and the empirical evidence for them are summarised in Nord et al. 1999, Ubel et al. 1999 and Richardson 2001.)

The quality of the evidence and argument in these studies is highly variable. 'Empirical evidence' is sometimes little more than a 'spontaneous vote'. In other studies, there has been an attempt to systematically elicit deliberative values.

In a recent publication, I suggested that the term 'Empirical Ethics' be used to describe literature which follows good practice in this context (Richardson 2002a). In sum, it is suggested that ethical values should be elicited using an iterative process. Researchers should postulate population values (ethical principles) and then embark upon a series of empirical studies, both qualitative and quantitative. During these, the implications of population responses should be clarified by ethical analysis. For example, the implications of the 'strong interval' property implicit in the use of QALYs or DALYs should be made explicit, viz. that a ten per cent drop in the utility index of quality of life is of equal importance (value) as a ten per cent drop in the quantity of life (Richardson 1994); that a high rate of time preference means that a certain number of people will die prematurely whose lives could have been saved by the sacrifice of some short term quality of life enhancing programs, etc. Postulated ethical principles should be reformulated in view of population reaction to this information and then 're-submitted' for empirical testing. The process should continue until acceptable, stable (reliable and deliberated) ethical principles are identified; principles that withstand both *a priori* ethical criticism and

the test of population support. The information obtained from this procedure should then be provided as input into the decision making process.

Conclusions

Ethical issues cannot be avoided in the health sector. In his paper, Gavin Mooney has persuasively argued that Aboriginal health represents the greatest inequity and highest priority for urgent policy reform. Many, and possibly most, Australians would accept this judgement. The paper has also demonstrated the breadth, complexity and controversial nature of these issues. It has been argued here that the concern for social justice may raise even more issues than those discussed in the paper.

A more critical conclusion is that one element of social choice emphasised by Gavin, namely communitarian values, is not supported by empirically robust evidence and, more generally, that the a priori, rhetorical, form of argument adopted is only able to establish a persuasive case for further research. It cannot (or should not) be accepted as representing a compelling reason for the acceptance of an argument.

The most important theme of this commentary has been, first, that there is a pivotal role for empirical research *albeit* research which is intertwined with ethical criticism (which, at core, is equivalent to critical evaluation). *A priori* analysis is important in this latter capacity but also to suggest hypotheses which are sufficiently plausible to warrant further investigation. However, this further stage must include vigorous empirical research.

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Introduction

Gavin Mooney's paper is a valiant attempt to establish a new framework for thinking about equity in Australian health care and to chart the beginnings of a new agenda for action. His basic argument is that Australian policies to promote equity in health care have either been completely inadequate or have failed to address the real issues. This failure is attributed to a variety of reasons, including a lack of political will, a lack of compassion for those adversely affected by existing inequities, an unwarranted sense of complacency about both the extent of the problem and the failure of current health policies (primarily Medicare) to address it, and a broader failure to understand what equity actually means and how its attainment is influenced by the existing framework of policy and institutions in the health system.

Mooney does not go into the detail of the available research on the socioeconomic determinants of health. Instead, he draws on results from a series of pertinent Australian studies to highlight the failings of existing approaches and to argue for a new paradigm that draws its inspiration from a communitarian approach informed by Sen's notion of capabilities and Culyer's definition of need as 'capacity to benefit'. The paper does an excellent job in sticking to the 'main issues' without getting sidetracked into the minutiae of specific studies and makes for invigorating reading.

There is much in the paper that I agree with, but there are also a number of steps in the argument that require further examination. In focusing on these, I do not wish to detract from the paper's many valuable contributions.

The following remarks have been organised around three broad themes:

- The definition of equity in health care and the role of perceptions;
- The constraints imposed by existing institutional arrangements; and
- What can we learn from international research and experience?

Defining equity

Equity is a difficult concept to define theoretically and an even harder notion to operationalise in ways that can inform the policy debate. At the outset, Mooney

equates inequity with disadvantage and argues that the key parameters of disadvantage in health care are Aboriginality, geographic remoteness and socioeconomic status (followed by gender, age, mental illness and a non-English-speaking background). What is most striking about this list is that it defines equity in terms of the relative position of different *groups* rather than, as is common in economic discussions of equity, in terms of the treatment of different *individuals* (or *families*). This emphasis on inequity between groups limits the role that conventional (neoclassical) economic analysis can play in deciding on matters of equity and inequity, pointing instead to a political economy approach, or at least to an approach that puts the focus on political factors and forces. Yet the paper also draws at several places on conventional notions of horizontal and vertical equity (including the role of progressive taxation) where the analysis is generally in terms of individuals, and this raises in my mind the question of the appropriate *unit of analysis* for thinking about the issue of equity in health care.

Mooney argues that we cannot adopt a single, universally agreed paradigm or value system on which to define and analyse issues of equity in health care but that the matter must finally be resolved by 'the Australian community'. He proposes a definition of equity as 'equal access for equal need' where equal access must be defined in terms of *perceived barriers*, while equal need is defined in terms of *capacity to benefit*. In a sense, this approach replaces one very difficult concept (equity) with two equally contentious concepts (access and need). But it does more than that because it also introduces perceptions, and thus the role of culture explicitly into the analysis, and also defines need in a more proactive way that relates to impacts rather than to the conventional approach that equates health need with illness.

Even so, there are problems. One problem I see with this approach relates to its asymmetrical reliance on perceptions, which are assumed to be important in establishing access barriers, but not in determining need, defined as capacity to benefit, which is presumably determined by some (unspecified) external agent or agency. Yet need has long been acknowledged to have alternative definitions, some of which rely on the perceptions of those who are 'in need'. Thus, Bradshaw (1972) distinguishes between the notions of *normative need* (specified by experts), *felt need* (determined by individual perceptions), *expressed need* (as reflected in the demand for services) and *comparative need* (identified by comparing users and non-users of specific services). The role of perceptions is most obviously explicit in relation to the notion of felt need, but perceptions can also play a role in the other three definitions and I would argue that the case for basing the definition of need on subjective perceptions is as strong as that for defining access in terms of perceived barriers.

This makes the task all the more difficult because it is not easy to identify the nature of perceptions, and even harder to mount a convincing case for developing policies designed to address equity issues that depend in part on perceptions about the nature and impact of existing inequities.

One final point on how equity is defined and used in the paper. In section 5.4, it is argued that there are three reasons why per capita spending on Aboriginal people should exceed that for the non-Aboriginal population. These are: the greater health problems of Aboriginal people; to overcome cultural barriers that operate against Aboriginal people under the current system; and because there is evidence that the Australian community supports positive discrimination in favour of Aboriginal people on vertical equity grounds. While the first and second reasons are consistent with the 'equal access for equal need' approach, the role of the third criterion (community support) is unclear — except as a way of articulating community views in relation to issues of either access or need (or both). In allowing the community a *separate* voice in deciding how to respond to these issues, Mooney is opening the door to many of the negative features (including lack of compassion and complacency) that he is critical of under current arrangements.

Mooney is right, however, at least in my view, to point out that we know little about 'what the community wants' in relation to equity in health care (as well as equity more generally) and more research is needed in this area. At the same time, there is a degree of caution implicit in the paper about what might emerge from such an exercise — at least if it is not accompanied by an effort to ensure that those expressing the preferences are fully informed about the 'facts' as well as the underlying issues. But even if the 'facts' are provided in an impartial manner, there is still no guarantee that a consensus will emerge about the meaning and measurement of equity. The opposite seems more likely.

It is true that research conducted by Glenn Withers and others shows that there is considerable support for additional government spending on health care (even if this involves higher taxes). But it is also true that the Australian community has just voted back into office a government whose health policies show little apparent respect for equity.

Institutional constraints

Mooney's paper is most provocative when it comes to the views expressed on the role of private health care sector in achieving equity in health care. Here, the author pulls no punches, arguing that 'all private health care provision (including private health insurance) is inequitable' and that *any* form of price rationing (however

modest) creates barriers based on ability to pay that are fundamentally inequitable. There are others in the audience who can do a far better job than I of articulating the theoretical virtues of price rationing and competition, but there are several points that are worth noting about this line of argument. The first relates to the issue of perceptions, already discussed, in particular the possibility that the population at large may perceive charging for health services at the point of consumption as being a legitimate way of restricting the demand for health resources. While it may be true that *ability-to-pay* bears no relation to health care need, the same cannot be said for *willingness-to-pay*. But it is the latter that affects the demand for health services, which suggests that there may be a role for some form of price rationing. There is also an important distinction to be made between support for price rationing *as a general principle* and its impact in individual cases. Thus, although price may act as a barrier preventing me from accessing services, I may still favour the imposition of user charges because *in general*, they bring demand and supply into balance more effectively than alternative rationing devices.

However, the more interesting parts of the argument against private provision that are developed in the paper relate to the emphasis given to issues of the power and control that rests in the hands of private health practitioners, particularly general practitioners, but also those on hospital boards of management. Here, the arguments are compelling, particularly those relating to the consolidation of health services in metropolitan areas (exacerbating geographic inequities) and the potential for instability in a mixed health care system as those who are advantaged resist paying for services from which they receive no benefit. Mooney attributes this idea of 'participation utility' to Margolis, but similar arguments have long underpinned the case for universal provision. A similar argument has also been made by Giddens (1998, p. 103) in relation to social exclusion at the top reflecting a 'revolt of the elites' that withdraw from public institutions and choose to live separately, funding their own health care but in the process diverting scarce public resources from those who are forced to rely on the public system.

I agree totally with Mooney's call for research looking into the impact of the private health sector on equity in the health care system as a whole. However, being able to identify an appropriate counterfactual will have a critical bearing on the results and it is not clear how this can be specified. This brings me to my third and final point.

The role and value of comparative research

There are several points in the paper at which Mooney is critical of the value of international comparisons, but there are many other places where overseas experience is drawn on to telling effect. The paper is rightly critical of the lessons to

be drawn from uni-dimensional 'international league tables' of health performance — if only because they cannot identify (although they implicitly embody) the impact of other factors and choices that health policy must respond to.

I also agree with the view that there are many unique features of the Australian circumstance that make it unwise to try to copy the experiences of other countries. But this does not mean that we cannot benefit from studying those experiences in order to *learn* from them. In fact, there are many examples in the paper itself of how our understanding of the issues has benefited from careful analysis of the research and policy experience of others. If nothing else, high-level comparative research of this type provides a basis for specifying a counterfactual that can be used to get a handle on the impact of our own institutions and policies, as well as the values and attitudes that are often deeply embedded within them.

Having said this, however, I was not convinced that all of the examples cited in the paper were as clear-cut as was claimed. There are several instances where positive lessons are drawn from the Scandinavian health policy experience, particularly in relation to its heavy reliance on a public model of provision funded from a high and heavily progressive tax system. However, it is also true that there are many areas of health policy in Scandinavia where prices are imposed at the point of consumption as a rationing device. Indeed, in my experience, many Scandinavians are struck by how relatively *little* reliance there is on user charges in the Australian health care system. Which brings us back to how the structure of the system as a whole, specifically the role and impact of the private sector, can exert an influence on how the system evolves and who controls its resources. If Mooney is right that these kinds of issues need to feature prominently on the research agenda, it seems to me that we are likely to need more comparative research, not less.

References

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General discussion

The discussion focussed on:

- barriers to access to health care services;
- the meaning and implications of ‘communitarianism’ and ‘community’ in the context of health policy; and
- the usefulness or otherwise of international comparisons of equity in relation to health services.

Access barriers to health care services

A number of participants endorsed the principle of universal access to health care services as a basic entitlement but recognised that various barriers can impede the capacity of individuals or groups to exercise this entitlement in practice. Related to this, several participants supported the call for more research directed at: identifying the nature and magnitude of these barriers; the extent to which the health care system already takes them into account through programs for specific groups; and the effectiveness of these responses compared with feasible alternatives.

One participant characterised the problem as one of social exclusion for disadvantaged groups. In his view, part of the problem was structural and attributable to weaknesses within and between the health care system and other institutional arrangements. Citing the example of young men with mental illness, it was contended that accessibility to these services to meet their needs is often particularly poor. While acknowledging that the service needs of this group raise complex issues, it was argued that access to these services is impeded by weaknesses in the co-ordination of services across sub-parts of the health system as well as by concerns held by individuals that visiting doctors risked unwanted contact with the police/judicial system. In contrast, AIDS prevention was cited as an example where society had handled the needs of an ‘at-risk group’ with considerable success. It was also suggested that there was often a reluctance to examine and debate openly the weaknesses in access to basic health services because, by challenging the effectiveness with which the goal of universal access was being met, this could give rise to counter-productive responses.

Communitarianism —its meaning and implications

A number of participants questioned the meaning, implications and practicalities of communitarianism as an alternative paradigm for guiding decision making and resource allocation in health care, particularly in relation to equity objectives. Others were sympathetic with the view that knowledge about what the community wants in relation to equity in health care is limited. Related to this, they agreed that there is a need for more research on the feasibility of improving decision making processes through mechanisms which promote greater community involvement.

In discussing some of the implications of communitarianism, one participant indicated that he was not sure that the communitarian route, beyond a certain point, takes anyone where they would want to go. In exploring this, it was suggested that, as a minimum requirement, entitlements to health care services should attach to individuals. Beyond this, it may be appropriate to make special arrangements to address location or other specific obstacles to the enjoyment of such entitlements. In such cases, it would usually be desirable and appropriate to consult with the affected individuals or groups to develop effective policy responses. However, the actual allocation of resources and their management need to be handled within frameworks which promote responsible decision making and accountability for outcomes. In this sense, it is important to draw a distinction between using community preferences to inform decision making and decision making per se.

Several participants raised questions about the underlying notion of community preferences. Questions in this context included: How is community defined? Who are the 'we'? What unit of analysis should be used when defining the community — local, regional, state, other? Questions were also raised about how to get the community involved in the decision making process.

In response, Gavin Mooney observed that there are no simple answers to these questions. He noted that health policy issues vary in their breadth and coverage of the wider Australian community and that there are different levels of decisions, and by implication, different notions of community at each level. He also cited examples of mechanisms or techniques which could be used to elicit community preferences — surveys, citizens' juries and constitutional conventions — and argued that there was a need for more experimentation with these and other techniques. While acknowledging the challenges of identifying community preferences, he emphasised that they could provide a richer basis for defining equity goals and identifying and applying priorities to the use of resources across and within health programs.

Another participant raised some concerns about the potential for negative outcomes, in certain instances, in allowing the community a separate voice on specific issues

compared with the alternative of representative democracy. He cited the example of illegal aliens in California. It was suggested that, while the local populace had attempted to reduce access to social services for this group via ballot resolutions, the California legislature had successfully protected their rights to date — demonstrating a more enlightened approach. In response, Gavin Mooney cited examples (referred to in his paper) of where valuable outcomes had emerged from community consultation processes where an effort had been made to inform participants about the underlying issues. He also acknowledged the need for further research into how best to assess and use community preferences as a decision making tool.

The usefulness of international comparisons

There was some discussion about the usefulness of the World Health Organization's international comparisons of the performance of health care systems, focusing on the equity dimension of performance.

A number of participants supported such comparisons noting that, in spite of their apparent faults and the need for further refinement, they were useful in drawing equity issues to the attention of policy-makers. They were also seen as helpful in stimulating debate about the nature of the goals of health systems and the relative importance attached to them. Such debate was seen as a valuable source of ideas for improving the measurement and assessment of health system performance over time. One participant drew an analogy with GDP as a measure of economic performance, observing that many economists used GDP figures in international comparisons in spite of its widely accepted qualitative limitations.

Gavin Mooney maintained that equity goals typically had a strong country-specific character. As a result, he argued that there is a need to use country-specific, rather than single dimension universal equity norms, when trying to assess equity outcomes. In this context, it was pointless to compile international league tables using a common equity benchmark or benchmarks.

PART E

SUPPLIER-INDUCED DEMAND AND OCCUPATIONAL REGULATION

6 Supplier-induced demand: its nature, extent and some policy implications

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6.1 Introduction

The concept of supplier-induced demand (SID) and its policy implications have attracted considerable attention in the health economics literature for some 30 years.[1] A variety of conceptual models and empirical tests of SID (displaying varying degrees of sophistication) have been reported in a diverse range of studies.[2] These studies cover the health care systems of several countries such as Australia (Richardson 1981; Scott and Shiell 1997; Richardson and Peacock 1999), Canada (Evans 1974), Denmark (Krasnik et al. 1990), Ireland (Tussing and Wojtowycz 1986), New Zealand (Malcolm et al. 1980; Malcolm 1983, 1985), Norway (Anderson and Peter 1983), and the United States (Fuchs 1978; Rice 1983; Stano et al. 1985; Cromwell and Mitchell 1986).

The concept of SID and its implications for health policy remain controversial. Considerable differences of opinion remain about this concept, its possible extent and even its very existence (see box 6.1). In this context, a mid-1990s assessment of

* The views expressed in this paper are those of the author and do not necessarily reflect those of the Productivity Commission. The author is grateful for comments from Helen Owens and Ian Bickerdyke.

1 The notion of SID represents an extension of the concept of supply-induced demand developed by Shain and Roemer (1959) and Roemer (1961), who observed a positive correlation between the number of hospital beds available and their use leading to the observation, 'a bed built is a bed filled'.

2 This paper examines the SID literature in relation to general practitioners and specialists (referred to as physicians and surgeons in North American studies). There are, however, a number of studies which have examined the issue of SID for other suppliers within the health sector, such as dentists and physiotherapists (see, for example: Birch 1988; Chryssides 1997; Van Doorslaer and Geurts 1987).

the literature by Labelle, Stoddart and Rice (1994, p. 349) still seems accurate, namely, that:

> Lack of agreement among analysts pervades almost every aspect of the discussion of SID. The literature provides numerous, and not necessarily consistent, definitions of the phenomenon. Studies employ a variety of approaches to test for its existence, nature and extent. The validity of the results of both the theoretical models and empirical tests is controversial. Accordingly, there is no general agreement on the development and implementation of public policy based on the results.

Box 6.1 **The SID controversy — an Australian example**

An Australian example of the differences of opinion relating to SID can be found in an exchange between Paterson (1995) and Richardson (1995) covering medical workforce policy and the relevance or otherwise of the notion of SID. Paterson, representing the neoclassical view, argued that the doctrine of SID is erroneous. In support of this claim, he (1995, p. 8 and p. 12) observed that … 'There is obviously no consumption of anything before it is invented and then produced, but that is not to say there was no demand for it … Health economics is apparently innocent of the rudimentary distinction between latent demand and consumption'. Further, … 'Up to the point where co-payments fall to zero, the supplier-induced demand theory falls on Occam's Razor. It is simply not needed to explain the facts while the patient faces a non-zero price'. In contrast, Richardson (1995, p. 34) observed that … 'The usual assumptions underlying the model of SID contrast with Paterson's assumptions. They are that: '… patient information is poor and doctors act as their agents. Demand is a function of the agent's advice and there is always at least the potential for SID. … Doctor/agents also face imperfect information'. Richardson maintained that this could lead to increased provision of services in response to a doctor's perceptions of what was in the best interests of their patients.

Reflecting this, a number of analysts have expressed the view that the debate is unlikely to be satisfactorily resolved (see, for example: Hadley et al. 1979; Fuchs 1986; Phelps 1986; Pauly 1988), while an Australian researcher (Doessel 1995, p. 58) observed that:

> This area of research can be described as a theoretical and empirical quagmire.

This paper does not seek to provide a detailed review of the SID literature. There are several useful reviews already available (see, for example: Sloan and Feldman 1978, 1988; Eisenberg 1986; McGuire 2000; Folland, Goodman and Stano 2001).

Instead its purpose is to focus on some important features of the debate, drawing on the reviews mentioned above, and to offer some observations and reflections in relation to them. The key aspects discussed in the paper cover:

- The concept of SID itself – what is it?

- Why does it matter?
- How might it arise?
- What does the existing evidence imply?
- What are some of its policy implications?

6.2 What is SID?

In simple terms, the notion of SID is that doctors can and do manipulate their patient's demand for medical services to induce demand for their services. In contrast to the conventional neoclassical model which would postulate a binding demand constraint on the output and price decisions of doctors, proponents of SID argue that, within the market for medical services, demand and supply are not independent. As a result, they contend that doctors are able to use their 'discretionary power' to engage in demand-shifting or inducement activities. Such demand inducement may take the form of increasing the number of services or changing the service mix provided to patients, so as to generate more income or offset a decline in income or provide a superior service. However, this definition of SID is very broad and needs to be examined more closely to better understand the potential sources and motivations for SID, and their associated policy implications.

Interestingly, although the subject of extensive debate, there is no definitive and widely accepted definition of SID. Rather, an examination of the various definitions used in the literature points to four broad types:

- positive and value free;
- normative with negative connotations;
- normative with mixed connotations; and
- normative with neutral connotations.

A *positive and value free* specification is provided by Hadley, Holahan and Scanlon (1979, p. 247) in the following terms:

> The concept of physician-created demand or demand-inducement refers to the physician's alleged ability to shift patients' demand for medical care at a given price, that is, to convince patients to increase their use of medical care without lowering the price charged.

Here, inducement arises from the doctor's alleged ability to convince patients to increase their usage of medical care. The definition includes no reference to the

motivation underlying inducement. However, the mechanism for inducement is attributed by the authors to the patient's general lack of medical knowledge, consequent reliance on the doctor's advice and the weak incentive on the patient to say no where services are provided against the backdrop of extensive insurance coverage.

Another positive and value free definition is put forward by Fuchs (1978), who argues that inducement is said to arise where a treatment deviates from a level which equates the marginal cost and marginal benefit for the patient. Significantly, to the extent that this involves demand-shifting or inducement, it may involve under or over-servicing in relation to the patients' care needs. Fuchs also argues that the 'optimal' or 'necessary' level of care will vary depending on the specification used to determine the end goal of treatment — maximising the patient's gain relative to the cost of treatment or health status regardless of cost.

An example of a *normative with negative connotations* definition is given by Folland et al. (2001, p. 204):

> The phenomenon of SID occurs when physicians abuse the agency relationship with their patients in order to generate demand for personal gain; this is made possible because physicians are more fully informed than their patients.

Here, inducement is attributed to an imperfect agency relationship between the doctor and the patient. The motivation is personal gain for the doctor in the form of higher income for services rendered than would otherwise arise. Abuse of the agency relationship is made possible because doctors are better informed than their patients and presumably, therefore, able to generate additional demand for their services.

An example of a *normative with mixed connotations* definition is provided by Bradford and Martin (1995, p. 492):

> Demand inducement can constitute either unnecessary use of existing methods of treatment or the invention of new treatments. To be considered inducement (in the usual pejorative sense) these treatments must be of questionable medical value and instigated for profit and not medical reasons. An honest attempt by the physician to persuade a patient to accept a particular treatment should not be construed as inducement.

Here, inducement is deemed to arise where a treatment is of questionable medical value and is provided for financial gain by the doctor. However, honest advice directed at providing a treatment which is in the perceived interest of the patient (or valued by the patient) is not seen as demand inducement.

Finally, an example of a *normative with neutral connotations* definition is given by Labelle et al. (1994, p. 363) who argue that:

> … the identity of the party (providers or patients) initiating utilisation is insufficient for a useful concept of SID. A more useful concept requires at least the notion of agency and the degree to which the agency relationship operates effectively. Moreover, it requires the incorporation of the notion of the clinical effectiveness of induced utilisation because the normative significance of SID *for policy makers* depends as much on this as it does on the degree to which physicians act as perfect agents. (emphasis in original.)

According to this definition, a useful specification of SID has two main requirements — a consideration of the effectiveness of the agency relationship, as well as an assessment of the clinical effectiveness of any induced services.

The definitions put forward by Bradford and Martin (1995) and Labelle et al. (1994) highlight an important issue which is often overlooked in the SID debate. Inducement can give rise to 'good' or 'bad' outcomes for patients depending on its medical value or clinical effectiveness. Consequently, the implications of inducement need to be explored from the perspective of its impact on the health status and well-being of patients, rather than the more limited notion of an imperfect agency relationship. More on this later.

Drawing on the SID definitions presented above, it is possible to identify two broad potential sources of demand inducement with negative effects. First, inducement linked to an imperfect agency relationship where doctors generate demand for personal gain (the self-interest or self-servicing case). This corresponds to the conventional and popular view of SID. Second, inducement in the form of the provision of 'unnecessary' or 'wasteful' medical services, even where a doctor seeks to promote the best interests of their patients. This represents a more controversial notion of SID because it raises questions about the practical implications of clinical uncertainty, variations in patient preferences and the influence of different institutional and regulatory settings on a doctor's assessment of the marginal benefits and costs of providing services to patients.

The mechanisms underlying these potential sources of SID are examined in section 6.4.

6.3 Why does SID matter?

If doctors are able to induce demand and this behaviour has negative effects on patients, the implications for the conduct of health policy would be significant.

As observed by Reinhardt (1989, p. 339):

> The issue of physician-induced demand goes straight to the heart of probably the major controversy in contemporary health policy, namely, the question of whether adequate control over resource allocation to and within health care is best achieved through the demand side by letting consumers (patients) discipline providers who compete against one another on the basis of quality and price, or through regulatory controls on the supply side.

Some examples of areas where SID could have a profound impact on the appropriate design of health policy include:

- the effectiveness of using co-payments to contain increases in health expenditure;
- determining the appropriate number of doctors in the context of quantity-based regulation of their numbers;
- the effectiveness of price or fee controls in restraining increases in health costs; and
- the desirability of using supply-side initiatives, such as requiring prior authorisations for prescription drugs, the development and use of clinical protocols, and the use of utilisation reviews or service monitoring arrangements.

Richardson and Wallace (1983), in a survey of health economics, commented on the implications of SID for co-payments and assessments of manpower requirements in the health sector. In relation to co-payments, Richardson and Wallace (1983, p. 132) observed:

> The conventional model suggests that utilisation may be reduced by increasing user charges; that is, by the introduction of significant co-insurance and deductibles into health insurance policies. If supplier-induced demand exists, such a consumer-initiated reduction in purchases might be offset by a doctor-initiated movement of the demand curve.

In the context of assessing future doctor requirements, Richardson and Wallace (1983, p. 133) noted that estimates:

> … based upon conventional models of independent demand will be misleading, as an increase in the doctor supply would become self-justifying and, instead of falling, fees may actually rise with doctor supply.

Beyond these examples, if SID exists and is pervasive, fee controls are unlikely to be sufficient in seeking to moderate increases in health care costs. Related to this, alternative measures to fee-for-service remuneration systems, such as capitation, salary or blended (mixed) payments, would merit closer consideration (see, for example, Donaldson and Gerard 1993).

Further, if SID exists, prior authorisation and various decision support arrangements (such as clinical protocols or guidelines and patient information measures) could be included within the institutional framework influencing the resource allocation decisions of doctors. Utilisation reviews and service monitoring arrangements could be used to encourage effective resource allocation decisions by seeking to deter doctors and specialists from over-servicing their patients.

It is important to recognise that, as noted above, not all SID is necessarily bad. Hence, it should not be presumed that, if it exists, the appropriate policy response, in all cases, is to reduce or diminish inducement.

6.4 How might SID arise?

The potential for SID to arise is shaped by a number of characteristics of the market for medical services, including;

- information gaps and asymmetries which encourage patients to seek medical advice and delegate decision making to doctors;
- potential weaknesses in the agency relationship;
- the impact of clinical uncertainty on the decision making processes of doctors; and
- the influence of institutional and regulatory arrangements on doctors' incentives (disincentives) to engage in demand inducement activities and patients' incentives (disincentives) to resist such activities.

Information gaps and asymmetries

Patients need good information to make utility-maximising choices about their use of medical services. However, many forms of medical care have characteristics which make it unlikely that a patient will be the best person to judge the likely impact on their welfare of consuming different levels and types of medical care.

In general, the service being purchased is medical care rather than health per se. Thus, while patients may desire good health, they are unable to acquire it directly. Instead, they purchase medical care — diagnosis, information, and treatment services — to improve their health status. However, patients face somewhat of a dilemma in translating their desire for good health into a demand for medical care. This requires both information (for example, of their current health status, treatment options and their likely effectiveness) and medical knowledge or expertise. In such

cases, it is clearly rational to visit a doctor to obtain the necessary information and advice.

In some cases, patients who are frequent users of particular medical services are likely to acquire enough information and knowledge to be well placed to assess the relative value and appropriateness of the services they are consuming. However, in many cases, they are unlikely to have the necessary information and knowledge because they are infrequent users of a service or have no prior experience to call upon. In other instances, they may be too ill to act rationally. Reflecting the difficulties of assessing medical care relative to many other goods and services, patients may even find it hard to judge the effectiveness of medical services, even following treatment – which is what Weisbrod (1978) called, the 'counterfactual problem'.

In consequence, patients will often be relatively poorly informed compared with their doctor about their condition, treatment options, expected outcomes and likely costs. Such information asymmetries are not, of course, peculiar to medical markets. They also arise in other markets, such as other professional services and car and appliance repair and construction, although they are arguably more pronounced in medical markets.

Indeed, Pauly (1978) argues that the market for medical care is almost as much a market for information as it is a market for specific services. Reflecting on this, he estimated that only one-quarter of expenditure on medical care covers purchases that are made relatively frequently and where the purchaser's experience is tolerably good. In 1998-99, expenditure on medical services (including payments to both general and specialist practitioners) amounted to $10.8 billion, or 22.9 per cent of total health recurrent expenditure in Australia. Extrapolating Pauly's estimate to the Australian health market suggests that, in 1998-99, services to the value of $8.1 billion were in areas where consumers were unlikely to have sufficient information and knowledge to make good choices.

The agency relationship

In the doctor-patient agency relationship, patients in effect delegate authority to the doctor for an 'independent consumer evaluation', trusting that the doctor will act in their best interest. The motive for this is that patients recognise that they are, in many cases, relatively poorly placed to make appropriate decisions about medical care.

In acting as an agent for their patients, doctors are expected to provide objective advice on the appropriate level of medical care. Situations where patients take this

advice into account but make their own decisions regarding medical care would not constitute SID. However, where a doctor not only provides advice but also determines the type and quantity of care provided, there is scope for SID to occur.

The scope for inducement is likely to be greater where a patient's medical condition is more complex, includes an element of medical uncertainty and/or involves a condition for which the patient has no prior experience.

In this context, it is important to distinguish between 'influence' and 'inducement'. If the doctor determines the same type and level of care as the patient would have selected for themselves (presuming that they had the same knowledge and information as their doctor), this would not constitute SID, but rather, an example of an effective agency relationship. Consistent with such a relationship, a doctor may determine different levels of care for different patients, even where they have the same ailment, because patients may have differing requirements for comfort and reassurance. Provided the interests of the doctor and patient are well aligned, devolving decision making to a doctor need not give rise to SID.

However, if the doctors' objectives/interests are not fully aligned with the best interests of the patients (or doctors can succeed in persuading their patients to act in a way that benefits them) this may give rise to SID. The potential for a conflict of interest and an imperfect agency outcome arises because the doctor (agent) performs a dual role — the same person who provides advice about a treatment usually provides and receives payment for that treatment. Hence, demand is no longer independent of supply.

The development of 'corporate medicine' in Australia, involving the bundling together of medical services such as general practitioner consultations and various allied services — such as, pathology and radiology — into integrated supply units, is giving rise to new concerns about the potential for conflicts of interest within the agency relationship (see, for example, Collyer and White 2001).

Importantly, however, the doctor-patient relationship features a prominent and shared objective — enhancing a patient's wellbeing. This objective is the central motivation behind patients seeking medical advice and is reinforced by medical ethics as underpinning the core responsibilities of doctors.

Even so, like other service providers, doctors are also likely to be motivated by self interest, which can yield outcomes at variance with a 'perfect agency' outcome.

Clinical uncertainty

Many analysts contend that medical decision making is characterised by considerable uncertainty about the expected benefits and costs of medical treatment.

As observed by Wennberg (1988, p. 101), 'professional uncertainty rather than consensus about the scientific basis of clinical practice is emerging as the dominant reality'. According to Wennberg (1985), there are three sources of uncertainty. First, uncertainty stemming from difficulties in classifying patients so that the probabilities of disease, extent of disease, prognosis and treatment outcomes cannot be reasonably ascertained. Second, information typically does not exist on the probabilities of treatment outcomes under controlled conditions. Third, uncertainties exist because the values of the doctor, who makes the decisions, may not correspond to those of the patient.

In part, such uncertainty reflects the small number of services which have been evaluated for clinical efficacy. A study by Oxley and MacFarlan (1994, p. 26) reports that:

> Four-fifths of medical procedures and two-thirds of medical goods have never been evaluated with respect to their effectiveness and cost. Once introduced they are sometimes inappropriately used …, such that, in many cases, they may provide only very marginal benefits to health outcomes (Weisbrod 1991).

In the absence of well defined guidelines for medically accepted practice covering many medical goods and services, the practice patterns of doctors, perhaps not surprisingly, display considerable variation. So called 'small area variation' studies support this assessment. These studies point to considerable variation in the use of medical procedures and treatments between small areas (see section 6.5).

Some analysts maintain that doctors' responses to clinical uncertainty can give rise to inducement activities fully consistent with the patient's interests rather than self-interest. For example, Richardson and Peacock (1999, p. 9) observe that:

> In view of medical uncertainty, the increased use of diagnostic services can easily be rationalised. Similarly, and like most of the population, doctors have been socialised to believe that aggressive treatment is superior to a more conservative approach. From this perspective, SID is nothing more than the use of capacity to its limit; something doctors have been trained to do, expect to do and believe is ethically appropriate.

Similarly, Wennberg (1985) proposes that differences in the rates of use of the same service are more accurately characterised as the effect on consumption of different beliefs that are held by individual doctors, rather than as demand originating in patients, or as self-serving behaviour of doctors acting in narrow economic self-interest.

In contrast, Scott and Shiell (1997, p. 579) argue that:

> For medical conditions where there is little consensus about treatment because of uncertainty, there may be more scope for income-generating behaviour compared with the treatment of medical conditions characterised by less uncertainty. This is because where comparatively little is known about the 'appropriate' treatment of a condition there are more options available to the GP, including adopting a 'wait and see' approach that may involve a follow up consultation.

As we shall see in the next section, there are many possible explanations for small area variations, including the role of a doctor's style of practice. These studies have also raised considerable controversy as to whether the observed variations are evidence of 'unnecessary' or 'wasteful' care where the benchmark — 'appropriate' care — is often itself subject to debate and hence, not clear.

The role of institutional and regulatory arrangements

A widely recognised determinant of doctor and patient behaviour is the institutional and regulatory setting in which they operate — the arrangements that 'govern' how medical markets work.

These arrangements largely define the role and responsibilities of doctors and how they interact with other players in medical markets (such as patients, third party payers, other health professionals and hospitals). Key elements include systems for financing, organising and paying for medical services and regulatory mechanisms for monitoring and reviewing the conduct of doctors.

The significance of institutional and regulatory arrangements arises because of the incentives or disincentives they create for doctors to behave in certain ways, including the possibility of engaging in demand inducement activities. The same arrangements also affect the behaviour of patients. Further, unlike many other markets within the economy, the cost-bearing and financing aspects of the doctor's service are largely borne by third parties (that is, governments and private insurers). In consequence, neither the consumer (patient) or provider (doctor) typically carefully consider the price or cost of the service supplied.

Specific examples of aspects of these arrangements which can influence the extent and form of SID include:

- the basis on which doctors are paid for their services (that is, fee-for-service, capitation or salaried);

- rules influencing access/use of medical care (such as, the gate-keeper role assigned to general practitioners in Australia[3]);
- arrangements that determine how much of the costs of medical care are borne by the patient and how much by third party payers (such as, the incidence of co-payments, regulations governing private health insurance and bulk-billing under Medicare);
- the nature of medical indemnity arrangements and their influence on the adoption of 'defensive medical practices' by doctors; and
- the extent and form of monitoring of doctor treatment practices (such as, the activities of the Health Insurance Commission and Professional Services Review).

While some of these arrangements may facilitate demand-inducement activities — such as, the fee-for-service payment system in concert with bulk-billing arrangements under Medicare — others are likely to discourage or constrain the extent of inducement — such as, service monitoring arrangements. It is, therefore, essential to take account of the overall institutional and regulatory framework. The scope for SID, and the rewards for engaging in SID, are likely to be greater where:

- there is no contractual or employment relationship between third party insurers and doctors; and
- the method of payment for doctors is fee-for-service.

6.5 What does the existing evidence imply?

Prior to examining a selection of approaches taken to assessing the extent and form of SID it is interesting to note that, notwithstanding the tension between many neoclassical economists and the proponents of SID, there is some evidence to suggest that many economists and health professionals accept the possibility of SID in medical markets.

In 1996, Fuchs surveyed 46 leading figures in American health economics, 44 economic theorists and 42 practising doctors. Around two-thirds of the health economists and practising doctors, and three-quarters of the economic theorists, agreed with the statement that: 'Physicians have the power to influence their patients utilisation of services (that is, shift the demand curve) and their propensity

[3] In Australia, the general practitioner is the first point of contact for patients for all types of non-emergency care. Patients can only access specialists (or secondary carers) through a referral from a general practitioner. This screening function is seen as promoting the efficient use of specialists and needs to be recognised in reviewing the type of services provided to patients.

to induce utilisation varies inversely with the level of demand' (Fuchs 1996, p. 8). The majority of respondents agreed that physicians do induce demand and that this does not reflect a simple profit or income maximisation objective.

Whether or not an economist accepts the possibility of SID in medical markets at the conceptual level is a matter of judgement and perhaps, ideology. However, once the possibility is acknowledged or recognised, the fundamental questions become its likely scale and form(s). As Bradford and Martin (1995, p. 491) observe:

> As in the legal profession or the service trades, the existence of SID is not the issue. Clearly, some physicians induce demand, just as some automobile mechanics make unnecessary repairs. The important question for public policy is whether the representative physician engages in SID. In other words, how significant is SID empirically? If public policy is based, falsely on the presumption that the representative physician induces demand, it can reduce social welfare significantly.

A wide variety of approaches have been employed to empirically test the inducement hypothesis, including:

- the effect of doctor supply on the volume of medical utilisation and the intensity of servicing;
- the effect of doctor supply on doctor incomes;
- the effect of doctor supply on fee levels;
- the effect of doctor supply on doctor (as opposed to patient) initiation of services;
- the effect of doctor supply on doctor responses to hypothetical questions about treatment frequency;
- the effect of fee levels and changes, and the use of different payment methods, on the use of medical services;
- the effect of medical knowledge on utilisation by doctors and their families, compared with other patients;
- the effect of gaps in consumer information on the prices charged and on utilisation;
- the effect of income shocks on treatment decisions; and
- variations in utilisation between small areas.[4]

In addition, a small number of studies have looked at the implications of defensive and corporate medicine for SID.

4 This listing of approaches is adapted from one produced by Labelle, Stoddart and Rice (1994).

Interestingly, most of the approaches referred to above have focused on the utilisation and cost implications of SID, rather than on whether the services provided by doctors have had a favourable, or otherwise, effect on the health status of patients.

This section looks at a small selection of studies covering some of these approaches, to provide an indication of their findings and to highlight some of the difficulties in testing for SID. The approaches covered, include:

- the effect of doctor supply on the volume of services provided and fee levels (doctor/population ratio studies);
- the effect of doctor supply on doctor and patient-initiated visits;
- the effect of medical knowledge on utilisation; and
- variations in utilisation between small areas.

Information from the monitoring activities of the Health Insurance Commission provides some evidence of over-servicing, which could be linked to SID.

Other evidence bearing on SID, which is quite topical against the backdrop of recent developments in Australia's health policy debate — namely, defensive and corporate medicine — is also examined briefly.

Doctor/population ratio studies

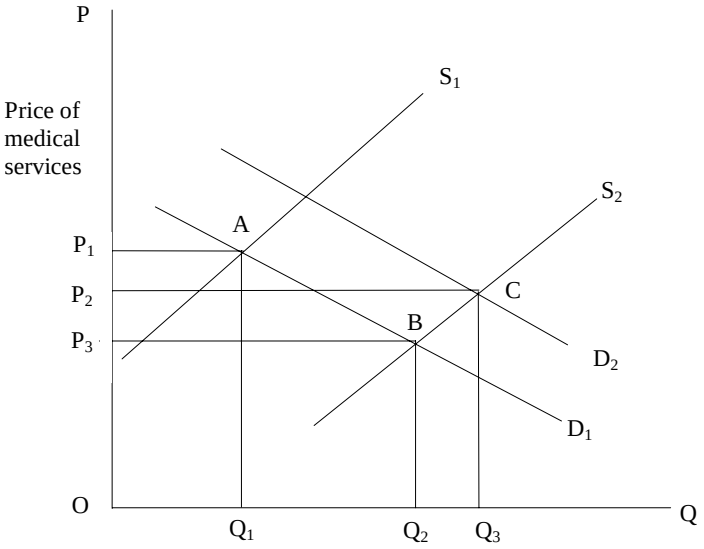
This approach represents the most commonly used test for SID. It involves examining how the utilisation (or price) of medical services changes in response to changes in the number of doctors in an area. The hypothesis underlying the test is that, in response to an increase in the doctor/population ratio (that is, an increase in competition), doctors will seek to induce demand or raise their fees so as to maintain their incomes.

Some of the problems associated with these models are summarised in box 6.2 which presents a diagrammatic representation of the difficulties of analysing the effects of an increase in doctor supply within a defined area.

A large number of studies using aggregate data have examined this hypothesis — some finding evidence in support of inducement, while others have not.

Box 6.2 **The effects of an increase in doctor supply for area A**

A commonly used model to explain SID is summarised below.



D_1 and S_1 are the initial demand and supply curves yielding a price for medical services of OP_1 and quantity OQ_1. A move in the initial supply curve (S_1) to S_2 reflects the effect of an increase in the doctor-population ratio for area A. Presuming that doctors are able to induce demand in response to this change — effectively an increase in competition — D_2 represents the new demand curve and the new price for medical services is OP_2 with quantity OQ_3.

However, just looking at whether the utilisation of services increases does not distinguish between the SID hypothesis and the conventional market hypothesis. This is because utilisation increases for both — from OQ_1 to OQ_3 for inducement and from OQ_1 to OQ_2 without inducement. The empirical problem is likely to be more involved. The increase in doctor numbers has an 'availability' or improved access effect which needs to be distinguished from any 'inducement' effect. Beyond this, the market for medical services is not static —factors other than the change in doctor numbers are also likely to be changing over time. Suppose that the equilibrium price and quantity move from A to C. Although such a change would be consistent with the SID hypothesis, it would also be consistent with the conventional non-inducement hypothesis, if the initial demand curve moved from D_1 to D_2. Hence, utilisation based studies of SID are likely to produce ambiguous results.

Equally, the implications for fee changes are not clear-cut. Under the non-inducement hypothesis, an increase in doctor supply (S_1 to S_2) with demand unchanged at D_1 yields a fall in price from OP_1 to OP_3. But with inducement — demand shifts from D_1 to D_2 — the implications for fees clearly depend on the magnitude of the demand shift — with inducement, fees may fall or rise relative to their initial level OP_1. However, an outcome yielding unequivocal support for the SID hypothesis would be a fee rise in concert with an increase in supply.

An early Australian study, based on the framework used by Fuchs and Kramer (1972) for the United States, looked at the market for general practitioners and specialists in 1976, finding that inducement was greater for the latter (Richardson 1981). Specifically, a 10 per cent increase in the supply of general practitioners was associated with an increase in their services of between 4.6 and 5.1 per cent. For specialists, a similar increase in their supply was associated with a 7.6 to 11.9 per cent increase in their services. The higher inducement outcome for specialists was expected, as a smaller proportion of their visits are initiated by patients and the complexity of their services is generally greater, making patients more dependent on their advice. Richardson acknowledged that, while the impact of supply changes on time costs — notably queuing time — and service quality had not been fully addressed, the results were unlikely to be materially affected. A more recent study by Richardson and Peacock (1999), using 1996 data, and updated in Richardson (2001), found a slightly lower inducement elasticity for general practitioner services — around 0.4.

In a review of this latest study, Freebairn (2001) argues that the model almost certainly overestimates the magnitude of demand inducement for four main reasons.[5] First, there is the possibility of misspecification of the demand equation, because arguably the inclusion of hospital density and state dummy variables would yield a better specification. Hospital and outpatient services are, for example, a substitute for general practitioner services and state dummy variables could be used as broad proxies for a variety of health status and taste variables.

Second, while accepting that information asymmetry applies to some patients, its extent can be overstated and it would be desirable to extend the model to explore links between patient characteristics, the nature of medical services and the extent of asymmetry. It would also be useful to explore links between doctor's time per patient and patient welfare.

Third, interactions between demand and supply need to be carefully investigated, including the impact of increases in doctor supply on queuing, waiting and travel times. Such changes act to lower the effective price of medical services.

Finally, quality seems to be held constant, although an increase in doctor supply could be expected to facilitate an improvement in quality (that is, enable doctors to spend more time with patients).

[5] It should be recognised that these observations apply generally to all broad 'macro' doctor/population models used in testing for SID.

Studies of doctor and patient initiated visits

Another technique used for testing SID is to examine the effect of changes in doctor supply on doctor compared with patient initiated visits assuming that, if SID exists, increases in doctor numbers would lead to an increase in doctor initiated visits (that is, an income maintenance response test).

Wilensky and Rossiter (1981) used individual patient data for 1977 from the National Medical Care Expenditure Survey (covering health care use and payments for the US) to examine the extent of physician-induced demand. They found that the majority of visits to physicians in that year were initiated by patients (54 per cent). However, nearly 40 per cent were physician initiated. From this they concluded that, while there is a role for traditional demand analysis in explaining the use of medical services, the concept of SID — defined in terms of physician-initiated visits — is also relevant.

The authors found that increases in the physician to population ratio were associated with increases in physician-initiated visits, although the magnitude of the change was relatively small — less than 2 percentage points for a 23 per cent increase in the physician to population ratio. The study also found that the probability of physician-initiated visits increased with declines in the out-of-pocket price to the patient. It is also interesting to note that a similarly structured study by Tussing and Wojtowycz (1986) covering Ireland — which also has a fee-for-service system — found a stronger positive relationship between high physician number areas and the proportion of return visits.

Two problems arise with the Wilensky and Rossiter methodology. First, physician-initiated visits do not provide an adequate proxy for physician-induced visits (that is, visits that, although suggested by the physician, were not medically necessary). Second, visits per se are unlikely to be the main method by which SID occurs. Indeed, what happens during a visit is more important — length of consultation and whether orders are made for further testing and the like.

An Australian study by Scott and Shiell (1997) examined the effect of competition on the behaviour of general practitioners — in effect, they tested the hypothesis that general practitioners in areas of high competition (high general practitioner to population ratio areas) are more likely to recommend a follow-up consultation compared to general practitioners in an area of low competition. In undertaking the study, the authors sought to improve on past studies by, amongst other things, including data on general practitioner and practice characteristics, and using data disaggregated by medical condition. They looked at four different medical conditions — acute bronchitis, tonsillitis, sprain/strain and otitis media. The

principal source of data was the Australian Morbidity and Treatment Survey (1990-91).

Scott and Shiell concluded that their results lend some support to the hypothesis, but only for certain medical conditions. They identified various influences on the follow-up decision of a general practitioner, including the age of the patient, the age of the general practitioner, the medical condition, the size of the practice and whether a diagnostic test or medication was prescribed during the initial consultation. However, they cautioned that the results were unable to provide much guidance on the extent of SID if it is strictly defined as whether the patient would have chosen a follow-up visit if they had the same information as the general practitioner. They also noted that the results said little about the effect of follow-up visits on the health status of the patient. While finding some support for SID, Scott and Shiell, (1997, p. 587) observed that:

> This of course, does not imply that such behaviour is in any way inappropriate. It is perfectly feasible that a follow-up consultation is 'appropriate' and that the effect of competition is to encourage more appropriate care. (If this was the case, then it may be that inappropriate care was being provided in areas of low competition because of high workloads.)

Medical knowledge and utilisation studies

A few studies have been conducted to test the proposition that SID arises from an imperfect agency relationship related to information asymmetry between a doctor and their patients.

For example, Hay and Leahy (1983) undertook a study to identify whether doctors and their families use more or fewer medical services than other patients. A finding consistent with SID would point to doctors and their families making less use of medical services than for other patients. However, the authors found that doctors and their families were as likely, if not more likely, to use more medical services after controlling for factors such as access to care, ability to pay and perceived health status — an outcome inconsistent with inducement.

A similar study by Bunker and Brown (1974), which looked at surgery rates between doctors and their spouses, and non-health professionals and their spouses, yielded a similar result.

However, according to Rice (1998), there are at least two problems with such studies. One is the difficulty of accounting for the fact that doctors and their families are often able to secure medical services at more favourable prices.

Another, is that health professionals may demand more services in an attempt to minimise the impact of medical uncertainty on their treatment.

Small area variation studies

A large number of studies have identified substantial variations in rates of medical procedures and surgery across small areas (that is, regions within a country or state). Some of these studies have been criticised on methodological grounds for failing to control adequately for possible explanatory variables — such as, differences between areas in the age, sex and medical condition of patients — as well as for institutional variables, such as differences in insurance coverage. Further, relatively large differences in usage rates can arise from chance alone. As noted by Diehr (1984), if usage rates are normally distributed, the highest and lowest rates will, on average, differ by 2.3 standard deviations for comparisons involving five small areas, even if the underlying rate is the same in all areas.

Richardson and Peacock (1999) report the results of a comparison of variations in rates for 15 medical procedures covering 'statistical local areas' in Victoria. They identify substantial differences between these areas when the variation predicted by the age/sex composition of each area is compared with the actual variation. For example, the actual variation exceeds its predicted variation by a minimum of 110 per cent for a total hip replacement and by 2000 per cent for a colonoscopy. In their assessment (Richardson and Peacock 1999, p. 6):

> The inescapable conclusion appears to be that the dominant factor in allocating these services is the clinical judgement of doctors. It is simply not credible that, with the removal of significant income and price barriers, such variation could arise from differences in individual patient preferences.

For Richardson and Peacock, as well as others (see, for example, Wennberg 1988), these studies highlight an important point — actual medical decision making is characterised by extensive uncertainty in relation to 'appropriate' medical practice. Further, these small area variations need not imply a breakdown in the agency relationship. As noted by Feldman and Sloan (1988, p. 252):

> Decisions made with imperfect information and uncertainty may characterise both patient and physician behaviour in most medical markets, even though the physician acts according to his perception of the patient's best interests.

Within the literature, the underlying reasons for substantial small area variations, and their policy implications, have generated controversy. While some see SID as a part explanator for the variations, others have suggested that a doctor's practice style (linked to their beliefs, habits and practice patterns) is likely to be a distinct and important contributor (see, for example, Folland et al. 2001).

At a policy level, these substantial small area variations have provoked debate about whether they point to large and potentially avoidable social costs due to 'inappropriate care' (that is, overuse, underuse and misuse of medical procedures in relation to patient needs). If so, there could be scope for improving the quality, as well as the efficiency, of medical care. One practical development arising from this debate has been a growing interest in evidence-based medicine, including initiatives to promote evaluations of medical procedures and develop clinical guidelines/protocols.

Information from the monitoring activities of the Health Insurance Commission

The monitoring activities of the HIC provide information relevant to assessing the extent of SID in Australia linked to over-servicing.

In monitoring patterns of practice, the HIC uses 'artificial neural network technology' to identify medical practitioners whose servicing, ordering or prescribing patterns appear atypical or abnormal relative to the service profiles of their peers.

During 1997-98, 1890 medical practitioners (9.1 per cent of Australia's medical practitioners in that year) were identified with atypical behaviour. Of these, the HIC opted to meet with 666 medical practitioners to obtain further information about the pattern of their practices and determine whether any further action was warranted. In the same year, the HIC referred 43 cases to the Director of the Professional Services Review. Where such referrals are made, the Director may decide, amongst other things, to set up a Professional Services Review Committee to determine if a practitioner has engaged in 'inappropriate practice'.[6]

'Inappropriate practice' involves unacceptable conduct in relation to three broad areas: issues of general professional concern (for example, in relation to clinical competence and performance); particular identifiable unacceptable conduct (for example, a high number of services per patient, inappropriate prescribing and inappropriate ordering of diagnostic imaging and pathology); and having a high volume of services per day. Many of the cases brought before the Committee involve general practitioners providing high numbers of services per day with low

6 An 'inappropriate practice', as defined under Section 82 of the *Health Insurance Act 1973*, is where a Professional Services Review Committee could reasonably conclude that a medical practitioner's conduct in relation to rendering or initiating a service would be unacceptable to his or her general body of peers.

rates of consultation services per patient. An extreme case was a practitioner who rendered 240 services in one day.

The activities of the HIC and associated publicity have encouraged positive changes in the behaviour of practitioners. Data provided by the HIC to the Review Committee under the Professional Services Review Scheme (1999) show significant reductions in the average annual cost per practitioner two years after counselling. For example, the average annual reported cost change for Medicare and the PBS per practitioner were $34 930 and $8234.

Defensive and corporate medicine

McGuire (2000) refers to two areas which have been cited as evidence in support of SID — defensive medicine and internal referrals related to the emergence of corporate medicine.

Defensive medicine refers to actions taken by doctors to modify their practice procedures to protect themselves against malpractice litigation. According to McGuire (2000, p. 516), 'an economically pure instance of defensive medicine would be when a procedure provides no benefit to a patient or involves risk to the patient, but the physician recommends the procedure anyway for selfish reasons.'

Examples of defensive medical practices include increased levels of servicing (that is, ordering more diagnostic tests, taking more time to explain risks to patients and monitoring patients more closely) and risk reduction strategies (such as, avoiding high risk procedures). As noted by Hancock (1993, p. xi):

> Not all of these would appear to have a negative effect from the patient's perspective. For example, improved record keeping, better disclosure of risks and monitoring patients more closely may well be highly desirable and lead to improved quality of care.

Various surveys indicate that doctors report adopting defensive medical practices for fear of malpractice litigation (see, for example: Blendon et al. 1993; Hancock 1993). While some practices may promote better quality care, a number of studies support the view that some practices have little or no medical value. For example, in a study of obstetricians and gynaecologists in the UK, Ennis et al. (1991) indicated that these doctors reported that medico-legal reasons motivated their use of some tests they believed were essentially clinically useless.

There is also support for the view that some of the costs associated with these practices may be avoidable through reform to malpractice liability arrangements. For example, Kessler and McClellan (1996) concluded that reforms to malpractice

arrangements in the US, which reduced the fear of litigation, would cause reductions in medical expenditures of 5–9 per cent.

The growth of corporate medicine has also given rise to concerns about the possibility of conflicts of interest between doctors and patients and, allied to this, the possibility of SID. Two studies cited by McGuire (2000) suggest that when doctors have financial interests in diagnostic testing and therapy facilities to which they refer patients, they refer more often and provide more services per patient (Hillman et al. 1990, 1992; Mitchell and Sass 1995). Concerns in this area have prompted governments to intervene in certain health markets. For example, American doctors are unable to own pharmacies and face various restrictions in relation to other referral facilities (Getzen 1997).

Within Australia, the HIC has indicated that work has commenced on developing a risk management system to monitor corporate practice in health.

6.6 Some policy implications

The notion that doctors in their dual roles as advisers and providers of medical services can generate demand for these services has intuitive appeal and has been supported to some extent with anecdotes. Information asymmetries, the potential for an imperfect agency relationship and clinical uncertainty combine to provide doctors with the capacity to engage in SID. Further, within the market for medical services, institutional and regulatory arrangements provide incentives which influence doctor and patient behaviour. Doctors and patients can be expected to respond to these incentives.

The empirical studies examined briefly here and the wider evidence on SID have produced different findings — some studies find support for SID, while others do not. Nevertheless, while opinions differ, there is arguably sufficient evidence to accept that SID can occur. From a public policy perspective, however, the critical questions are not so much whether SID can occur, but rather how pervasive is the phenomenon and what form(s) might it take. Again, there does not appear to be any reliable evidence on the likely magnitude of SID, although existing studies supporting SID suggest that, where it arises, it is small both in absolute terms and relative to other influences on the provision of medical services.

Attempts at trying to test empirically for SID are fraught with difficulties. A key problem is that it is not possible to identify how a patient with the same information and knowledge as a doctor would have performed. Indeed, as De Jaegher and Jegers (2000, p. 232) observe:

Testing for *absolute* SID involves the impossible task of observing a perfectly informed patient (Mooney 1994). Therefore, it has been *marginal* SID, ie inducement upon entry or upon a change in fee, which has been tested for, involving the additional assumption that physicians induce more as their income gets under pressure.

Beyond this, SID is a complex and multifaceted phenomenon. It could take a variety of forms and yield 'good' as well as 'bad' outcomes for patients and the wider community. Medical uncertainty precludes the identification of a clear set of medically acceptable practices, thus complicating assessments of the clinical effectiveness of the additional care provided by doctors.

Implicit in current policy settings in a number of areas, such as workforce planning and controls of fees and volumes of services, is that SID is pervasive and has 'bad' outcomes. However, if the likely extent of SID were negligible or small, as suggested by some of the existing evidence, then it would have little significance for health policy.

This points to the need for policy makers to adopt a cautious and discerning approach to assessing proposals for government intervention based on unsubstantiated assumptions about SID.

While recognising the inherent difficulty in confirming the existence and significance of SID, a number of associated research questions could usefully be addressed to inform future health policy. Some examples, include:

- whether information gaps between doctors and patients have increased over time and, if so, how they could be addressed;
- whether there are practical ways of lessening the extent of clinical uncertainty to promote quality care as well as efficient health outcomes;
- the implications of the growth in corporate medicine for service provision;
- the potential for reforming medical indemnity and malpractice arrangements to lessen the use of 'defensive medical practices' of questionable value; and
- examining service monitoring and review arrangements, such as those of the HIC, to assess their overall effectiveness, including their value in deterring 'inappropriate medical practices.'

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7 The markets for medical specialists in Australia

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7.1 Introduction

This paper is about markets for medical specialists in Australia. It is a topic that would seem to be very important — medical specialists, for example, comprised 36 per cent of the clinical medical workforce in 1998 and accounted for about 60 per cent of the over $7 billion Medicare benefit payments in 2000-01 (CDHAC 2001a; 2001b, table 4b). Yet it is a topic on which relatively little has been written. A bibliography of research on the health labour force in 1992 lists over 100 references on the nursing profession, but no references on medical specialists (Selby-Smith et al. 1992). Since that time the literature has expanded — with government sponsored reports by Baume (1994) and Brennan (1998), a series of reports by the Australian Medical Workforce Advisory Committee (AMWAC), and review papers by Paterson (1994), Scotton (1998), Hall and van Gool (2000), and the Commonwealth Department of Health and Aged Care (CDHAC 2001a). But, this is still only a small proportion of the research that has been undertaken on other medical workforce groups.

The paper has four main objectives:

- to describe the main features of markets for medical specialists in Australia;
- to discuss key policy issues and review evidence on current market outcomes;
- to present and evaluate options for policy reform — specifically, reforms of quantity-based regulation of markets and to the workforce planning system; and
- to suggest topics for future research.

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Throughout the paper, the term ‘markets’ is used and examples are drawn from individual speciality workforces. This is on the basis that — as, in most cases, there is zero scope for substitution between services provided by different types of specialists — it is appropriate to think of individual specialist workforce groups as existing in separate markets.

7.2 The market(s)

This section seeks to describe the main features of markets for medical specialists in Australia. To begin, a description of the main general characteristics of medical workforce markets is presented. The key institutional features of medical specialist markets in Australia are then described and an attempt is made to characterise the functioning or adjustment mechanisms in those markets. To conclude, a variety of descriptive information on the medical specialist workforce in Australia is presented.

General characteristics

Medical workforce markets have several distinctive features. Recognising these features is important — both for understanding why the markets operate the way they do, and for thinking about how they should operate (Arrow 1963; Gaynor 1994).

Heterogeneity and non re-tradability. Healthcare is a service and services are inherently heterogeneous and not re-tradable. Heterogeneity in healthcare can, for example, result from differences in the quality or characteristics of service providers, or differences in treatment methods. Consumer preferences over different types of service are also likely to be heterogeneous. Preferences may, for example, differ over the gender or age of service provider.

The combination of a heterogeneous product with heterogeneous preferences has important implications for market structure. Gaynor (1994, p. 225) argues that:

> Patients choose physicians who produce the type of services and have the characteristics that best match their preferences. The fact that patients choose sellers who give them the highest utility gives physicians market power, since switching to another physician will reduce a patient’s utility.

In other words, Gaynor’s argument is that it is appropriate to think of markets for medical practitioners as monopolistically competitive.

The degree of market power of practitioners, which depends on switching costs, will be greater the more uncertainty there is about the characteristics and prices of alternative suppliers. Potential benefits from switching to obtain a lower price will, for example, likely be less in a market where insurance subsidises a substantial portion of the payment from patient to medical practitioner.

For medical specialists — as will be described in the next sub-section — the consumer will most likely be a general practitioner who makes a referral of a patient to a specialist. In this case, the relevant preferences will be those of the general practitioner. Little seems to be known about general practitioner referral patterns. However, taking account of the lack of any direct price benefit to general practitioners from switching specialists to whom they refer patients, and that they are also likely to have imperfect information about the set of available specialists in a field, suggest that a characterisation of those markets as monopolistically competitive is valid.

Information asymmetries. Two main types of asymmetric information exist in health care markets. One type is between a medical practitioner and patient. First, a medical practitioner is likely to know more about a patient's state of heath than the patient. The existence of this information asymmetry, together with the 'production process', whereby the medical practitioner both makes a diagnosis and provides treatment, have been seen as the source of a potential moral hazard problem. Second, adverse selection may exist whereby medical practitioners have more accurate information about their quality and characteristics than patients. Of relevance to markets for medical specialists, the same type of asymmetry may exist with regard to general practitioners' knowledge of the quality of medical specialists. A second type of information asymmetry is that both the medical practitioner and patient are likely to know more about the patient's condition than any third party, such as an insurance agent. Again, this has been characterised as a potential source of moral hazard with regard to incentives for the practitioner and/or patient to expend resources on, for example, diagnostic procedures.

Uncertainty. Uncertainty exists in a variety of ways in health care markets. One dimension is the uncertainty that exists for a consumer about their future health status. Another dimension is with regard to the activities of medical practitioners, where there may be uncertainty involved with the diagnosis of a patient's condition or illness, and about the efficacy of potential treatments for any condition.

External effects. Important external effects are likely to arise from outcomes in health care markets. One simple example would be with regard to quality of treatment of infectious diseases. The speed with which an infectious disease in any patient is diagnosed and treated will determine the number of other members of a society who are affected by the same condition.

Institutional structure

The institutional structure of markets for medical specialists in Australia is highly complex. Figure 7.1[1] represents the 'supply side' of a market — the process by which the stock of members of a specialist College is determined. Inflows can occur through the training program or immigration. By far the most important component is entry through the training program. Here, the AMWAC has responsibility for making recommendations on the number of training positions in each specialty area. The AMWAC's recommendations, together with a 'bargaining game' between government, the respective specialist college and hospitals with training positions, seems to determine the number of accredited training positions (CDHAC 2001a, p. 9). The use of the term 'bargaining game' is intended to characterise a process where it seems that, for some specialist workforce groups, the specialist College exerts strong control over the number of training positions; for other specialist groups, it is the number of training positions that the government will fund that constitutes a binding constraint; and, in the remainder of cases, both factors appear to play some role (CDHAC 2001a, pp. 61–2). Selection of trainees to fill the available training program positions from the pool of applicants, can be the responsibility of the respective specialist College and/or the hospital where training will take place — though, in both cases, members of the specialist College will play a key role in the selection process (see, Brennan 1998). Both trainees and immigrants need to successfully complete an examination process in order to be made a member of a Specialist College (see, AMWAC 2000b). Outflows from the supply of specialists occur through emigration and retirement.

Applications to enter various speciality areas are likely to be influenced by a range of factors. One set of factors will be economic incentives. Medical specialist incomes are made up of patient fees — rebates from the Commonwealth government through the Medicare system, insurance and workers compensation payments, and patient above-rebate (gap) payments — and payments from State governments for attendance at public hospitals. Paterson (1994, p. 11) suggests that the key dimension of economic incentives derive from the Medicare system — specifically, which type of healthcare services attract a rebate, the size of rebate for different services and the method of payment. It is suggested that this set of factors can, for example, explain why there is excess supply to enter surgical specialties, and why there is excess demand in specialty areas with limited private practice opportunities (such as geriatrics). It seems that the same set of principles could be used to explain current shortages of new entrants to the fields of rehabilitation medicine, geriatrics and intensive care (AMWAC 2000a, p. 7). Another dimension

[1] Note that figure 7.1, along with other figures and tables referred to throughout this paper, appear at the end of the paper.

of economic incentives may be the size of professional indemnity premiums required to work in different specialty areas. For example, growth in premiums for obstetricians has been suggested as one factor explaining a relatively low preference of new medical graduates to work in that area (AMWAC 2000a, p. 68).

The other set of factors that will affect supply are to do with non-pecuniary aspects of training programs and work. One type of factor is the time requirements for undertaking a training program. For example, programs differ in the scope they allow for part-time training and interruptions to training. Females' supply decisions show a preference for areas such as paediatrics, which allow part-time study (AMWAC 1998a, p. 44). Another related factor is the degree of control over hours of work. Here again, females show a preference for areas such as dermatology and psychiatry that do allow such control. A further factor in choices between specialty areas may be the degree of work-related stress. This might, for example, be an explanatory factor for shortages of new entrants in areas such as intensive care medicine (AMWAC 2000a, p. 9).

Figure 7.2 shows the 'demand side' — the process by which patients consume the services of medical specialists. Patients will initially present at a general practitioner or as out-patients at a hospital. Referral to a specialist occurs where the practitioner who sees them on the initial consultation believes that they have an illness or condition that requires specialist diagnosis and/or treatment. Referral from one type of specialist to another may also occur. One example would be a referral from a general surgeon to haematological oncologist for adjuvant therapy (AMWAC 2001). There are also cases where demand for a specialist group is 'derived' from demand for the services of another specialty group. Examples would include: surgeons performing operations which require services provided by anaesthetists; or, where a specialist requires a pathology service as an input to a diagnosis or treatment decision.

Figure 7.3 depicts the interaction of the supply and demand sides of a market for medical specialists. On the demand side, patients who have been referred to a specialist will generally have an initial consultation. This may be followed by subsequent consultations or, in the case shown in the figure, a procedure (for example, surgery). For consumers, their health status derives from the consultations/procedure with the specialist.

On the supply side, there are several important features. One point is the distinction that exists between different types of treatments that patients receive — for example, initial consultations may take place in a public hospital or at private consulting rooms; patients requiring procedures in hospital may be treated in a private or public hospital, and will have different status depending on whether they are treated as public or private patients. Medical specialists who work at public

hospitals can be of two main types: a visiting medical officer, who would be paid on a sessional basis for care of public patients, but would predominantly work in fee-for-service private practice; and staff specialists, who are salaried employees of public hospitals, but retain some rights to private practice (Hall and van Gool 2000, p. 198). Another source of supply of specialist services is by trainees working (primarily) in public hospitals — such trainees may be in accredited or non-accredited positions. Non-accredited positions do not provide an entitlement to sit for examinations for entry to membership of the respective specialist College.

A second point is with regard to medical practitioners whose patients are not entitled to Medicare rebates at the specialist level. The Australian Medical Council makes recommendations to the Health Insurance Commission (HIC) on necessary qualifications for practitioners to have that status. Based on evidence from the National Specialist Qualifications Advisory Committee (predecessor of the Australian Medical Council), Baume (1994, p. 109) argues that recognition '…requires a qualification, obtained by examination, being one that must be awarded by, or equate to that awarded by the relevant specialist professional college in Australia'. Hence, patients of members of specialist Colleges would generally be entitled to specialist rebates. Other practitioners may also have specialist rebate entitlement in some circumstances (for example, rural general practitioners who provide services in the areas of general surgery and obstetrics — CDHAC 2001a, p. 34). In other circumstances, these practitioners may also provide substitute services to specialists, but without entitlement to rebates.

Where a specialist is entitled to a Medicare specialist rebate for the provision of a service, then a government subsidy component is introduced into the price of that service. The specialist receives a price that equals the Medicare rebate plus any above-rebate charge that is imposed; where the patient pays only the above-rebate charge. (And patients who are members of private health insurance funds may also receive reimbursement for some or all of the above-rebate charge.)

A third point is that most medical specialists practice independently — apart from hospital staff specialists. Exceptions are radiology and pathology which have been consolidated into several major firms (Hall and van Gool 2000, p. 198).

How the markets work

Understanding how a market works is fundamentally about understanding its processes of adjustment — the mechanisms through which the market will tend towards stability. For the markets for medical specialists in Australia, a range of such adjustment mechanisms exist (see, Lamont 1997).

1. Quantity.
   - Number
     - Accredited training positions.
     - Non-accredited training positions.
     - Immigration: permanent/temporary.
     - Distribution of tasks across medical practitioners.
   - Other dimensions
     - Supply-side: hours of work.
     - Demand-side: waiting lists/ 'hidden' demand.
2. Cost of service.
   - Price of service.
   - Cost of access (eg. distance travelled by rural consumers).
3. Quality of service.
4. Expenditure on different types of health care services.

To make the discussion of adjustment mechanisms concrete, suppose we take an example of how a market for a speciality workforce would respond to an (unanticipated) increase in demand for its services.

One possibility is that adjustment occurs through the quantity of services provided. This could happen in several ways. First, it is possible that the rise in demand will cause AMWAC to recommend an increase in training positions and that these recommendations are implemented. However, given the length of specialist training programs, this will be a long-run response. Moreover, there are concerns about the extent to which recommendations made by the AMWAC — and decisions from the bargaining process between specialist Colleges, State governments and hospitals about implementation of recommendations — are responsive to demand conditions (see, for example, Borland 2001a,b).

Second, the quantity of specialists could be increased by an expansion in non-accredited training positions or by immigration. Immigration does not in fact seem to be an important adjustment mechanism in markets for specialists. As at December 1997, 'Area of Need Temporary Resident Doctors' accounted for only 0.8 per cent of the specialist workforce (AMWAC 2000a). Permanent immigration also seems to account for a relatively small proportion of inflows to specialist Colleges. For example, in 1998-99, there were 59 new entries to specialties from permanent immigration compared to 4473 training program places (Hall and van Gool 2000, pp. 14, 29). There does seem though to be evidence that non-accredited training positions have constituted a more important adjustment mechanism. For example, Baume (1994, p. 96) cites the example of a 'major teaching hospital' with 14 anaesthetic registrars, of whom 8 were in non-accredited positions.

A further adjustment mechanism through the number of service providers would be changes in the distribution of medical services between different types of providers. In response to an increase in demand for services of specialists, it is possible that other medical practitioners, such as general practitioners, might seek to provide those services.

Quantity adjustment may also occur in ways other than changes to the number of specialists. On the supply side, hours of work per specialist could be increased in response to a growth in demand. On the demand side, a 'rationing' type of adjustment could occur — this might involve an increase in the lengths of waiting lists for consultations and/or procedures, or 'hidden demand' whereby some patients are not referred to specialists (or might initially be referred to alternative non-specialist treatment) because of waiting lists.

The second main type of adjustment mechanism is the cost of service. An increase in demand that is not accompanied by a fully offsetting rise in supply would generally be expected to cause an increase in price. In the Australian health care system, an increase in the price of service supplied by a specialist may occur through an increase in the Medicare rebate payment (cost borne by taxpayers), or an increase in the above-rebate (gap) price component (cost borne by consumer or private insurance firms), or both. There is some evidence that payments to general practitioners, and above-rebate payments to specialists, are responsive to the interaction of demand and supply forces (CDHAC 2001a, pp. 56–7; Paterson 1994, p. 19). The other dimension of cost of service is the cost of access. One important dimension of access is the distance that a patient must travel to attend a specialist. For example, an increase in demand that was evenly distributed across geographic regions, while holding constant the number of specialists, might cause more specialists to locate in city areas with a consequent increase in travelling time for the average rural patient.

A third type of adjustment mechanism is quality of service. Changes to the supply of specialists, or in the volume of work done per specialist in response to an increase in demand, may affect quality. These are issues which are addressed in more detail later in the paper. A fourth adjustment mechanism — which is more in the way of a 'general equilibrium response' — is that an increase in demand for services of specialists which causes an increase in government expenditure on payments to specialists, may crowd-out other types of medical expenditure.

Some descriptive information

In 1998, there were approximately 16 500 medical specialists in Australia (table 7.1). Of these, about one-quarter were internal medicine specialists, about

one-fifth were surgeons and the rest were distributed across other areas — most significantly, anaesthesia, diagnostic radiology, psychiatry and, obstetrics and gynaecology (table 7.2).

On average, females accounted for 16 per cent of the specialist workforce in 1998. There is, however, considerable variation between specialty workforces — from orthopaedic surgery, with 1 per cent of females, to haematology, with 51 per cent females. Specialists are concentrated in the age group from 35 to 64 years — although within this range females tend to be more heavily distributed towards younger ages than males (table 7.3). Just over 80 per cent of specialists practice in capital cities. A slightly higher proportion of surgeons practice outside capital cities than other specialist workforces (table 7.4). Specialists tend to work very long hours. On average, over half work more than 50 hours per week. Surgeons, in particular, have a high propensity to work long hours (table 7.5).

Utilisation of services of medical specialists has increased over time. Since the mid-1980s, per capita service usage increased by about 70 per cent (Hall and van Gool 2000, p. 199). In particular, there was considerable growth in pathology and somewhat lesser growth in specialist and diagnostic imaging services (figure 7.4).

The extent of direct billing differs between specialty areas and has also generally varied over time (figure 7.5). The areas of optometry and pathology have relatively high rates of observance of scheduled fees through direct billing that has increased over time. But in other areas, such as anaesthetics and obstetrics, the extent of observance of scheduled fees is much less and has remained relatively constant since the mid-1980s.

Differences also exist between specialty areas in average fee per service (figure 7.6). The areas of optometry and pathology have seen decreases in real average fees per service over time; in anaesthetics, the real average fee per service has grown over time; and, in the other areas, the fee has remained fairly stable. Hall and van Gool (2000, pp. 200–1) suggest that the relatively high rates of bulk billing and changes to fees in pathology and optometry can be explained by product homogeneity and other market characteristics (for example, a small number of suppliers in the pathology market). This is certainly consistent with the idea that medical markets are monopolistically competitive. In such markets, the degree of monopoly power will be lower where there is a more homogeneous product and better information about potential suppliers — since those factors will lower search costs for consumers.

7.3 Social welfare

Social welfare is the 'gold standard' by which economists assess the performance of markets. Analysis of social welfare embodies two main principles — an assessment of the efficiency of a market and consideration of the distributional (equity) consequences of market outcomes. Some understanding of social welfare considerations is a necessary background to any discussion of policy issues — since being able to motivate those policy issues in terms of efficiency and/or equity consequences must be a precondition for thinking the issues to be 'of importance'.

What is efficiency?

In the simple textbook model of a market, where a homogeneous good is traded and buyers and sellers have perfect information, the definition of efficiency is straightforward — and can be expressed in terms of whether the quantity of the good that is produced is socially optimal. But, for a service such as health care, the definition of efficiency is a more complex (Arrow 1963).

One issue is that with heterogeneous quality of services, and heterogeneous preferences, the definition of efficiency must incorporate quality as well as quantity outcomes. It therefore seems that efficiency must be assessed in terms of:

- the number of specialists in a workforce area;
- the distribution of quality of healthcare services produced by that workforce; and
- the matching between patients and specialists.

(Quality is interpreted broadly as incorporating all factors that cause patients to have preferences that involve an ordering across medical specialists.)

A simple example can illustrate why it is necessary to introduce the dimension of quality. Even if the number of specialists and quality of services produced are optimal, it might be possible to improve well-being in society by changing the assignment of patients to specialists. For example, if all females prefer to attend a female specialist, and all males prefer to attend a male, but the existing assignment matches female patients to male specialists and vice-versa, then it will be possible to improve well-being by reversing this assignment.

The other issue concerns the 'degree' of efficiency that can be achieved in the market for medical specialists. One point is that information asymmetries — of the type that exist in these markets — will generally constrain the set of market outcomes that can be achieved. Another important point is that the 'natural state' of these markets — due to heterogeneous preferences and quality of service, and

search costs — is monopolistic competition. Hence, the benchmark against which actual outcomes in markets for medical specialists need to be judged is not the same as for the textbook model of a homogeneous good being traded in a market where all agents have perfect information.

How to assess efficiency?

The ideal method for assessing efficiency in a market for medical specialists would be to develop a model of demand for health care services provided by that specialist group and the cost of provision of those services, and to use that model to predict the optimal quantity of specialists, the quality of services they should provide and how patients should be matched to specialists. Optimal outcomes could then be compared with actual market outcomes in order to assess efficiency. Unfortunately, such an approach seems infeasible because of its informational requirements. What would be needed to implement the approach would be information on patient preferences, on costs of supply of medical practitioners, on external costs/benefits in the market and on how features of the market, such as information asymmetries, constrain market outcomes. Given the institutional structure of the market for medical services in Australia and existing data sources, this seems an impossible task.

7.4 Key policy issues

Information limitations make it difficult (if not impossible) to measure market performance against the benchmark of efficiency. Hence, policy analysis of medical workforce markets has adopted a more pragmatic and piecemeal approach. Specific key policy issues regarding medical specialist labour markets have been the basis for evaluation of the performance of those markets. (Although it is very important to note that each of the main policy issues can be motivated from social welfare concerns — see figure 7.7.) This section describes these key policy issues and presents a summary of available empirical evidence on each issue.

Is the number of medical specialists adequate?

Probably the main policy issue about markets for medical specialists in Australia is whether there are 'enough' specialists to meet population requirements. The motivation for concern over this question would seem to be efficiency-based. That is, that any shortage is likely to represent an allocation of (labour) resources to the provision of medical services below the efficient level, and that this is a source of social welfare loss.

The question of whether there are 'enough' specialists is, in some senses, an easier question to answer than whether the number of specialists is efficient, but it is also much less well-specified. As Hall and van Gool (2000, p. 208) note, it would be possible to define 'population requirements' to be consistent with a wide range of levels of service provision. Ideally, it might be possible to define a benchmark measure of the amount of medical services that it is estimated would be required for the population to achieve and maintain defined minimum acceptable health levels. But, it seems that it would be very difficult to implement such an approach. Instead, it seems that population requirements are generally interpreted in terms of current levels of demand or service usage. One significant problem with such an approach is that — where supply constraints exist — then current service usage may reflect supply factors rather than demand for services.

The main feasible approach to judging adequacy of supply against current demand for medical specialist services is an 'indicator' approach. With this approach, evidence on a range of market adjustment mechanisms is reviewed. The rationale for such an approach is that variation in the number of specialists, with demand held constant, should cause variation in the other adjustment mechanisms. Hence, (other things being equal) a shortage of medical specialists in area would be expected to be manifested in some other market outcomes — such as an increase in price or longer waiting times. The main types of factors that could be incorporated into an 'indicator' approach would be:

- specialist/population ratio;
- waiting list/clearance time data (for consultation/for hospital treatment);
- hours of work measure;
- income measure/price of service measure;
- extent of total supply of a service provided by general practitioners/specialists whose main area of practice is not the supply of that service;
- proportion of patients on initial/repeat visits;
- measures of 'hidden demand'; and
- quality measures.

This set of factors is intended to represent the set of possible adjustment mechanisms in the market — following the discussion in section 7.2.

The main analysis of the adequacy of specialist workforces in Australia has been undertaken by AMWAC. Of the nineteen specialty workforce areas that it has reviewed (using the 'indicator' methodology), AMWAC concludes that eleven are facing current or imminent shortage (AMWAC 2000a, p. 7; CDHAC 2001a, p. 48).

This is mainly on the basis of data on specialist/population ratios, public hospital job vacancies and waiting times. Workforce areas identified as having definite shortages are anaesthesia, dermatology and thoracic medicine, while areas identified as being likely to experience imminent shortage are orthopaedic surgery, urology and ear/nose/throat surgery. Table 7.6 presents information on specialist/population ratios — actual and desired — for a variety of these workforce groups. (It is important to reiterate that this is shortage measured against current demand, rather than optimal service levels. As well, the AMWAC methodology is subject to criticism — see Borland (2001a). For many speciality workforce groups, this criticism would suggest that shortages relative to current demand have been under-estimated.)

Is the quality of health care services provided by medical specialists adequate?

The quality of health care services provided by medical specialists, and consequent health status outcomes for patients, is an important dimension of the efficiency of medical specialist markets. For example, quality of health care will have important effects on aggregate output in an economy — the Australian Council for Safety and Quality in Healthcare estimates that errors in the treatment of patients cost Australia up to $4 billion per year (Davies and Wroe 2002).

The ultimate measure of quality of health care services provided by a specialty group is probably a measure of the change in the health status of members of a society due to services provided by that group. For many reasons, this is likely to be extremely difficult to measure. Hence, a more practical method of measurement would again be an 'indicator' approach. Measures such as waiting time to consultation or treatment, and proxies for quality of treatment such as rates of accidental injury during treatment and hospital readmission rates, would be examples of indicators that could be used.

Extensive evidence on quality of treatment does not exist. AMWAC, as part of its assessment of the adequacy of the number of specialists in workforce areas, provides information on length of waiting times. The Australian Council for Safety and Quality in Healthcare (2001) provides information on rates at which patients admitted to hospital experience adverse events. That rate is estimated to be about 10 per cent. Nevertheless, for some areas, such as anaesthetics, it seems that there have been very significant reductions in the incidence of adverse outcomes in recent years.

Is the distribution of consumption of services of medical specialists appropriate?

Geographic differences in the availability of medical specialists and the existence of a dual public/private system of health care create the potential for consumption of medical specialist services to differ by socio-economic status of health care consumers, and for consumption relative to 'need' to also vary with socio-economic status. Hence, there has been considerable interest in these dimensions of the distribution of access to, and consumption of, health care services.

AMWAC reports are the main source of evidence on the geographic and public/private distributions of medical specialist services. Table 7.7 shows that there are large geographic disparities in access to medical specialists. In some specialty areas, inequity in geographic access is likely to be inevitable, due to minimum population levels required for provision of services to be sustainable (see AMWAC 1998b). But, the degree of geographic inequity seems to go beyond what can be explained by minimum scale effects. From table 7.7, it is evident that for many specialties — such as urology, medical oncology and dermatology — the population per specialist in small rural and other rural areas is well above the maximum sustainable population required for that speciality area, whereas this is rarely the case for major urban or large rural areas. There also seem to be significant concerns about the public/private workforce distribution in some specialty areas. One area of shortage in the public hospital system appears to be where there are not significant private practice opportunities, such as intensive care and rehabilitation medicine (AMWAC 2000a, p. 7).

Have the apparent geographic inequities in access to medical specialists and shortages of some types of specialists within the public hospital system been manifested in differences in consumption of specialist services by income or socio-economic status of consumers? The few studies that are available for Australia suggest that the answer to this question is yes. For example, Schofield (1997), using 1989-90 data, finds that persons with low and middle family income were much less likely to have visited a medical specialist in the previous two weeks than persons with high family income. This finding (opposite to what is found for general practitioners) is attributed by Schofield to the relatively low bulk-billing rates of specialists and the relatively higher out-of-pocket expenses associated with a visit to a specialist. And a report by the Commonwealth Department of Health and Aged Care (CDHAC 2001a, pp. 58–9) cites several studies that find lower usage of specialist services by low income and disadvantaged groups (for example, lower rates of hospital admission for hip replacement and lens insertion procedures).

Is there anti-competitive behaviour by medical specialist colleges?

Under National Competition Policy, professional workforce groups have been subject to the *Trade Practices Act 1974* since the mid-1990s. With regard to medical workforce markets, the main issues that appear to have received attention from competition policy bodies in Australia are regulation of entry, areas of allowable activity and regulation of business practices, such as pricing and advertising (Fels 2001; Deighton-Smith, Harris and Pearson 2001).

In the international literature, there appear to be two main ways in which an attempt has been made to assess whether medical practitioners have engaged in anti-competitive conduct: studies of the conduct of medical bodies; and, studies of the rate of return to medical qualifications.

A conduct-based approach to assessing market efficiency involves examining whether there are practices or outcomes in the market that depart from what would be expected in a competitive market. The approach is essentially about considering whether conduct that exists in medical labour markets would be sustainable in competitive markets and how the conduct might affect market outcomes relative to the competitive benchmark. One example of this approach would be from the United States, where considerable attention has been given to bans on advertising by medical practitioners, which are enforced by the American Medical Association, and on the effects of those bans on price. Other examples of conduct which might provide insights to the degree of competition and possible anti-competitive behaviour would be: whether medical specialist workforce groups enforce restrictions on entry to training programs; the degree of sensitivity of prices of services to changes in the market environment; whether price structures, such as charging a single fee to cover consultations and procedures in some areas, would be sustainable in a competitive market; and, the degree to which conduct by medical specialist workforce groups excludes other practitioners from providing a substitute service.

The second approach to assessing the degree of competition in health care labour markets has been to estimate rates of return on medical education and to compare that return with returns for other professional workforce groups. The main idea underlying this approach is as follows. Suppose a workforce group can be found for which the market outcome is regarded as ‘competitive’. Then, with free entry to occupations, it should be the case that — provided medical labour markets are competitive — the rate of return is equivalent in the medical and benchmark labour markets.

Many studies in the United States and Europe have adopted this approach to assessing market efficiency (see, for example: Friedman and Kuznets 1954; Lindsay

1973; Wilson 1987; Weeks et al. 1994). Gaynor (1994, p. 218) concludes from a review of these studies that:

> The results generally show a significant positive (but not necessarily excess) return to medical education, but vary widely in magnitude according to methods used and time period examined.

Some difficulties exist with the application of this method. First, it may be difficult to find a counter-factual labour market which represents the efficient benchmark. This is particularly the case for medical specialists where it would be necessary to find a comparison workforce group where the features of heterogeneous preferences and quality, as well as information imperfections, also exist. (Although the method might still be usefully applied to compare rates of return between specialty areas. This would give a perspective on relative shortage/surplus in specialty areas.) Second, there is a range of practical difficulties in implementing the method — for example, many medical workforce groups have significant capital outlays, so that income to those groups involves a return to labour and capital assets.

In Australia, there is only a fairly limited literature on evidence of anti-competitive conduct. Some studies have considered the issue of regulation of entry. For example, Brennan (1998, pp. 73–6) suggests several ways in which the structure of medical specialist training programs, and the selection processes for those programs, could potentially be subject to the *Trade Practices Act*. Brennan (1998, p. 75) argues that:

> Where there are quotas on the number of applicants accepted into training, it is essential to comply with the relevant provision of the TPA that there be a proper reason for the quota. For instance, if the quota is necessary to preserve or maintain the standard or quality of training it will not be illegal in competition law terms. On the other hand, if the quota exists to limit the number of applicants accepted into training to lessen or prevent competition in the relevant specialty it will be illegal in competition law terms.

More specifically, Fels (2001, pp. 26–7) stated that the ACCC was currently investigating whether the processes of the Royal Australian College of Surgeons restrict entry to advanced medical and surgical training, in breach of the TPA.

Other aspects of conduct have also received some attention. Advertising restrictions imposed by associations of medical practitioners are described by Nieuwenhuysen and Williams-Wynn (1982, pp. 54–9), who argue strongly that the main objective of such restrictions is to reduce competition. Boycott agreements over the provision of specialist and general practitioner services to hospitals have also been subject to scrutiny by the ACCC (Fels 2001).

7.5 Policy options

A wide range of government policies impact on markets for medical specialists — for example, policies on Medicare and private health insurance; funding for public hospitals; and, policies in relation to regulation of the workforce. In this section, the discussion of policy options will focus on the entry process to markets for medical specialists. It is this issue that is arguably the most important public policy workforce issue. (Obviously there are other important issues — such as the distribution of specialist workforces between urban and rural regions, and between public and private systems. On the latter issue, it is of interest to note the New NHS Plan in Britain has proposed that newly qualified medical specialists be required to work for seven years in the public sector — CDHAC 2001a, pp. 102–3.)

Currently, it seems reasonable to characterise the entry process to markets for medical specialists as incorporating both regulation of the quantity of new entrants, and regulation of the competency or skills of new entrants. Regulation of quantity is primarily via the workforce planning process, whereby AMWAC makes recommendations on numbers of training positions and an actual number of accredited training positions is determined by bargaining between the respective specialist College, hospitals and state governments. Regulation of competency is via the training program and examination(s) that are administered by the specialist College to trainees and immigrants.

Perceptions of the need for reform of quantity regulation appear to derive from three main sources. One source is the absence of a strong 'market failure' rationale for regulation of entry and quantity. A second source is evidence that the current system of quantity regulation appears to be associated with a systematic under-supply of specialists relative to population requirements in many specialty areas (for example, the conclusion of AMWAC that there are shortages in many specialist workforce areas). A final source is from criticisms of the details of existing approaches and processes (such as AMWAC workforce planning) that are used to implement quantity regulation.

It seems possible to conceive of two main types of reform to the entry process to markets for medical specialists. One policy approach would be to seek to remove (or significantly relax) quantity regulation, and to maintain only regulation of competency. The second approach is to maintain regulation of both quantity and competency, but to seek to reform quantity regulation in order to improve the operation of markets for medical specialists.

Proposals for reform

Standard/competency-based entry

One type of policy option would be to significantly relax regulation of the quantity of new entrants to a medical specialist workforce, while maintaining regulation of competency. Maintenance of regulation of competency in medical workforce markets seems essential given the information asymmetries that exist about the quality of medical specialists, and the negative external effects that could follow from poor treatment outcomes. In other words, there is a strong 'market failure' rationale for intervention to regulate competency.

How competency should be regulated is obviously then an important issue. The current regulatory system can be characterised as primarily involving self-regulation by each specialist group. While it seems generally acknowledged that training programs for specialists are of a very high quality, there are criticisms of some aspects of the current system. Some commentators have, for example, suggested that responsibility for the examination process for qualification as a member of a specialist College should be shifted away from individual Colleges to a centralised body. Individual specialist Colleges would necessarily remain the main source of advice on the setting and implementation of examinations. (For example, Baume 1994, p. 114, advocates that '…the two processes — training and recognition — should be separable and separate'.) Another issue that has received attention is whether members of specialist Colleges should be required to undergo an examination process at specified intervals of time (after initial qualification), in order to ensure adequate competency on a continual basis.

There do not seem to be similarly robust market failure arguments that would support regulation of quantity on efficiency grounds. It seems that the main arguments advanced to support regulation of quantity due to market failure relate to the potential relationships between the quantity of medical practitioners and the level of 'over-servicing' and between quantity and quality. Both of these arguments are addressed in the final sub-section and are brought into question.

One other potential criticism of the removal of quantity regulation is that it is an optimal response to subsidisation of the cost of health care services provided by medical specialists. Subsidisation of the cost of health care services — through, for example, Medicare — would, it is argued, cause consumption of health care services to be above the socially optimal level in the absence of some type of quantity regulation. (Note that with this argument there is a presumption that quantity regulation reduces supply of medical specialists below what would otherwise exist.) This is essentially a 'second-best' type argument — that removal

of a distortionary intervention in the economy will not necessarily increase social welfare where other distortions remain.

Whether this type of second best argument constitutes a valid reason for retention of quantity regulation would seem to be primarily an empirical question. While removal of quantity regulation may cause over-consumption of specialist services relative to the socially optimal level, it is equally the case that the existence of quantity regulation may cause under-consumption relative to the social optimum. Only if the welfare costs of over-consumption would exceed the welfare costs of the current system does the second-best argument constitute a reason why the current system of quantity regulation should be retained. (Unfortunately, this is likely to be a very difficult — if not impossible — judgement to make. It will depend on factors such as the size of positive external effects from consumption of health care services — due, for example, to reduced risk of the spread of infectious diseases.)

One model for deregulation of quantity control would be to allow some services provided by a particular specialist workforce also to be provided by other practitioners — for example general practitioners — where they are able to establish competency in those services.

An alternative type of model would be to deregulate entry to accredited training program positions. In general terms, the objective would be to introduce a process that allowed greater scope for qualified medical practitioners to choose to undertake training in their desired specialty areas. This would most likely involve committing extra resources to training. In some specialty areas, it might be deemed infeasible to expand training program positions while keeping current training arrangements in place (for example, because of a shortage of specialists able to supervise trainees). Hence, this model might require consideration of alternative approaches to training. For example, the Doherty Report (Committee of Inquiry into Medical Education and Medical Workforce 1988, p. 23) suggested that it would be necessary for medical schools to play a greater role in training of medical specialists in future years. (Although, two other relevant points on the resource costs of extra training positions to take into account are that — first, in some specialty areas, where there are a large number of non-accredited training positions, there may not be a substantial extra resource cost to expanding entry to training; and second, a shift to greater emphasis on competency-based training and reduced emphasis on time-based training may allow a smaller amount of resources to be devoted on average to each specialist trainee — CDHAC 2001a, p. 115).

Reform of workforce planning

A second approach to policy reform would involve making changes to the existing workforce planning approach. In this sub-section, a range of possible reforms to the AMWAC process for medical workforce planning in Australia — proposed in Borland (2001b) — are summarised. The approach in this section takes as given an AMWAC-type approach to quantity regulation. While alternatives may exist to this approach, it seems that such an alternative system would necessarily have many similar features to the AMWAC approach.

The current workforce planning methodology used by AMWAC Working Parties is summarised in figure 7.8 (see also: Thiele et al. 1998; AMWAC 2000c):

- Assess adequacy of current supply against current demand: Estimate current levels of supply of services by specialist workforce. Assess whether current supply of services by specialist workforce group is adequate. Adequacy is determined with reference to, for example, specialist/population ratios, public hospital vacancy rates, trends in hours worked by specialists and waiting times;

- Make recommendations on required training positions: Forecast future demand for services of specialist workforce group. Forecast future supply of services by specialist workforce group, assuming current inflows to the workforce from the training program remain unchanged. Compare forecasts of future demand and supply. Make recommendations on changes to the number of training positions in order to achieve balance between future demand and future supply.

The current workforce planning approach has been argued to have a range of deficiencies (Borland 2001a,b; Chapman and Ryan 2001). It is worthwhile briefly describing some of these problems, as they provide the primary motivation for proposed reforms.

- Implementation of recommendations — There is no formal process to review whether recommendations are being implemented, or to provide incentives for recommendations to be implemented. In the case of orthopaedic surgeons, where two reports have been undertaken by AMWAC (1996b, 1999a), the recommendations of the first Working Party were not implemented by the Australian Orthopaedic Association. Borland (2001a) argues that an evaluation of the reasons put forward by the Association for why it chose not to implement the recommendations of the 1996 report casts considerable doubt on the validity of those explanations.
- Assessment of adequacy — Some indicators that are used do not seem highly relevant, such as specialists' views about workforce adequacy (Chapman and Ryan 2001, p. 7), while other indicators that seem directly relevant, such as

prices of services, are not used. More generally, there is no detailed justification of the set of indicators that are chosen to assess adequacy. With regard to the manner in which the indicators are applied, there is no ex-ante specification of what outcomes for each indicator should be considered to meet adequacy (for example, in AMWAC 1996a and 1999a, there is no specification of what would be the threshold waiting and clearance times beyond which it would be judged that supply is not adequate), and there is no discussion of the way that information on each indicator is aggregated to make an overall assessment of adequacy.

- Recommendations on number of training positions — Forecasts of future supply do not take sufficient account of historical data and are not responsive to information on future trends. On the first point, Borland (2001a) argues that, in the most recent review of the orthopaedic surgery workforce (AMWAC 1999a), the assumed rate of retirements/deaths per annum is very different to the apparent rate of exit from the workforce over the previous five years. On the second point, issues such as whether there will be changes in average hours of work (for example, due to increasing female participation) are not taken into account. Forecasts of demand in AMWAC reports show no consistency in approaches for choosing a preferred service usage series that will be the basis of forecasts. There also seems to be a bias towards making assumptions on future rates of growth that are relatively low by comparison with usage series. For example, in the report on specialist cardiologists it is assumed that the future rate of growth in demand will be 2.8 per cent per annum. This is the estimated rate of growth in the population aged 45–64 years who are the major client group for this specialty. Yet historical data indicates that service usage had been increasing much more rapidly than population growth — for example, growth in cardiology-related diagnoses and procedures in public and private hospitals was 9 to 10 per cent per annum between 1994-95 and 1996-97 (see AMWAC 1999b, p. 60.)

Proposed reforms to the AMWAC workforce planning approach are summarised below (for a more detailed exposition see, Borland 2001b).

- General issues:

1. *Composition of AMWAC Working Parties* — Medical practitioners should not comprise more than one-third of the members of any Working Party.

2. *Implementation of AMWAC recommendations* — There should be annual monitoring of whether a workforce group is implementing AMWAC recommendations. A finding that recommendations are not being implemented should trigger a process of review.

• Assessment of adequacy:

1. *Basic approach* — It is recommended that an 'indicator' approach should be applied to assess the adequacy of current supply. With this approach a set of indicators or criteria are chosen, measures of each indicator are calculated and an evaluation of whether each measure is consistent with a specified standard for adequate supply is made.

2. *Choice of indicators* — Each indicator should be justified and interpreted in terms of the overall objectives of medical workforce planning. For example, some current indicators do not seem strongly related to measurement of the balance between supply and demand. On the other hand, it seems that the set of indicators should be expanded to, for example, use information on prices of services.

3. *Application of indicators* — The indicators should be applied in a consistent manner across Working Party reviews (for example, across time for the same medical workforce, and across medical workforce groups). The way in which each indicator will be applied to assess the adequacy of current supply should be specified ex-ante.

4. *Other factors* — The assessment of adequacy should also include evaluations of the sustainability of services, quality of services and geographic distribution of services.

• Recommendations on number of training positions:

1. *Forecasts of supply* — The methodology should follow a consistent formula. For example: Specialists at end of year t+1 = Specialists at end of year t Plus Inflows from training program in year t+1 Plus Net immigration in year t+1 Minus Retirements/Deaths in year t+1. Application of the methodology should be 'data-based'. For example, assumptions on inflows from GP training programs/specialist training programs should be derived from available data on the numbers of persons currently in those programs and assumptions on expected completion rates. Assumptions on expected completion rates should be validated against data on those rates for previous years. Information on other factors likely to affect supply in future time periods should be incorporated — for example, on changes in working hours of medical specialists.

2. *Forecasts of demand* — The methodology should follow a formula-based approach. Demand for services of GPs/specialists in each future year should be estimated as: (Demand in the current period)*(1 + Estimated annual rate of growth in demand)^{t}, where t = 0,1,…,T (0 = current period and T = final year of forecast period). The annual rate of growth in demand for services should be the rate of

growth in a 'preferred' usage series of the Working Party, with adjustments for the effects of other factors that are expected to affect demand for services. The choice of the preferred usage series for forecasting demand growth should be explicitly justified. The historical time period from which the annual rate of growth in demand is calculated must also be justified. The justifications should be made on the basis of general principles for choosing an appropriate usage series, and appropriate time period, that are specified by AMWAC. A range of factors should be taken into account in considering possible adjustments to the rate of growth in the preferred usage series. Some examples are: (a) population growth; (b) whether a usage series reflects demand or supply conditions — usage of services may reflect the existence of supply-side constraints; and, (c) other factors — for example, a sufficiently large change in the proportion of the population with private health insurance (or more specifically, a large change in the rate of change in the take-up of private health insurance) would be expected to have an effect on demand for medical services which would need to be taken into account in forecasts of future demand. Other similar factors would be changes in the availability of substitutes for a medical speciality area, changes in trends in morbidity, new public health campaigns and changes in medical technology.

Workforce planning, to achieve a match between demand and supply in a labour market, is a very difficult task. It is made particularly difficult in markets for medical specialists by the lag between the timing of decisions to change supply and when those decisions impact on supply (due to long training programs), by the relatively small numbers in some medical speciality workforce groups and by unanticipated changes to government policy that can have large effects on demand. Hence, although the overall value of the workforce planning methodology does need to be judged by its performance in achieving a balance between demand and supply, once it is decided to use such an approach, the performance of those implementing the approach should not be judged by workforce outcomes. Instead, it seems more reasonable to judge their performance by whether the best possible type of workforce planning approach is being used. It is important to emphasise that this is the main theme of the criticisms and recommendations made in this paper with regard to the current AMWAC process – that the 'best possible' approach to medical workforce planning is not being used in Australia and hence, that reform is necessary.

Some underlying reform issues

A common presumption appears to be that reform of entry to medical specialist markets — of the type proposed in the previous sub-section — would cause an increase in supply of specialists. For some specialist workforce groups this does

seem a likely outcome, but it should be noted that for other groups there may be minimal effect on supply. Nevertheless, the main critiques of reform proposals usually involve arguments that various adverse consequences would result from an increase in supply of medical specialist workforces. In this sub-section an attempt is made to summarise these critiques and to evaluate their validity.

Supplier-induced demand

Claim: Expanding the supply of a medical specialist workforce will cause members of that workforce to seek to increase demand. Hence, there will be a very significant increase in expenditure on specialist services.

The term 'supplier-induced demand' (SID) describes a hypothesis on the behaviour of medical practitioners. It predicts that medical practitioners in a workforce group will, in response to an increase in the supply of practitioners in that group, seek to increase demand for their services. An increase in demand could be achieved either by medical practitioners increasing the number of services provided to patients, or by changing the type of services provided towards services that are more time-intensive and/or more expensive.

The public policy significance of the SID hypothesis derives from its potential implications for expenditure on medical care and services (and associated concerns regarding the efficiency of that care — for example, whether over-servicing is occurring). Both the price and the total quantity of medical services consumed will be higher in the case where medical practitioners are able to raise demand in response to an increase in the number of practitioners than where they are unable to affect demand. Hence, total expenditure will also be higher where supplier-induced demand effects occur.

In considering the empirical significance of the SID hypothesis, one set of issues that arise are primarily conceptual. One conceptual point is that — even if the SID hypothesis is correct — it is possible for an increase in the number of medical practitioners to decrease total expenditure. This could, for example, occur where the demand for medical services is relatively price inelastic and the magnitude of the induced demand effect is relatively small. This situation is depicted in panel A of figure 7.9. The second point is that — even in the absence of SID — an increase in supply may cause an increase in expenditure. This situation is depicted in panel B of figure 7.9. This might be the outcome where, for example, demand is relatively elastic. More generally, where any SID effect is small, then the largest effect on expenditure on specialist services is likely to be from the pure effect of an increase in supply.

The other — and probably more important — approach to evaluation of the supplier-induced hypothesis is to review empirical evidence. This is an area where there appears to exist significant scope for disagreement. But, my own interpretation of the international and Australian literature on the SID hypothesis suggests two main conclusions. First, it indicates that medical practitioners do have some scope to vary service levels in response to financial incentives and that they are likely to have the motivation (mainly from a desire to improve patient welfare) to increase service levels following an increase in supply of medical practitioners. Second, there does not appear to be any valid or consistent empirical evidence to show that demand inducement actually occurs and certainly no reliable evidence on the magnitude of the effect. Partly, this is an artefact of the difficulty of measuring the SID effect. It also suggests, however, that for the magnitudes of changes in supply of medical practitioners observed in these empirical studies, SID effects may not be large.

Empirical studies have taken three main approaches to examining the validity of the SID hypothesis.

a) Examine time-series or cross-section variation between supply of medical practitioners and usage of medical services.

b) Examine how (exogenous) changes or differences in the price of medical services affect treatment patterns of medical practitioners and usage of medical services.

c) Other studies that can be described as providing direct evidence on the scope for and willingness of medical practitioners to influence demand. (For example, studies of the amount of treatment by general practitioners of their families and other patients).

(Few studies (and none of the type (a) studies of which I am aware) relate to specialists. Most of the literature on SID is for general practitioners.)

Studies of the first type have significant methodological problems — primarily associated with valid identification of effects of the number of medical practitioners on usage of services and also with possible bias in estimates caused by omitted explanatory variables for usage of services (see, for example, Gaynor 1994, pp. 232–3). Studies of the second type have obtained mixed findings and moreover, evidence that medical practitioners respond to financial incentives is not evidence that SID exists (Gaynor 1994, p. 233). Studies of the third type again do not provide evidence that an increase in demand for medical services will occur in response to an increase in supply of medical practitioners.

As a specific illustration of what I believe to be some of the problems with the first and second types of empirical literature on supplier-induced demand, I take the influential Australian study by Richardson and Peacock (2000) (see also, Richardson 2001). In that study, a variety of types of empirical evidence are presented. First, data on the correlation between supply of general practitioners and usage of their services across statistical sub-division regions in Australia in 1996 are presented. These data show that a strong correlation exists between the series. Second, instrumental variable regression analysis of the relation between usage of general practitioner services per capita and number of general practitioners per capita by statistical sub-division is undertaken. This analysis finds that a 10 per cent increase in the number of general practitioners per capita in a region would increase usage of their services by about 5 per cent due to an induced-demand effect. Third, data on treatment of patients after an emergency hospital admission with a heart attack in Victoria are presented. These data show that the proportion of patients receiving the most expensive type of treatment, coronary artery revascularisation procedure, in the first eight weeks after admission, was much higher for private patients in private hospitals than for public patients in public hospitals. For example, in 1996, men and women were (respectively) 10.5 and 15.1 times more likely to receive the treatment as private hospital than public hospital patients.

The regression analysis of the relation between usage of general practitioner services per capita and number of general practitioners per capita by statistical sub-division has several problems.

- Omitted explanatory variables for service usage: For example, the proportion of the population in older age groups and with private health insurance seem likely to be correlated with supply of general practitioners in a region, but are not included in the demand equation. Hence, the estimated coefficient on number of general practitioners in a region may be biased upward.
- Validity of identification of the effect of number of doctors on service usage:
  (a) Identification requires some variables that are included in the first-stage equation for the number of doctors, to be excluded from the second-stage equation for service usage. But, variables that are excluded — such as the hospital density and State dummy variables — would seem to be possible explanatory factors for service usage (Freebairn 2001, p. 353).
  (b) Estimation of a regression model with the dependent variable being service usage (demand) and with an explanatory variable being service usage (supply) would constitute estimation of an ‘identity’. Including the number of medical practitioners instead of service usage as an explanatory variable will only overcome this problem to the extent that the number of doctors is not perfectly correlated with service usage (Auster and Oaxaca 1981).

Suppose service usage equals 'Number of doctors' multiplied by 'Average hours of work' multiplied by 'Services per hour'. If variation in the number of doctors is the primary factor that determines service usage, then the problem of estimation of 'an identity' still exists and the coefficient on the number of doctors variable cannot be interpreted as representing a SID effect. Richardson (2001, p. 349) asserts that the number of doctors will not act as a proxy for service usage. However, whether this is the case would seem to be an empirical issue — and no empirical evidence is cited in support of the assertion.

- Price variable:

  (a) The net price variable included in the demand equation would appear to be jointly endogenous with usage of services. The net price for patients is defined as a function of the gross price set by general practitioners and the rebate received. Since the rebate as a proportion of total payments to general practitioners is likely to be relatively constant across regions, most of the variation in the net price variable will come from gross price. But, in equilibrium, gross price will be determined endogenously, together with usage of services. With joint endogeneity between the demand and price variables, coefficient estimates in the demand equation are likely to be biased.

  (b) The price variable measures only pecuniary components of the cost of medical services. But non-pecuniary costs — such as distance travelled to a general practitioner and waiting time for an appointment — are also likely to be important. Since the number of doctors will be correlated with travel costs and waiting times, the estimated effect of the 'number of doctors' variable may partly represent the effect of non-pecuniary costs on service usage (Freebairn 2001, p. 354).

The analysis of usage of coronary artery revascularisation procedures in private and public hospital patients also has a significant problem that is acknowledged by Richardson and Peacock (2000, p. 22). This is that their data only refer to eight weeks after hospital admission. They note that cardiologists have argued that over a longer time period the usage of these procedures for the two groups would be similar and what the data show are that the private hospital sector allows more rapid use of the treatment. Nevertheless, the finding provides support for the conclusion that medical practitioners do have scope to vary service levels and respond to financial incentives.

Quality and volume of work

Claim: Expanding the supply of a medical specialist workforce will reduce the volume of work per capita. A reduction in volume of work per capita will lower quality.

Where an increase in the number of medical practitioners affects the volume of work done by practitioners, there may be some spillover effect on the quality of work. This will occur where the ongoing level of practitioner experience affects quality of work. This is an argument that has been made with reference, in particular, to workforce areas involving surgical practice.

Existing research for surgical workforce groups provides mixed findings on whether such a relation exists. From an extensive review of the available evidence, Houghton (1994, p. 659) concludes:

> It is possible to say with certainty that differences in outcome for surgical procedures exist between hospitals and individual surgeons. However, studies on the relationship between outcome and hospital or surgeon volume do not provide a causal link. The relationships may be associations only, confounded by other variables such as patient selection and local population characteristics. Alternatively, high volume may actually occur as a result of high-quality care, reflecting referral practices.

These problems are illustrated in a US study by Munoz et al. (1990) of the relation between the volume of orthopaedic surgical procedures undertaken by individual surgeons and patient mortality. The study finds that there is a negative correlation between volume and mortality. However, severity of illness is also found to be inversely correlated with surgeon volume. Hence, the authors conclude (p. 42) that '…severity of illness differences within the populations may explain some or all of our findings (and are most probably the reason for our mortality findings).'

From a conceptual point of view, there are also problems with the claim that an increase in supply must adversely affect quality. Such a claim would only always be correct if quality increased with volume for all levels of volume. In fact, it seems much more likely that quality would increase with volume up to some threshold level of volume of work, but then decline for higher volumes. (To make this point concrete: I would rather have open heart surgery from a surgeon who performed 30 operations a month than one who does 1 a month. But, would you prefer to be a patient for a surgeon who is doing open heart surgery 6 times in a day or one who is doing it 15 times in one day?) Hence, as a practical matter, to assess how an increase in supply would affect quality of medical specialist services would seem to require knowledge of the functional relation between volume and quality, and of the current volume of work per specialist.

Quality and ability of new entrants

Claim: Expanding the supply of a medical specialist workforce will involve a decrease in the ability of new entrants. This will reduce the quality of services.

Admission to medical specialist training programs is from the pool of graduates from university medical degree programs. An increase in the number of medical specialist training positions each year would, in effect, mean an increase in the proportion of each cohort of medicine degree graduates able to enter this specialty. To the extent that entry to training positions is in order of the aptitude or ability of candidates, it would follow that an expansion in the proportion of medicine degree graduates accepted to training positions would mean a reduction in the average ability of trainees.

Three points against this argument can, however, be made. First, for limited increases in the number of trainees in a medical specialty area, and given the high quality of the general pool of graduates from medical programs, effects on average ability may not be large. Second, it does not seem that it can be automatically accepted that entry to medical specialty training positions is in strict order of the ability of potential trainees. For example, the AMWAC report on influences in participation in the medical workforce in Australia provides a range of qualitative survey evidence suggesting that entry to specialist training programs is not solely on the basis of ability (AMWAC 1998a, pp. 57–9). The report concludes (p. 59) that: "…there remain a number of structural constraints limiting the full participation by both women and men in certain specialist areas, particularly surgery." Finally, it seems possible to make the argument that entry of new, appropriately qualified specialists may 'crowd out' from the market medical practitioners without appropriate qualifications currently providing services to those markets (see, for example, Davies and Wroe 2002).

The role of competition

Claim: Expanding the supply of a medical specialist workforce group will not induce an increase in competition that results in lower prices or higher quality services. This is because the referral system is not responsive to prices or quality of service.

Standard models of market conduct applied to the market for medical services would predict that an increase in the number of medical practitioners in a workforce groups would stimulate increased competition for patients. This extra competition could be manifested as price competition through reductions in fees, or quality

competition, such as through reductions in waiting times or improvements in treatment methods.

In an analysis of the competitive effects of increasing the number of medical specialists, it is necessary to take into account that in Australia the assignment of patients to medical specialists is generally mediated by general practitioners. Hence, an incentive for specialists to compete over quality of service or price (stimulated by a change in the number of specialists) would only exist if the referral practices of general practitioners depend on their perceptions of quality of service.

Existing evidence does appear to suggest that referral practices of general practitioners are responsive to the quality of service provided by specialists. For example, from a survey of physicians in the United States, Javalgi et al. (1993) conclude that (apart from type of illness) the two most important determinants of a physician's choice of specialist were 'medical skill of physician' and 'previous positive experience'; and, from a study of general practitioners in the United Kingdom, Kennedy and McConnell (1993) find that waiting lists and personal knowledge of a specialist's expertise were of particular importance in general practitioner's decisions on choice of specialist. (No similar type of studies were found for Australia.)

These studies suggest that quality of service is regarded as highly important by general practitioners in their choices of specialists. This is one factor that would need to exist for competition over quality between specialists to occur. The other factor is that general practitioners would need to have reliable information on how quality of service differs between specialists. No empirical studies that address this issue have been found. Hence, no definite conclusion can be made on whether an increase in the number of surgeons would enhance competition over quality of service.

7.6 Future research

This paper has attempted to provide an overview of the operation of markets for medical specialists in Australia. One important theme that emerges from a review of the existing literature on this topic is that there is significant scope for further research and that such research would be extremely valuable for informing policy debate.

Some examples of possible topics for future research would be:

- *Preferences for speciality areas* — What determines preferred specialty areas of applicants for specialist training programs? What is the relative importance of pecuniary and non-pecuniary factors?
- *Labour supply* — What determines hours of work of medical specialists? What is the role of monetary compensation? Are there differences between specialty areas?
- *Prices of services* — What are the main factors that explain changes in prices of services of specific medical specialist groups? How important are differences in changes in supply in explaining inter-specialty differences in the evolution of prices?
- *Rate of return* — What is the average rate of return to working in different medical specialty areas? What explains differences in rates of return between medical specialty areas?
- *Referral patterns* — What determines patterns of referrals by general practitioners to medical specialists in Australia? How important are factors such as perceptions of quality, price, waiting lists and geographic location? How much information do general practitioners have about the quality and price of alternative specialists in specific workforce groups?

That these topics have not yet been the subject of significant research in Australia does not indicate that they are particularly original. Rather, it has not been possible to examine the questions because of lack of data. To make significant progress on such a research agenda it would be necessary to gain access to new data sources — for example, research on the labour supply, price and rate of return topics would require access to Health Insurance Commission data on service provision by individual specialists. It would also very likely be necessary to undertake original survey work to, for example, allow further research on general practitioner's referral patterns.

Table 7.1 **Medical specialists — main specialty of practice — number and gender composition, Australia, 1998**

	Number	*Female %*
Specialty		
Internal medicine	4 377	16
Pathology	722	27
Surgery	2 937	4
Other specialties	8 454	19
Total	16 490	16

Source: AIHW (1998, table 16).

Table 7.2 **Specialists — main speciality of practice, Australia, 1995 to 1998**

	1995	*1998*	*% change*	*1998 – % female*
Internal medicine		**4 377**		**16**
Cardiology	471	579	22.9	9
Clinical genetics	na	20	na	45
Clinical haematology	133	135	1.5	19
Clinical immunology	93	99	6.5	9
Clinical pharmacology	17	22	29.4	23
Endrocrinology	215	221	2.8	24
Gastroenterology	360	382	6.1	9
General medicine	539	572	6.1	10
Geriatrics	188	206	9.6	22
Infectious diseases	89	102	14.6	24
Medical oncology	154	167	8.4	19
Neurology	280	292	4.3	10
Nuclear medicine	129	141	9.3	8
Paediatric medicine	674	793	17.7	24
Renal medicine	149	170	14.1	15
Rheumatology	196	209	6.6	23
Thoracic medicine	258	267	3.5	15
Pathology		**722**		**27**
General pathology	99	106	7.1	15
Anatomical pathology	341	353	3.5	30
Clinical chemistry	58	49	-15.5	10
Cytopathology	39	31	-20.5	45
Forensic pathology	17	23	35.3	12
Haematology	66	61	-7.6	51
Immunology	11	20	81.8	25
Microbiology	71	78	9.9	17

(Continued next page)

Table 7.2 **(continued)**

	1995	*1998*	*% change*	*1998 — % female*
Surgery		**2 937**		**4**
General surgery	971	1 028	5.9	4
Cardiothoracic surgery	84	97	15.5	5
Neurosurgery	106	102	-3.8	8
Orthopaedic surgery	662	714	7.9	1
Otolaryngology (ENT)	315	302	-4.1	4
Paediatric surgery	67	77	14.9	12
Plastic surgery	220	256	16.4	6
Urology	203	222	9.4	3
Vascular surgery	122	140	14.8	4
Other specialties		**8 454**		**19**
Anaesthesia	1 784	1 972	10.5	17
Dermatology	284	299	5.3	27
Diagnostic radiology	1 005	1 060	5.5	15
Emergency medicine	227	296	30.4	21
Intensive care	228	232	1.8	12
Medical administration	83	60	-27.7	19
Obstetrics and gynaecology	974	1 055	8.3	15
Occupational medicine	166	85	-48.7	11
Ophthalmology	691	713	3.2	10
Psychiatry	1 880	1 985	5.6	26
Public health medicine	35	54	54.3	28
Radiation oncology	127	152	19.7	10
Rehabilitation medicine	173	175	1.2	22
Other	269	315	17.1	17
Other	**15 318**	**16 490**	**7.7**	**16**

Source: AIHW (1996, table 36 and 1998, table 16).

Table 7.3 **Medical specialists — age by gender, Australia, 1998**

	<35	*35-44*	*45-54*	*55-64*	*65+*
Males	3.1	29.8	32.7	22.4	12.0
Females	9.7	46.7	27.6	12.0	4.0
Surgery	1.9	26.6	30.6	27.3	13.6
Total	4.2	32.5	32.0	20.8	10.5

Source: AIHW (1998, table 63).

Table 7.4 **Medical specialists — main specialty of practice — region of main job, Australia, 1998**

	Capital city	*Other metro*	*Large rural*	*Small rural/remote*
Specialty				
Internal medicine	83.4	6.4	6.0	4.2
Pathology	83.7	6.1	6.2	4.0
Surgery	76.0	8.1	8.5	7.5
Other specialties	81.4	6.7	7.2	4.7
Total	81.1	6.8	7.1	5.0

Source: AIHW (1998, table 65).

Table 7.5 **Medical specialists — main specialty of practice — hours worked per week, Australia, 1998**

	<35	*35-49*	*50-64*	*65+*
Specialty				
Internal medicine	15.5	22.9	37.7	23.9
Pathology	16.4	32.5	38.5	12.6
Surgery	12.0	19.1	37.1	31.8
Other specialties	16.6	32.7	35.2	15.5
Total	16.0	27.8	36.1	20.1
Males	13.0	26.6	38.6	21.9
Females	32.8	34.2	22.5	10.4

Source: AIHW (1998, table 18).

Table 7.6 **Medical specialist to population ratios, actual and desired, Australia**

Specialty area	*Year*	*Actual SPR*	*Desirable SPR*[a]	*Reference*
Orthopaedic Surgery	1996	1:26 470	1:23 000	AMWAC (1996a p. 22)
Anaesthetics	1995	1:9252	No benchmark given	AMWAC (1996b)
Urology	1996	1:90 119	1:80 000 – 85 000	AMWAC (1996c)
Ophthalmology	1994-5	1:26 702	No clear-cut benchmark exists[b]	AMWAC (1996d)
Emergency[c]	na	na	na	AMWAC (1997a, p. 28)
General Surgery	1995-6	1:17 012	No clear-cut benchmark exists	AMWAC (1997b, p. 42, 41)
Rehabilitation	1997	1:108 220	1:50 000	AMWAC (1997c)
Geriatrics	1997	1:12 253	No clear-cut benchmark exists	AMWAC (1997d)
Ear Nose Throat	1995-6	1:56 855	No clear-cut benchmark exists	AMWAC (1997e, p. 39)
Dermatology	1997	1:74 017	1:80 000[d]	AMWAC (1998a, p. 2)

(Continued next page)

Table 7.6 (**continued**)

Specialty area	*Year*	*Actual SPR*	*Desirable SPR*[a]	*Reference*
Obstetrics and Gynaecology	1998	1:6954 (of female pop)	1:12 500 (of female pop)	AMWAC (1998a, p. 6)
Radiation Oncology	1997	1:140 427	1:120 000[e]	AMWAC (1998b)
Intensive Care	1997	1:46 600	No clear-cut benchmark exists	AMWAC (1999a)
Specialist Cardiology	1999	1:19 454	No clear-cut benchmark exists	AMWAC (1999b, p. 17, 8)
Consultant Paediatrics	1999	1:5369 (of 0-18yrs pop)	1:6000 – 8000	AMWAC (1999c, p. 13, 39)
Psychiatry	1999	1:9455	1:7500[f]	AMWAC (1999c, p. 9, 53)
Thoracic	1998	1:59 457	1:75 000 – 85 000	AMWAC (2000a)
Neurosurgery	2000	1:183 763	1:175 000	AMWAC (2000b, p. 16, 32)
Gastroenterology	1999	1:52 711	1:55 000 – 66 000[g]	AMWAC (2000c, p. 17, 38)
Cardiothoracic	2001	1:180 347	1:150 000 – 200 000	AMWAC (2001a, p. 17, 7)
Haematological Oncology	2000	1:69 757	1:100 000	AMWAC (2001b, p. 21, 10)

a In many instances, working parties have decided that no clear cut benchmarks for a desired specialist to population ratio (SPR) exists. Typically, a report will state 'International comparisons suffer because of variations in definitions of specialists and in style and scope of practice and health systems. The working party believes that the value of the … SPRs lies in their use as tools of comparison between States/Territories and for comparisons over time.' (See, for example, AMWAC 1997c, p. 39.) When the working party has decided this is the case, 'no clear-cut benchmark exists' has been entered in this column. **b** Although the AMWAC (1996d) states: 'Overall the current ophthalmology workforce was considered to be adequately meeting requirements.' **c** The AMWAC (1997, p. 28) states: 'The working party decided that SPR was not a good indicator of adequacy, because the emergency medicine workforce is limited by the available public and private infrastructure; hence, the indicators of adequacy chosen are considered to give a better indication than any SPR benchmarks.' No SPR figures were given in the report. **d** Although this is a qualified benchmark, the report says that some health authorities considered this to be too low (AMWAC 1998a, p. 4). **e** This figure is derived from discussion within the paper under headings 'Summary of Key Findings' and 'Adequacy of Current Radiation Oncology Workforce' (AMWAC 1998b). **f** The RANZCP benchmarks used by AMWAC make a distinction between regions for the desired level of population per psychiatrist. Urban areas: 1:7500 is required. Rural areas close to large urban centres: 1:7500 – 1:10 000 is required. Major rural centres remote from an urban centre 1:10 000 – 1:15 000 is required. (AMWAC 1999c, p. 53). **g** A Royal College of Physicians of London Committee report estimates the need at 1:66 000. The American Gastroenterological Association has aimed to achieve a target of 1:55 556. However, the AMWAC report notes that international comparisons must be used with caution (AMWAC 2000c, p. 38). **na** Not available.

Sources: See individual references in column 5 of the table.

Supplement to table 7.6: AMWAC reports

AMWAC 1996a, *The Orthopaedic Workforce in Australia — Supply, requirements and projections, 1995–2006,* AMWAC Report 1996.2, January.

—— 1996b, *The Anaesthetic Workforce in Australia*, AMWAC Report 1996.3, January.

—— 1996c, *The Urology Workforce in Australia*, AMWAC Report 1996.4, May.

—— 1996d, *The Ophthalmology Workforce in Australia*, AMWAC Report 1996.6, September.

—— 1997a, *The Emergency Workforce in Australia — Supply, Requirements and Projections 1997–2007*, AMWAC Report 1997.1.

—— 1997b, *The General Surgery Workforce in Australia — Supply and Requirements 1997–2007*, AMWAC Report 1997.2, May.

—— 1997c, *The Rehabilitation Medicine Workforce in Australia*, AMWAC Report 1997.3, June, URL: amwac.health.nsw.gov.au.

—— 1997d, *The Geriatric Medicine Workforce in Australia*, AMWAC Report 1997.5, October.

—— 1997e, *Ear Nose and Throat Surgery Workforce in Australia — Supply and requirements 1997–2007*, AMWAC Report 1997.6, October.

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—— 1999c, *The Consultant Paediatrics workforce in Australia — Supply and requirements 1998–2010*, AMWAC Report 1999.6, August.

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—— 2001b, *The Specialist Haematological Oncology Workforce in Australia — Supply, Requirements and Projections 2001–2011*, AMWAC Report 2001.2, April.

Table 7.7 **Regional specialist to population ratios, Australia, 1995**

Specialist services	*Major urban*	*Large rural centre*	*Small rural*	*Other rural*
General Surgery	1:16 936	1:11 362	1:16 270	1:54 542
Anaesthesia	1:8241	1:6210	1:17 771	1:175 314
Obstetrics and Gynaecology	1:15 366	1:12 715	1:27 503	1:106 713
Paediatrics	1:22 106	1:19 779	1:37 263	1:223 127
Psychiatry	1:7309	1:12 419	1:22 650	1:188 800
Orthopaedic Surgery	1:22 581	1:14 631	1:44 428	1:613 599
Geriatrics	1:75 452	1:106 806	1:115 514	nss
Pathology	1:131 254	1:50 860	1:82 510	1:490 879
Ear Nose Throat	1:46 496	1:39 558	1:88 857	nss
Dermatology	1:48 277	1:89 005	1:144 393	1:818 132
Rehabilitation	1:78 753	1:133 508	1:288 785	1:1 200 000
Neurology	1:47 193	1:106 806	1:1 100 000	1:2 400 000
Thoracic	1:52 068	1:97 096	1:385 047	1:2 400 000
Urology	1:76 832	1:31 414	1:231 028	nss
Diagnostic Radiology	1:14 877	1:11 126	1:23 103	1:490 879
Cardiology	1:29 235	1:50 860	1:72 196	1:613 599
Intensive care	1:78 263	1:97 096	1:1 155 140	1:490 879
Nephrology	1:92 650	1:97 096	1:577 570	nss
Medical Oncology	1:90 003	1:133 508	1:231 028	nss
Radiation Oncology	1:101 616	1:534 031	1:577 570	nss

nss No special services of this kind in this area.

Source: AMWAC (1998b, p. 64).

Figure 7.1 **Supply of medical specialist services, Australia**

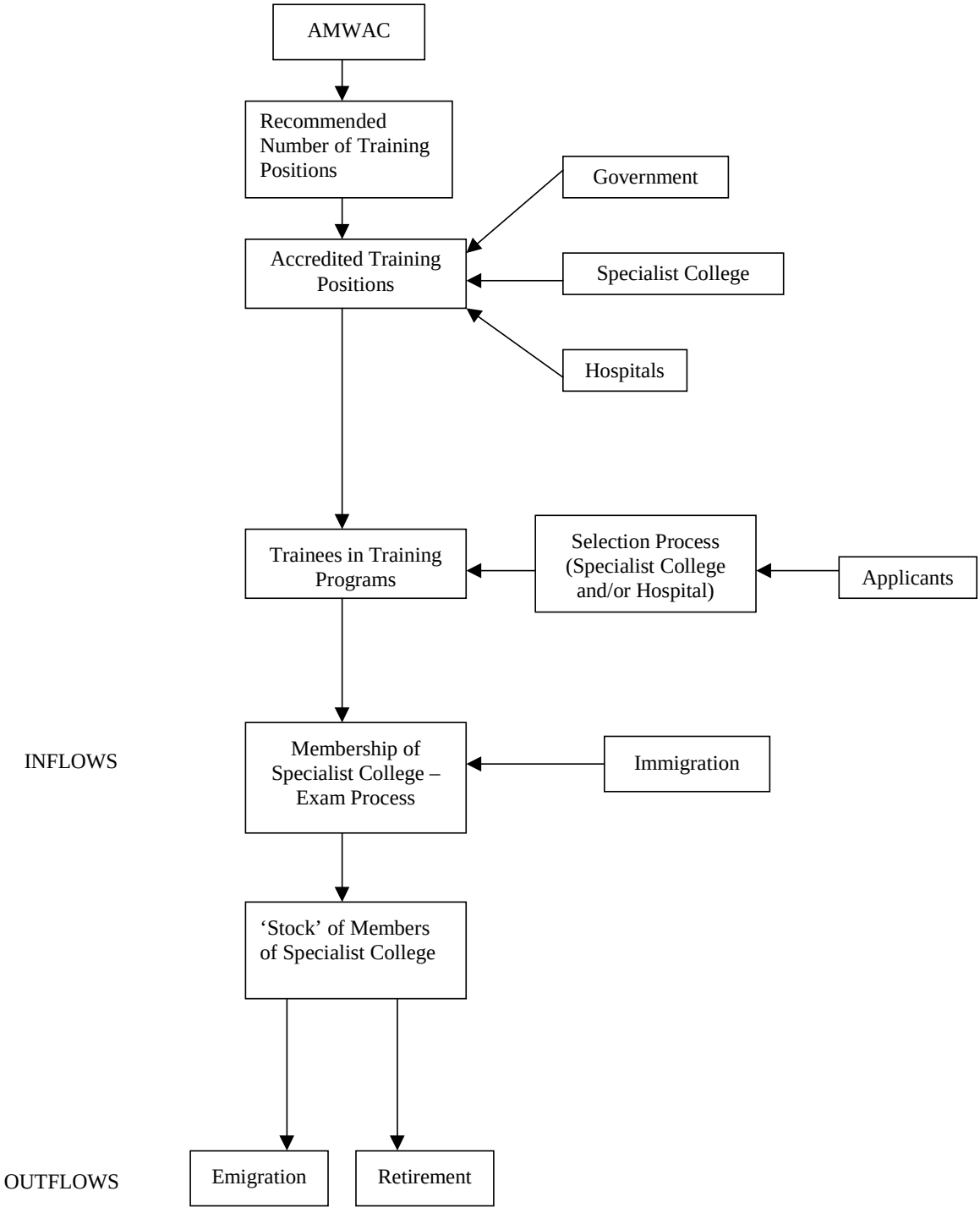


Figure 7.2 **Demand for medical specialist services, Australia**

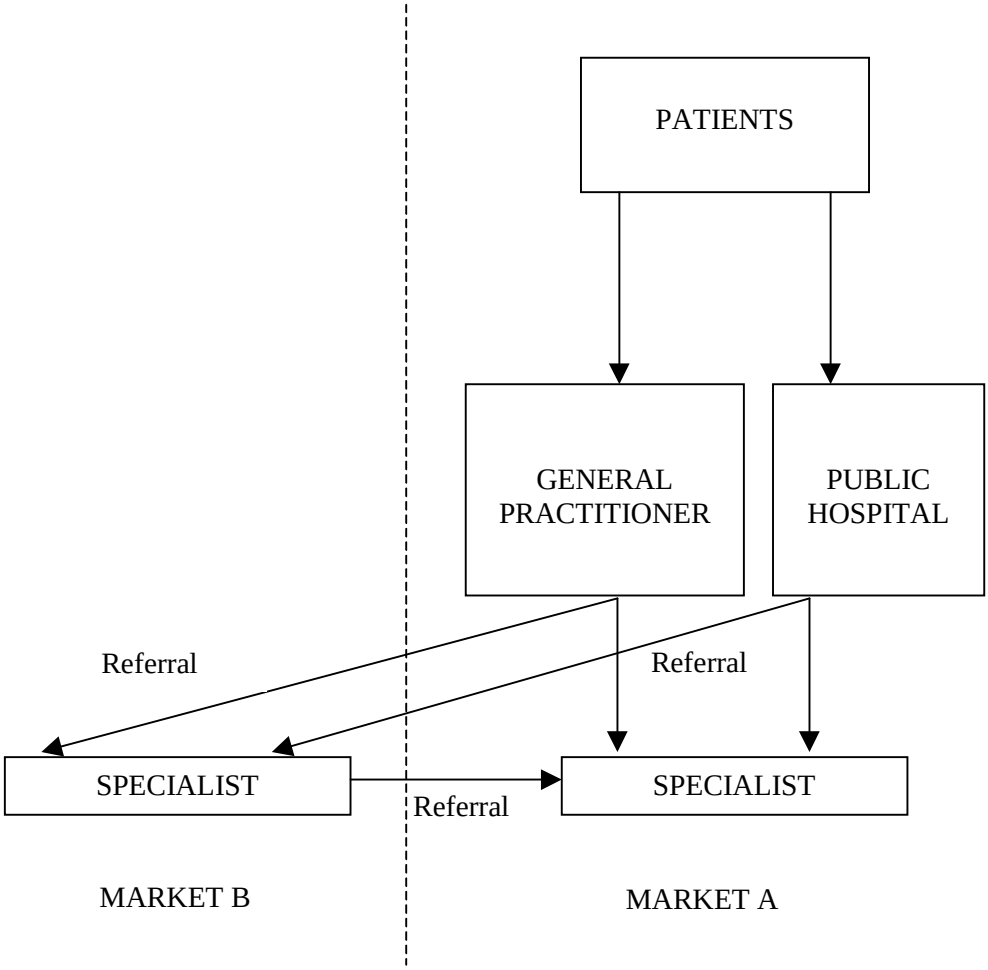


Figure 7.3 **Markets for medical specialist services, Australia**

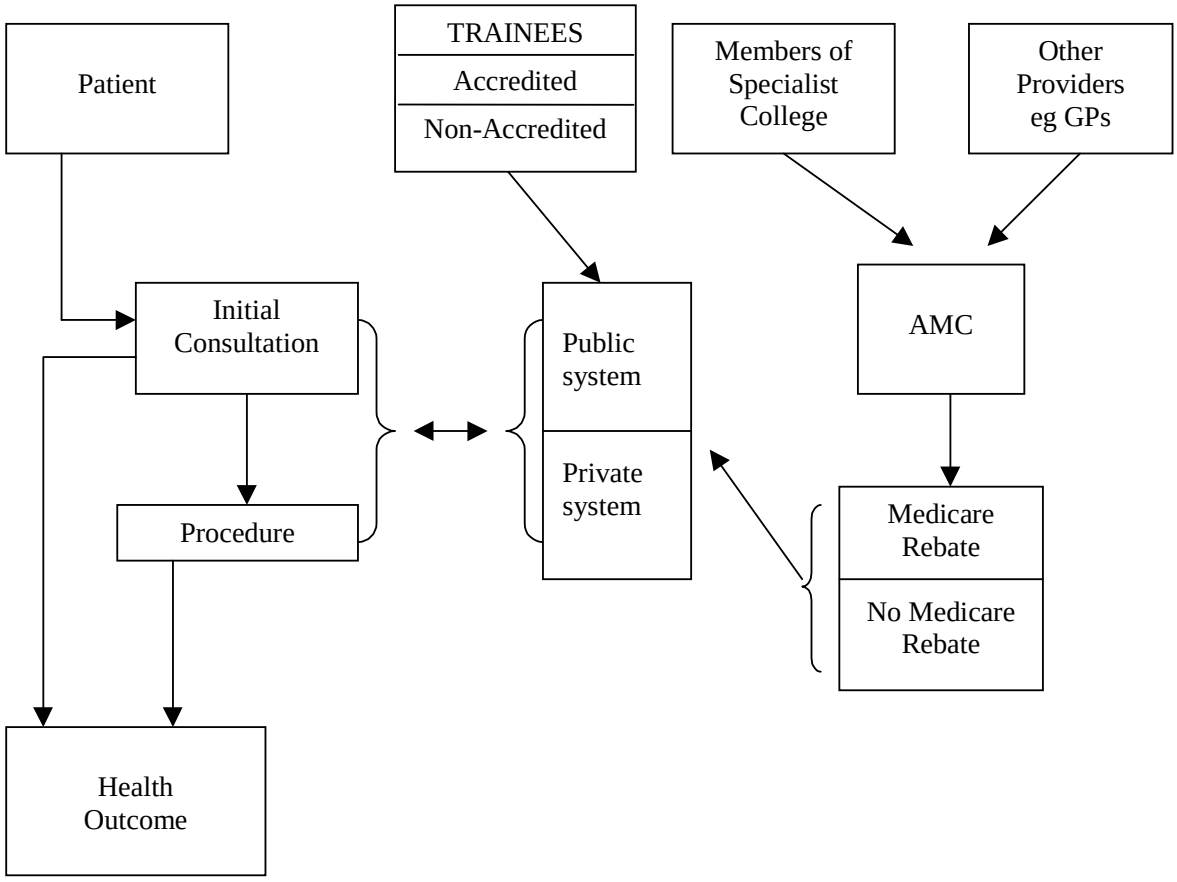
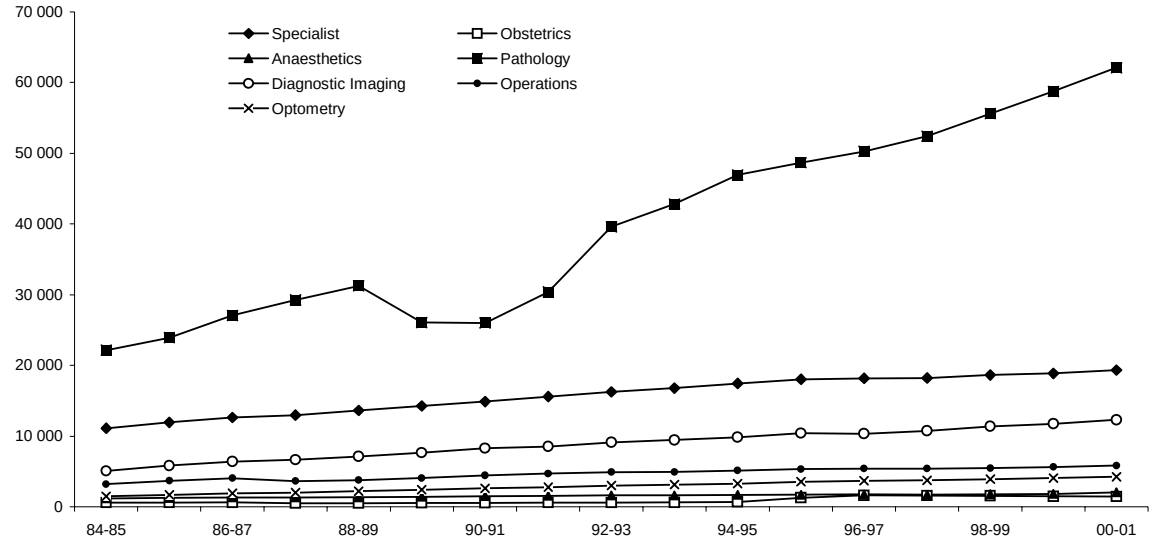
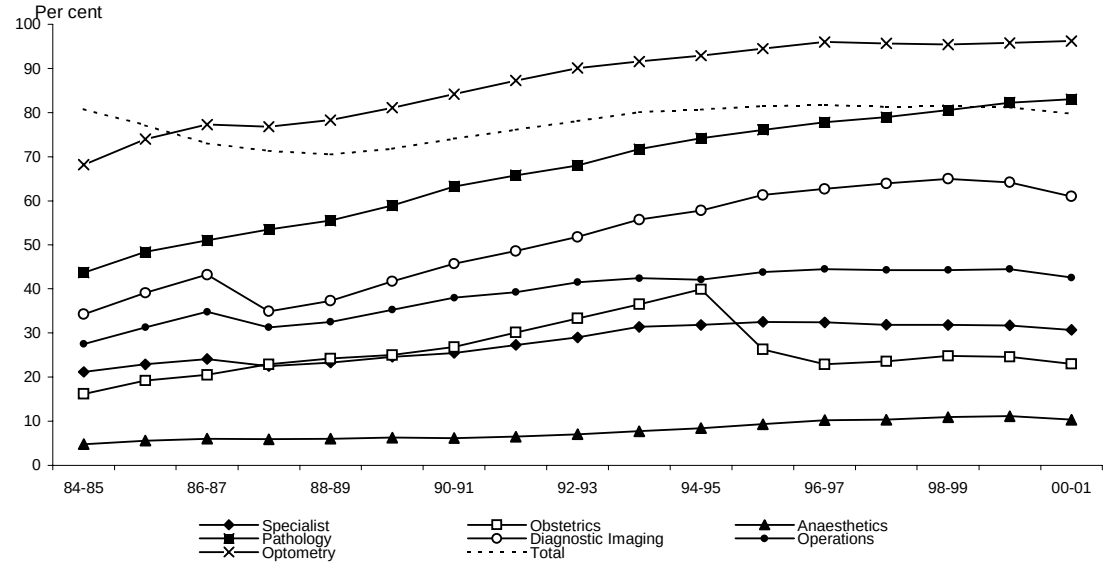


Figure 7.4 **Medicare: number of services (thousands) by area of practice, Australia, 1984-85 to 2000-01**



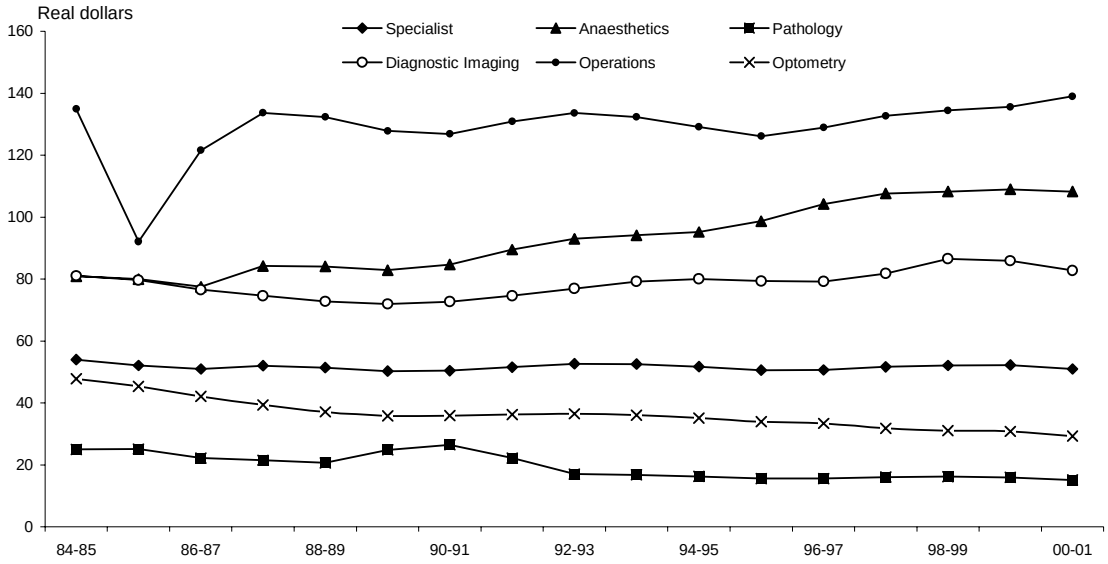
Data source: Department of Health and Ageing (2002), *Medicare Statistics – Group B Tables – Selected Aggregates by Broad Type of Service and by Quarter/Financial Year – Table B1 – Number of services*, http://www.health.gov.au/haf/medstats.

Figure 7.5 **Direct billing by area of practice, Australia, 1984-85 to 2000-01**



Data source: Department of Health and Ageing (2002), *Medicare Statistics – Group B Tables – Selected Aggregates by Broad Type of Service and by Quarter/Financial Year – Table B7 – Percentage of services direct billed,* http://www.health.gov.au/haf/medstats.

Figure 7.6 **Fees per service by specialty area (1990 dollars), Australia, 1984-85 to 2000-01**



Data source: Department of Health and Ageing (2002), *Medicare Statistics – Group B Tables – Selected Aggregates by Broad Type of Service and by Quarter/Financial Year – Table B1 – Number of services*/Table B2 Fee charged, http://www.health.gov.au/haf/medstats.

Figure 7.7 **Social welfare and key policy issues**

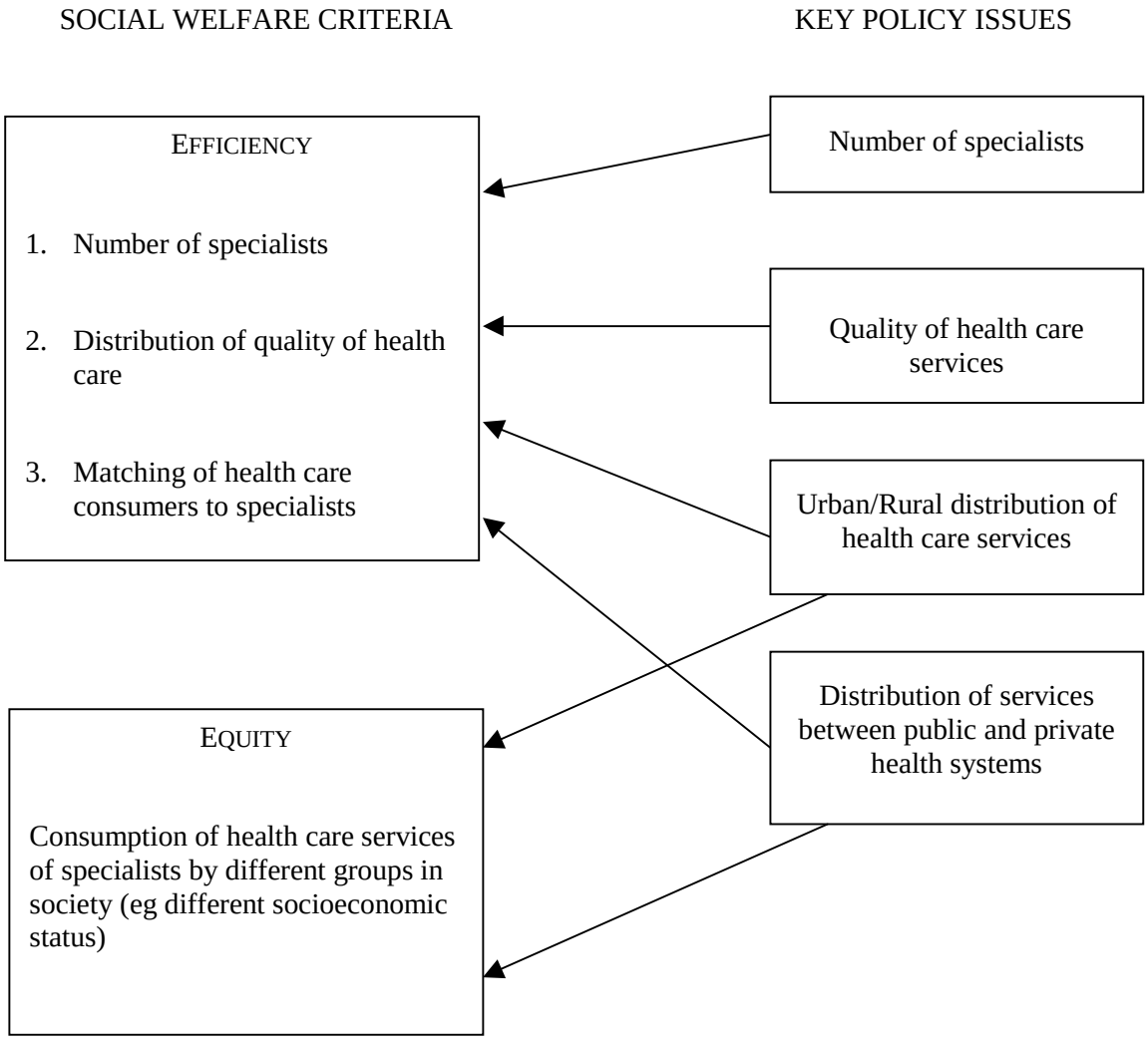


Figure 7.8 **Australian medical workforce review methodology**

1. What is current supply?

a. Estimate number of specialists by gender by age.
b. Estimate average hours of work by gender by age.
c. Combine (a) and (b) to estimate total hours of labour supply.

2. Is current supply adequate? **YES**

Criteria

a. Specialist/population ratio.
b. Public hospital vacancy rate.
c. Change in average hours worked.
d. Surgery waiting times.

(eg. Sustainability of service; Opinions of specialists on adequacy of supply.)

3. Forecast annual rate of growth in demand

a. Rate of growth in demand due to population growth/change in age composition.
b. Rate of growth in demand due increase in usage of services (within a group).
c. Combine (a) and (b) for estimate of overall annual rate of growth in demand.

4. Forecast annual rate of growth in supply

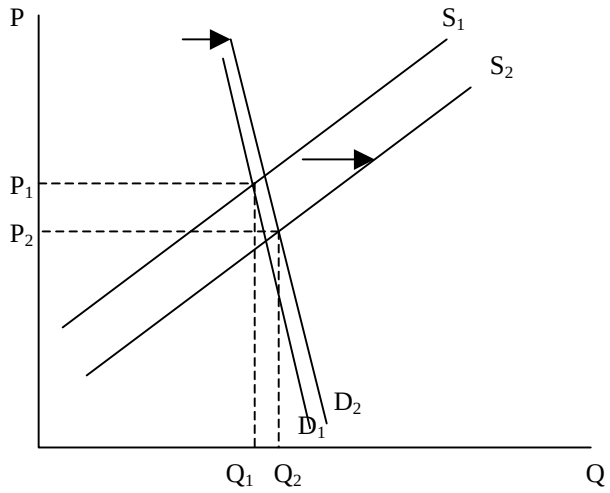
For each year, forecast number of specialists by gender by age (assume entry from training is constant at current levels). Combine with data on current average hours by age by gender to estimate total hours supplied in that year.

5. Recommendations on supply

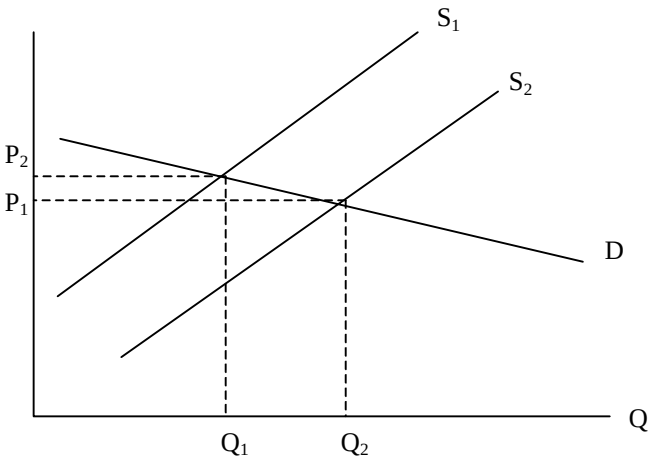
a. Compare rate of growth in demand and supply for each year relative to starting year.
b. Where forecast demand growth exceeds forecast supply growth — increase assumed entry levels from training until supply growth and demand growth are equal.
c. Recommend increase in training positions sufficient to achieve balance between demand supply.

Figure 7.9 **Supplier-induced demand**

Panel A



Panel B



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Discussant — *John Freebairn*

The University of Melbourne

Ian Monday provides a comprehensive review of the theoretical and empirical literature. I agree with his conclusion that the extensive and diverse literature remains inconclusive about the key issues, including the potential causes of supplier-induced demand (SID), the extent of SID, and the policy implications.

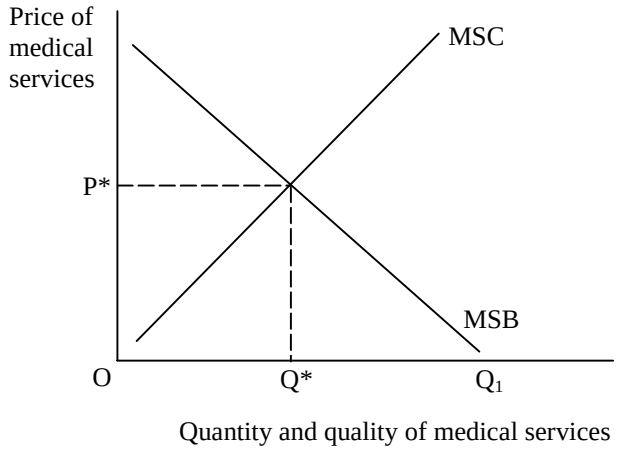
In my comments, I want to highlight the importance of government policy interventions on the health care market with the aim of:

- setting a context for evaluating SID;
- reconsidering modelling of SID, and
- suggesting the need for more formal theoretical underpinnings for SID and appreciation of the properties of available data before embarking on another set of econometric studies to test for SID.

The real world health care market is characterised by pervasive government intervention affecting prices and quantities. For equity reasons the Australian government, as is the case in most countries, has objectives of providing at least a minimum level of access for health services to all its citizens. This involves numerous policy actions to reduce price and to restrict and ration quantity by non-price means. At the same time, resources allocated to health care have opportunity costs as less resources for education, housing, defence and so forth. Whilst not denying the dominant role of equity concerns, in my comments I want to focus on the resource allocation question.

From the perspective of the efficient allocation of scarce resources, the number of doctors, hospitals, drugs etc. should be chosen at those quantities where marginal social benefits (MSB) equal marginal social costs (MSC). This is illustrated by quantity Q* in figure 7.10 using a simple supply and demand model for health care. Clearly, this is an enormous abstraction from the complex relationships provided by Jeff Borland. Decisions to increase the number of doctors, drugs, equipment, etc. should be based on estimates of MSB versus MSC for the additional quantity of services.

Figure 7.10 **The market for medical services**



Now, if uncertainty about the MSB of medical treatments are as pervasive as suggested by Oxley and MacFarlane (1994) quoted by Monday, namely 'Four-fifths of medical procedures and two-thirds of medical goods have never been evaluated with respect to their effectiveness and costs', then a clear policy priority has to be to obtain and disseminate this information. Further, given the public good properties of medical effectiveness information (non-rival in consumption and high costs of exclusion) resulting in market failure, there is an obvious high priority role for policy actions to provide information on the MSB and MSC of different elements of medical services.

Another point which can be made using figure 7.10 is whether SID can be considered a policy problem or not, as is noted by Monday. If the perceived marginal private benefits of medical services function is to the left of MSB, then too little resources are likely to be allocated to health care. Here, if SID pushes the perceived demand curve outward it could improve the resource allocations. Conversely, if the perceived marginal private benefits curve already is to the right of the MSB curve, SID would result in an excessive allocation of resources to health services. Our paucity of information on these key functions means that the policy significance of SID, if it exists, is uncertain.

For almost all health services individuals do not face the full MSC of the services, and hence it is not surprising that demand is seen to exceed capacity. Government policies such as Medicare, public hospitals and the Pharmaceutical Benefits Scheme mean that many services are provided free of charge or they are heavily subsidised. Even with private insurance, and particularly with restrictions on community rating and illegality of bonuses and super-premiums set according to usage, the cost of additional use of medical services per individual appears very low. In essence,

medical insurance has a common property resource characteristic by which an additional individual health service or claim has a negligible cost to the individual. Then, in the context of figure 7.10, price seen by individuals is much closer to zero than P* where MSB and MSC are equated. That is, individuals' demand for health services are close to Q_1, well in excess of the social optimum Q*.

Given the initial highly subsidised price intervention, largely for political and equity reasons, governments then try to restrict supply to be less than Q_1. Whether governments attempt to restrict supply to be at least Q* where MSB = MSC is debatable, but this is the allocatively efficient level. Supply restrictions are effected initially by restrictions on key medical inputs, particularly skilled health personnel (via the AMWAC process discussed in Borland), drugs, equipment and medical facilities. In turn, the medical profession rations the limited supply by longer waiting times, queuing, lesser quality.

The combination of price subsidies and non-price rationing of supply has to be included in an assessment of whether SID, if it exists, aggravates or ameliorates decisions and outcomes on the desirable allocation of resources to the production and consumption of health services. My reading of the literature and of Monday's review does not indicate that such a comprehensive analysis has been undertaken.

The prevalence of government intervention in the pricing and supply of health and medical services means great care and caution is required in using recorded data on prices and quantities for the econometric estimation of health demand and supply functions, including testing for SID. Observations may be on either the demand or supply curve but not both, or some likely prices and quantities recorded are for disequilibrium positions inside demand and supply. Identification of supply, demand, and in particular SID, therefore needs to follow from a very carefully specified structural model which explicitly incorporates government price and quantity interventions.

I hypothesise that the prevalence of government intervention is a key reason for the plethora of studies of SID in the health market but not in other markets characterised by asymmetric information, such as repairs of cars, houses and equipment, where there is much less government intervention. In this vein below, I want to suggest that government quantity restrictions provide a key rationale for a plausible model of SID.

Most models which seek to explain the existence of SID are based on assumptions that there is uncertainty about health care (about an individual's health status, the treatments on offer, the contributions of treatments to better health, costs of treatment and patient preferences), that in many but not all cases the medico is more informed than the patient, and that medicos use this asymmetric information

advantage in an opportunistic way. Each assumption has been contested in the literature.

A very simple model has a medico with a utility function depending primarily on doctor income from services rendered.

$$U = U (\Sigma P_i Q_i) \qquad (1)$$

where U is utility, Q_i are the different medical services offered, and it incorporates the numbers and quality of treatment, and P_i is remuneration per treatment. Beginning with a situation of equilibrium prices, quantities and income scenario, suppose medical practitioner numbers are increased. For the incumbent medico, price, quantity, or both fall, with income falling. The SID argument is that medicos will use their information advantage to recommend to patients more and/or more expensive treatments to restore their income. That is, extra doctors create, or shift out, demand.

The extent of their induced demand can be modified by adding to the medico's utility function (1) concern for the patient, the medico's own ethical standards, and the SID effect can be reduced by licensing and monitoring. In general, such additional considerations will reduce the magnitude of the SID effect, but not eliminate SID.

Let me now extend the simple model to add leisure to the medico's utility function and to recognise the reality of government quantity restrictions. Utility is then given by

$$U = U (\Sigma P_i Q_i, L) \qquad (2)$$

where L is leisure, and is reduced by both more and longer term/higher quality services. Now, because of government quantity restrictions, in order for doctors to enjoy leisure they restrict demand by restricting the number and quality of services beyond their judgement of what is good for the patient. One consequence of an increase in doctor supply is to allow doctors to make a better balance of services offered, both more services and higher quality services, and enjoy their leisure. This can be interpreted as SID, however, its underlying cause is the government regulatory system. Further, one cannot draw conclusions that such a response is counter to a better allocation of resources without further analysis.

A somewhat similar proposition can be reached by adding the risk of a professional liability charge on the medico. Here the utility function of (1) is augmented by the

liability risk, LR, together with the assumption that more and longer treatments per patient reduce the liability risk.

$$U = U (\Sigma P_i Q_i, LR) \qquad (3)$$

Then, an increase in doctor supply provides doctors with an opportunity to raise utility by more and longer consultations (ie. SID), to reduce the chances of litigation. Conversely, an increase in the risk of litigation has a SID effect.

In my view, further econometric work on SID should start with detailed *a priori* models of the underlying rationale for such behaviour. A more structural model based analysis is likely to have stronger claims for plausibility, defence against criticism, and policy implications than the cruder reduced form model studies found in the literature.

Of course, combining my request for formal structural models and recognition of extensive price and quantity regulations in the health care industry is a big and challenging order. Whether the cost is warranted remains on interesting question itself.

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Discussant — *Robert Gregory*
Australian National University

Professor Borland has written a welcome, useful and important paper. The lack of study of medical specialists is surprising and this paper, which provides a general outline of the market for medical specialists, is an important step towards rectifying this situation. Some policy issues are put aside, but the discussion of the issues focused upon provides us with an analytical and descriptive base upon which to build. The paper is clear, well written and covers a wide range of issues.

My limited knowledge of this field, and the broad nature of Professor Borland's paper — forced upon him by lack of data and publications in this area — presented me with the following problem. It is very difficult to develop an empirical feel for what matters. Where are the big problems to be solved? What are the problems that are often talked about but are relatively unimportant and can be placed aside? The lack of good data, and accompanying analysis, makes informed answers to these and similar questions quite difficult. However, this is how I now see the most important issues in this paper.

Professor Borland makes two major propositions, both are very important and both I regard as doubtful. Or, at least, there is insufficient evidence to support them.

Proposition One; there are significant shortages of medical specialists

The spirit of the paper quite clearly supports this proposition, but the actual evidence presented is very weak and I suspect misleading. The evidence consists only of a couple of lines and two points.

Point one is that AMWAC argues there are supply shortages in eleven of the seventeen specialist fields they have researched. Point two is that Professor Borland believes that AMWAC's supply assessments are biased towards understatement of supply shortages. Consequently, he believes that specialist supply shortages are more serious than suggested by AMWAC.

I have a number of criticisms of the shortage hypothesis.

First, a supply shortage is defined as a gap between 'actual' supply and an 'optimum' supply for this market. In a perfectly competitive market there is a clear

definition of an 'optimum' supply, but in a market as heavily regulated as this, with substantial externalities and subject to political influences, it is difficult to define an 'optimum'. The determination of the optimum supply is the key issue and I will come back to this later.

Second, placing the optimum supply issue aside, I have no idea of the quantitative significance of the shortages that are being suggested? Is there a crisis given the bias in the AMWAC methodologies? Or, is there a need to increase supply by something quite small, say 3–4 per cent?

Third, the paper discusses briefly how supply shortages can be alleviated. It mentions the possibility of substitution across some specialist areas, the possibility in some medical areas of general practitioner/specialist substitution, the lengthening of work hours of specialists and the operation of queues and waiting lists. But, given the state of the literature, it appears to be impossible to assess the importance of any of these adjustment mechanisms? Which adjustment mechanisms are an important feature of this market and which are of limited quantitative significance?

Proposition two; shortages should be corrected by removing all quantitative restrictions

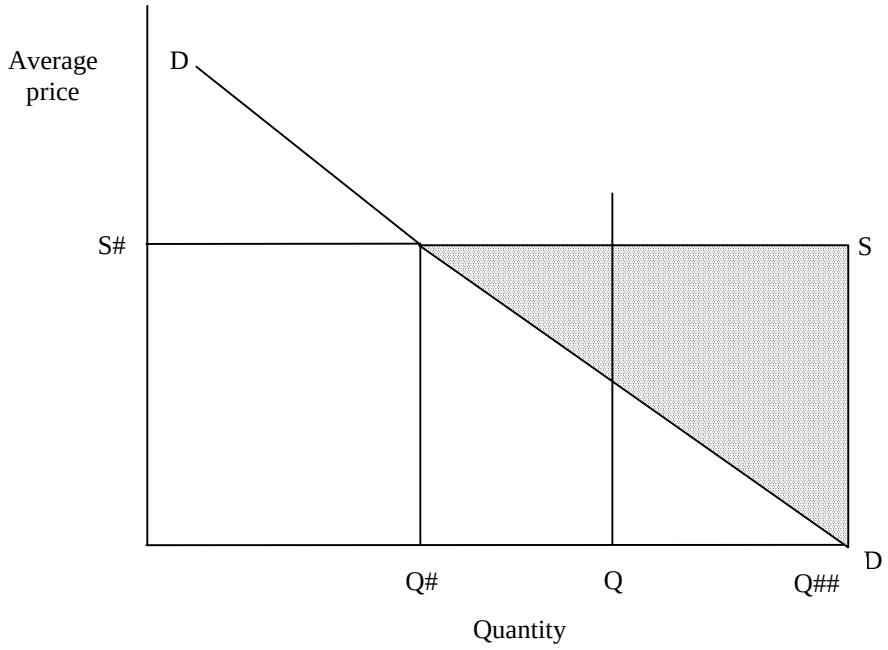
Professor Borland states quite firmly that government should maintain a system to enforce specialist competency levels, but drop all quantitative controls on supply. The idea is that all those who meet the required competency levels, and desire to become a specialist, should have access to the profession. I have reservations about this suggestion.

To understand the issues a little better, and the source of my concerns, let us simplify the market in much the same way as Professor Freebairn has done in his comments on Ian Monday's paper. Let there be a demand and supply curve, where the demand for specialist services is measured as DD and the unconstrained supply curve of specialist services is measured as S#S (figure 7.11). I have drawn the supply curve as horizontal at this point, but nothing of importance turns on this. The vertical axis can be thought of as the average revenue from a unit of specialist services.

If this were a free market, with no interventions to restrict the supply of specialist services, the equilibrium average price and supply of physicians would be given by S# and Q# respectively. The demand for specialist services at prices below S# would not be met. But, this is not a free market and there are unusual features

generated by welfare considerations, externalities of various types and significant government regulations. The more important of these features are the following.

Figure 7.11 **Demand and supply of specialist services**



First, the government sets the consumer price of specialist services at levels well below the unconstrained supply price S#. Suppose, for ease of exposition, that the price is set at zero. At this price, the demand for specialist services is where the demand curve cuts the horizontal axis. The demand at a zero price exceeds the free market optimum as indicated by S# and Q#. Of course, no one will supply specialist services at a zero price. Consequently, specialists face another price, which is the fee paid to them by the government. It is this fee which provides the specialist with income.

Assume for the moment that the government fee is set at S#. At this price, the specialist will continue to provide services as long as there is demand. That could be substantial since the consumer price is zero. Indeed, in this simple model, the specialists will supply services until the quantity Q## is met and the dead weight loss to society, subject to the definition of the demand curve, is given by the shaded triangle lying above the demand curve but below the supply curve.

Now, suppose the government believes that the correct price that ought to be charged to the consumer to determine the quantity demanded, after taking into account all welfare considerations, is not zero but something higher. Assume also that government cannot achieve this consumer price because of a political process that always produces a zero price. In an attempt to restrict the quantity of services to

that which would be provided at the optimum price, quantitative restrictions on the supply of specialists are introduced. The quantitative restrictions lead to a quantity of services, Q, that would be consistent with what the government believes is the optimum price.

This split behavior pattern of the government, setting a consumer price and a supply quantity that are inconsistent, will inevitably produce shortages of specialists relative to the demand. In the absence of specialist fees, the gap between Q and Q## is the 'supply' shortage that Professor Borland is focussing upon. All the usual indicators of demand and supply imbalance will suggest a shortage of specialists. Specialists who are being paid by the government on a per-service fee basis will find that they work long hours. There will be queues for specialist services. But this supply shortage should not be met. It is the result of a gap between the 'optimum' supply and a supply produced by a consumer price that is too low.

But why would a government that can control quantity supplied set the consumer price to be inconsistent with the quantity demanded? I can think of two interrelated reasons.

First, there is a complicated argument surrounding the politics of medical care. It seems to be a characteristic of the community that it will not easily accept co-payments. The political process seems to produce consumer prices that the government believes are too low. So government responds by limiting expenditure at this price by controlling supply. Of course, for this analysis to be valid there needs to be a political process that is able to produce this inconsistency in the market between the quantitative restrictions and the consumer price and to maintain this inconsistency. This type of inconsistency, however, is not unusual in medical supply provision. In many areas of health, the government under-prices services, relative to supply which is restricted. Nursing homes are a case in point. Of course, a little thought makes clear how difficult this area of analysis becomes as it quickly extends into political decision making and determination of 'optimum' quantities and prices in non-market situations.

Second, when government underprices the service, relative to the supply, there will be pressure for the specialists to meet supply shortages by adding a specialist fee. This is a feature of the market. Why does the government allow this? This is a part of the conflicting set of beliefs of governments and consumers and government concern for a public finance imperative. In one dimension, when directly facing the electorate, the government agrees that specialist services should be subject to a zero price. In another direction, it allows specialist fees to reduce some of the excess demand. In terms of our earlier figure, this can be thought of as the government setting the rebate prices below S# and allowing the specialist to make up the difference that is necessary to generate a supply consistent with the quantitative

restrictions. In a dynamic context it is easy to see that if specialists increasingly charge fees to fill demand gaps this process will reduce the need for governments to increase rebates to produce sufficient revenue for the specialists.

Where do the Colleges fit into this scenario? They of course gain from the supply restrictions as specialist fees are added to the rebates and add to their income. This can be seen more clearly if our original figure is adjusted to allow an upward sloping supply curve.

If this sketch of the market is correct it fully explains why supply shortages are observed in the market place, why specialists can charge fees, and why the government does not want unrestricted supply at the current set of prices. If supply restrictions were to be removed the cost to the government of specialist services would be increased. Given that a zero price to consumers does not really produce the 'optimum' quantity supplied, and removing supply restrictions would increase the budget allocations, questions arise as to whether the government would leave the consumer price so low, if quantitative restrictions were removed. If quantitative restrictions were removed would government begin to reduce rebates and allow the specialists to increasingly use price to reduce market supply.

Concluding remarks

The specialist medical market is a very complex market to analyse because of the difficulty of determining optimum prices and quantities that should be supplied. Of course in free markets these issues do not arise. The market looks after it all.

We obviously need to think much more about the supply and demand issues in this market and this paper begins to move us in this direction. From a research viewpoint, it seems impossible to avoid the need to expand the data base to support the analysis. It also seems impossible to avoid extending economics into a more detailed analysis of welfare issues and political processes.

General discussion

The discussion focused on:

- the supplier-induced demand (SID) phenomenon;
- the effects of existing regulations on the supply of medical specialists; and
- changes in the availability of health professionals caused by globalisation.

Supplier-induced demand

The relevance and measurability of SID was debated widely.

Several participants argued that attempts to estimate the likely magnitude and form(s) of SID were important because of its continuing influence on health policy making. It was suggested that there is a perception by some that SID exists and presents policy makers with a cost containment problem. Further, this perception seems to influence the setting of health policies in a number of areas, including, for example, the regulation of medical practitioner and specialist numbers.

Amongst participants, there were differing views on the likely existence of SID and its policy implications. Some participants considered that SID is a real phenomenon and that the SID hypothesis provides an accurate characterisation of the market for medical services consistent with casual observation and the behaviour of doctors. Other participants questioned the notion of SID and its policy significance. One participant suggested that the controversy surrounding the notion of SID reflected fundamentally different views about the decision-making environment for the provision of health services. The conventional neo-classical framework, which questions the existence of SID, is based on a rational agency model of medical decision making. Within this model, there is a well-defined demand curve based upon well-defined expected benefits and the patients valuation of these benefits. In contrast, the actual decision-making environment of doctors is characterised by both asymmetry of information between doctors and patients and considerable clinical uncertainty. In this environment, SID arising from the increasing use of services, such as diagnostic testing, represents nothing more than the use by doctors of capacity to its limit. Another participant observed that if there is considerable uncertainty about the marginal benefits and costs of medical treatment then the policy significance of SID, if it exists, is unclear. Another participant argued that

SID effectively exists in all sectors of the economy, to the extent that suppliers believe in their product and try to promote its sale to the maximum extent possible. The only interesting question from a health policy viewpoint was whether this activity had a severely distorting impact on the market for health services. In his view, this was not the case.

A number of participants commented on difficulties associated with estimating the extent and form(s) of SID. These were linked to both fundamental deficiencies in the available data and problems with the concept itself. Several participants indicated that they did not think it was possible to prove or disprove the existence of SID on the basis of existing data. Some felt that this did not actually matter, and that there are better areas for health research. One participant suggested that there was a need to sharpen the nature of the research questions being posed in this area prior to identifying data needs. Specific purpose data may be required when attempting to estimate SID. Other participants indicated that a fundamental problem with trying to quantify SID was the underlying counterfactual question: what would the patient have sought if they had known as much as the doctor? In their view, it is not possible to answer this question and, hence, not possible to determine the extent to which demand is induced.

Regulation of the supply of medical specialists

The discussion commenced with one participant suggesting that the Australian Medical Workforce Advisory Committee's (AMWAC's) approach to supply and demand projections needed improvement. Problems with the current process were partly due to the underlying methodology and partly due to data problems. In reviewing supply and demand influences to assess appropriate supply levels there was a need to recognise important differences between sub-groups of medical specialists such as between anaesthetists and pathologists compared with other sub-groups. Beyond this, there was also the issue of whether projections were developed having regard for population requirements or focused more on an assessment of an efficient market outcome. Another factor was the need to consider the implications of the likely movement of locally trained medical specialists overseas in formulating recommendations about the number of training positions for each specialty area. It was often the case that such positions provided free-of-charge training opportunities to specialists who did not intend to remain within Australia.

Another participant raised the issue of data problems noting that previously many doctors had been registered in several states. This had made it difficult to determine the number of medical practitioners in Australia. Changes to the monitoring arrangements covering the recording of doctor numbers since 1995 had brought an

enhanced understanding of the professional supply and demand situation. One participant observed that the importance of AMWAC was often overstated in discussions about the size and make-up of the medical workforce, and that it was only a part of a larger framework of federal-state arrangements which determined supply levels in the health system.

The distortionary effects of supply regulations were raised by several participants. One participant suggested that these regulations have the effect of encouraging medical practitioners to move into middle to high income areas where there is greater scope to charge above the bulk-billed rate. Another participant contended that the restrictive nature of the regulations provided an incentive for specialists to move from the public to the private sector. The effects of supply regulations on the prices charged for medical services was also discussed. One participant maintained that the prices for private medical services were not regulated in Australia. They argued, however, that the restriction of specialist supply increases the market power of specialists, resulting in higher mark-ups above the Medicare rebate. Such mark-ups represented indirect evidence of a specialist supply shortage. It was suggested that even though consumers of these services faced higher prices, both governments and specialists had a vested interest in perpetuating a situation of 'shortage'. For governments, limits on the number of specialists reduced the volume of services they were required to finance, while for specialists they conferred market power.

Another participant commented on a range of issues relating to the regulation of the supply of medical practitioners and specialists. Concern was expressed with the notion of 'shortages' in relation to specialists, noting that many assessments of the adequacy of supply overlook the heterogeneous nature of specialist services and differences in the distribution of specialists between metropolitan and rural or remote areas. Mention was also made of the scope for input substitution in the medical services market. Analyses of labour market developments needed to take account of technological advances and their implications for opportunities for capital-labour substitution and labour-labour substitution. Finally, the use of a capitation payment system might encourage medical practitioners to make a trade-off between income and leisure, and encourage the greater use of nurses in primary care. The question of whether this was an efficient outcome or merely involved load-shedding by doctors was left open.

The global market for health professionals

Several participants argued that an important factor influencing the availability of general practitioners, specialists and other health workers was the growing internationalisation of the health labour market. This was evidenced by the

increasing rates of inward migration and emigration of health professionals between countries. The effects of globalisation on the medical workforce were likely to become more important over time, and this raised important questions for policy-makers to consider including: What is the cost of training doctors to replace those lost through migration? How do Australian rates of pay and working conditions/opportunities compare with other countries? In this context, some participants considered that the loss of professional health workers from Australia to other countries reflected better rates of pay and/or working conditions in these countries.

PART F

PANEL DISCUSSION

8 Panel discussion

The final session of the Roundtable featured a panel discussion, a general discussion and a concluding comment from Gary Banks. The panel discussion provided a forum for seven participants to reflect on key themes and issues raised in the earlier sessions. The general discussion covered a broad range of issues, including areas where there is scope for further systemic improvements.

The panel discussion

Helen Owens
Productivity Commission

The Roundtable has highlighted the need to address three sets of issues concerning the reform process for health.

First, is there a need for further reform of our health system? If so, what are the objectives and what are the nature of the problems? Discussions have alluded to the existence of new cost drivers in the health system: specific technologies such as genomics are emerging which could mean that people at a very early age could get access to drugs on which they will rely for the rest of their lives. There are big ethical and economic questions facing the community about who is going to get these drugs and how we are going to pay for them? Given these pressures is there a constituency for further change in the health area?

A second set of issues concerns the type of reform that should be considered. Do we need 'big bang' style reform of the health system? Some proponents of reform suggest that we do, at least in the longer run. Richard Scotton's managed competition proposal could arguably be described as 'big bang' reform. Likewise, the suggestion by Graeme Samuel of an opt-out arrangement for the wealthiest 5 per cent of the population is an example of reform involving significant change.

A third set of issues concerns priorities for reform. Much of the discussion centred on incremental reform. In this context, Alan Maynard mentioned information innovations in the UK such as the development of the Dr Foster service. Such innovations offer the potential to provide additional information for consumers.

They are able to provide more information for practitioners in support of evidence-based care. Also better outcome indicators for policy makers could be developed. A related issue concerns how information can be gleaned from the right people at the right time to stimulate the policy debate and develop better policies and programs. Gavin Mooney's ideas about citizen juries and community councils might be one means of obtaining such information.

Incremental reform could also continue in other areas, including the design and operation of the regulatory framework for health services. Do the numbers of medical practitioners need to be regulated at all (eg via AMWAC)? What about incentive structures and pricing arrangements – is price regulation of health insurance premiums, for example, an appropriate way to proceed? There are also issues relating to PBS pricing.

Finally, incremental reform could embrace the IT revolution, drawing on developments in this area to improve system performance. John Paterson, for example, seemed optimistic about this, judging that there is growing acceptance of the need for change.

Peter Dawkins
Melbourne Institute of Applied Economic and Social Research

I would like to comment on five key issues that emerged at this Roundtable.

Information: In the Maynard session, there seemed to be a consensus about the need for making better use of existing information, as well as expanding the amount of information in the public domain. Such a development offers potential for gains in both equity and efficiency. There would also be positive spin-offs for researchers in, for example, the area of unit record data which record the experience of patients as they work their way through the system. While confidentiality and privacy issues arise, there is scope to handle them without jeopardising opportunities for useful research.

Incentives and competition: Efficiency is an increasingly important issue as the health system becomes larger and more complex. Economists typically place a lot of emphasis on the importance of incentives and competition in achieving efficiency and this tends to favour an approach which promotes competitive product and labour markets. Richard Scotton's advocacy of managed competition provides an example of such an approach.

System reform: Some participants – for example Jane Hall and Alan Maynard – question the usefulness of a 'big bang' approach to reform. They maintain that there

are a lot of 'micro' level problems which need to be tackled individually. In contrast, others see a need for broader – system wide – reform to create incentives to promote appropriate 'micro' outcomes.

Financing: Regardless of the effectiveness of cost control measures, increased spending on health can be expected into the future. The question of how to finance this increased expenditure is therefore fundamental. Options include higher taxation, hypothecated taxes, increased means testing, subsidised private health insurance and increased co-payments. But there are differing views about the appropriateness of these options. Hence, further research is needed in this area. This is alongside the reform of the actual system and the incentives and contractual arrangements within the system.

Equity: There was admiration for Gavin Mooney's courage in advocating a new approach to equity in health care. A clear case was made about the pressing problems in Aboriginal health and the major outstanding equity issues that need to be addressed. But there was some scepticism, in particular about whether a communitarian, citizen-based approach can work in health care. Even so, it is also apparent that more information about people's preferences regarding equity, as well as more information about efficiency, is needed to inform the process of reform.

Jane Hall
Centre for Health Economics Research and Evaluation

A key question is undoubtedly do we need reform? The answer is: no, yes and maybe.

'No' in terms of 'big bang' approaches which are likely to upset the system. There is no evidence that such approaches will address the problems we face. The commonality of problems in health is clear. There are increasingly global problems in terms of movements of workforce, the spread of technology and multi-national companies affecting the availability of products.

'Yes', we need a sense of progressive inquiry to inform continual change. There is not one simple solution. When one thing is fixed another problem arises somewhere else. Accordingly, health care policy is a long quest for continual small improvements to the system.

Further, we need a healthy amount of scepticism regarding how the system works. For instance, we should not just accept the conduct of economic evaluations of, for example, the Pharmaceutical Benefits Scheme. There are many problems with how these evaluations are handled. We have a price-setting mechanism that allows

companies to gain price rises and take rents. At present, we only make head to head comparisons of drugs, rather than doing comparisons that involve drugs and other forms of intervention. Consequently, we are only looking at what is cost-effective within a very narrow range of possible interventions.

Values are a key issue. People argue from established value positions. Two points should be made here. First, we need to understand more about community values and preferences. These are not written in stone, but vary enormously depending on when, where and how they are assessed. For example, the survey quoted by Tom Rice was conducted in the context of an upcoming election and the accompanying negative media coverage about problems with Australia's health care system. This would probably have affected the responses of participants. Second, what are value positions and what are empirical ones? If you hold a strong position, what is the piece of research evidence that would make you change your mind, or is it unchangeable? That will influence research priorities.

There is also a need to recognise the role of media and vested interest groups in shaping debate about health policy. If we believe in informed consumers, whether at the individual or the community level, we need to make some investment in information outreach to promote effective debate about health policy.

Finally, regarding research, Australia spends very little on research generally and incredibly little in the area of health services research. This needs to be expanded and diversified so that we can make more use of the existing data, collect more information and use this information in various policy forums in deciding the relative merits of different approaches to financing and delivering effective health services.

Alan Maynard
University of York

The Roundtable has highlighted a number of important issues and overlooked some others.

Distributional issues in health: The Aboriginal issue is one case, but more generally there are questions about financial burden, utilisation and the health of the lower deciles of the income distribution. Such issues have had little mention during the Roundtable (apart from the specific discussion of Aboriginal health). What is happening cross-sectionally and over time with respect to health care and health inequalities?

There is a related issue concerning the distributional effects of the 30 per cent private health insurance rebate in Australia. What is the impact of the rebate on cost and price, on volume, efficiency and expenditure? As premiums rise, the cost of the public rebate increases. Is this going to be an open-ended rebate or are you going to cap it at some stage? Some basic empirical work is needed to identify the impacts of the rebate and to assess its effectiveness.

Financing: The response to changing financing arrangements is often – 'Who do you want to screw?' Tax-based financing mechanisms are generally more progressive than social insurance and user charges. If you want to screw the poor, use user charges (eg co-payments). If you want to screw the rich, use the tax system. Remarkably, the current Blair government in the UK wants to screw the rich. This switch to increasing funding from tax financing is a good idea.

Supply: Two sets of issues about the elasticity of supply in relation to the medical workforce were touched on. First, what is the impact of the growing internationalisation of the market for medical workers? Associated with this, what are the key influences on the relative attractiveness of countries as places of employment for doctors and nurses? Hence, changes in the international labour market and the relative importance of different influences on locational decisions of workers need research. Second, how do you reduce variations and shift the means in general practice? Maynard and Bloor (2001) used crude data to ask very simple questions like: What has happened to the productivity of general practitioners and hospital consultants over the last 45 years? It turns out to be constant. Is this bad statistics, or are doctors immune to change in the system?

The UK has a record of successes and failures with mixed payment systems. Modifications to mixed payment arrangements have worked in some cases. For instance, in the 1990s, policymakers applied fee-for-service arrangements for services where there was a good cost-effectiveness case for doing so. One example was the introduction of graduated fees, so that fees were higher the greater the percentage of patients on a general practitioners' list covered for things like immunisation, vaccination and cervical cytology. This led to increases in the cytology, immunisation and vaccination rates to 90 per cent in 18 months. More recently, the introduction of fee incentives for influenza vaccinations to the elderly in the UK led to an increase in the vaccination rate from 30 per cent to 85 per cent. Fees are certainly a potentially useful allocative tool if used correctly. But they have also been used for extremely foolish things, and the result has been induced behaviour from general practitioners to deliver ineffective health care. For instance, minor surgery payments make them do relatively poor surgery. The introduction of fee-for-service for screening of over-75s is another example. There is no evidence that it is cost-effective. Currently in the UK there is a debate about whether the

salary system for hospital doctors should be changed by adding an additional fee-for-service payment to try to cut down on variations in practice and increase activity generally. Whether this will work or not is unknown.

Translating evidence into practice is a very important area. First, the way we pay people can be influential at the margin. Second, we should not be pessimistic, it is possible to change doctor's behaviour – the pharmaceutical industry does it with great aplomb. It is highly successful at encouraging shifts between therapeutic interventions. The cost of these efforts is very high and we can learn from this. We know that if you give doctors pieces of paper telling them what to do, they will file them in the waste bin. Academic detailing, whereby you try and get agreed guidelines and then try to reinforce these, does seem to be effective. Academic detailing can secure small cost effective changes in the behaviour of doctors, moving them towards the evidence base. Alternatively, we could go down the route of the external regulation of standards. In the UK, the royal colleges and medical colleges are really pathetic in terms of setting standards and implementing them. They offer standards that are usually based on clinical effectiveness rather than cost effectiveness, and they do no policing to try to promote change.

Competence clearly came up as an issue. Workforce planning arguably ignores the heterogeneity of doctors – it seems to assume that all doctors are good and all equal to one another. In practice, how do we encourage professional development over the life cycle? In the UK (and perhaps Australia) the colleges have a monopoly in professional education and have been demonstrably inefficient in ensuring lifetime education and keeping people up to date. This is very difficult.

As I understand it, talking to other participants, the issue of compression of morbidity is an open question in Australia because your disability survey in 1998 did not show the sort of effects identified by Manton and Fries for some other OECD countries. It is going to be very important for the cost of your health care system to see whether the health of successive cohorts is changing. Another issue concerns the process of trying to identify which technologies are good in terms of cost effectiveness. The scope for doing more work in this area is considerable, particularly in areas like surgery. In the UK, in the 1990s, minimally invasive surgery was introduced but evaluation only began after it had been adopted causing some problems. One editorial in the Lancet, quoting from another editorial from the 1920's, described evaluation in surgery as comic opera, basically because the design of studies in this area is so poor and they are also few in number. Trying to get a better handle on what works, and beginning to understand the technologies that are going to change our lives for the better at a reasonable cost, seem to be quite important.

No 'big bang' changes are required.

I would say that this Roundtable has again reinforced my perception that health economics has become a little isolated in some ways and has to get back with the old basic discipline. It has been distorted by an emphasis on, and associated funding for, economic evaluation. Doctors think the only thing economics is about is economic evaluation, whereas there is a lot of labour market theory, capital theory and regulatory theory that is highly pertinent in this area.

In conclusion, markets have high transaction costs. Indicators should be simple and begin to be focused on outcomes. The health research agenda can actually improve the way in which health care is delivered for the population, with considerable success if we begin to be more focused and more aware of the potential for the application of economics.

Tom Rice
University of California, Los Angeles

Seven main issues were raised.

(1) Supplier-induced demand (SID): In the US, this is not studied any longer, primary for two reasons. First, as a result of the move away from fee-for-service, there no longer exists an incentive to induce demand. Concern now in the US is centred upon providing too little service, not providing too much. Second, it is terribly difficult to get answers to SID. I would imagine that it would be easier to get rid of fee-for-service medicine than to prove SID and its extent. This is obviously said in jest, but SID *is* probably impossible to demonstrate once and for all because it raises a 'counterfactual' question: what would the patient have sought if he or she had known as much as the doctor? We are never going to know the answer to this question, so we are never going to know how much demand is actually induced.

As a result, I recommend that the Commission not study demand inducement per se; you will never convince anyone of your results. Instead, you may want to study a corollary question – but you can use the same methodology and data too. I think you want to be studying policy options *related* to SID, for example, the impact of more doctors and specialists; the impact of lowering fees; what happens when you change reimbursement rates? These issues would utilise the same data, but if looked at in this way it is not as loaded a question and you are seeking answers that are really much more interesting to policy-makers. So there is a need to reorientate the SID research question.

(2) Alternatives to fee-for-service in Australia: Fee-for-service creates incentives to provide services that are not useful. There should be more research on alternatives

to fee-for-service, for example, bundling of services (the US is about to implement an ambulatory diagnostic related group system involving a case payment for inpatient and outpatient services.) Also there is a recent study by Robinson (2001) discussing ways to mingle capitation, fee-for-service and salary. It is difficult to come up with an optimal way to proceed, but some thought about moving away from pure fee-for-service would be worthwhile.

(3) Cost control: An increasing percentage of GDP is being spent on health over time and this is not necessarily a bad thing. We should not get hung up on trying to reduce this number just because it is rising. Also we should not get hung up on how much government spends on health care. There is very little good in shifting costs onto the rest of the population. After all, the government is supposed to represent the people. Cost control *is* important to reduce waste. However, to the extend that costs go up because new technologies are cost-effective, we should – if anything – be pleased.

(4) Research funding: In the US, health service researchers are actually very well-funded. There is a federal body, the Agency for Health Care Research and Quality, which funds studies looking into practice guidelines, best practice etc. There is also a bevy of other organisations that fund health services research, and considerable foundation funding as well. But it is important to 'grow your own', so it is disappointing to hear that health services research is poorly funded in Australia. You need to know what services are going to be effective in your context in order to answer questions like: Should you have more specialists? What should you be doing about fees? You must do your own research.

(5) Private health insurance: There is a danger in increasingly relying on the private sector. This runs the risk of gutting the public sector. Wealthier members of society with more political influence going into private hospitals inevitably leads to two tiers, with those who remain in the public hospitals (or with public coverage) getting poorer care. One example, in the US, is Medicaid: it provides excellent benefits, covering nearly everything for poor people, but does not provide the same quality of care. This is largely because people in this program lack political power to effectively demand more. The idea of shifting more and more people into the private sector is extremely worrisome, and hopefully Australia will not continue down this path.

(6) Information and data: We need more data, but we also need to distinguish between two types of data: information that researchers use and information that consumers use. Regarding the latter, in the US, consumers have proven to be very bad about using information, so we should not assume that consumers are inevitably empowered by the provision of better information.

(7) Managed competition: Regarding managed competition in the US, people do like choice, but it is choice of provider, not choice of health plan. Proposals for managed competition involving a shift to health plans are not necessarily helpful to consumers.

Jeff Richardson
Monash University

Several important issues emerging from the discussions were identified.

First is the contentious issue of the apparent or real differences between many of those practising health economics, on the one hand, and more general economists moving into this sub-discipline. There is, of course, a great deal of agreement between the two groups. For instance, most of the discussion of efficiency measures would be generally endorsed. However, there are also significant differences in the assumptions that are generally made and the order of priorities for research and policy. There is a perception that these differences are greater in Australia than the US. We ought not to have significant differences given our similar training and similar overall objectives, that is, to try to achieve certain social objectives efficiently. One source of difference concerns the social objectives to be pursued - for example, the importance attached to choice and the definitions used to capture equity and access goals. A second source of difference reflects differing interpretations of how the health system works. Supplier-induced demand is at least symbolic of this difference.

Second, there are major potential differences between economists and the broader community concerning the objectives of the health system. Economics may be portrayed as an 'efficiency first' paradigm because equity and fairness principles are commonly an analytical afterthought. While we need systems that are efficient in providing services that the population want, it is clearly also important that they accord with notions of social fairness. Medibank, for example, was introduced explicitly for equity reasons. Previously, the level of coverage was not particularly good and the incidence of premiums was inequitable.

Third, we need better coordination of the system at the macro level. If doctors adopt evidence based medicine rapidly, then the transition to a better system can be relatively smooth. However, we can expect some resistance to the extent that evidence based medicine results in loss of income for some doctors. In the extreme, if this resistance is too great we may need to do what was once described by Uwe Reinhardt as using the 'bounty hunters of the private sector' – using private systems to force upon doctors what they are not prepared to do voluntarily and which government is unwilling to force upon the potentially powerful medical profession.

Finally, at the micro level, the single policy reform that is most needed is the linkage of the data records that we have at present. We have some outstanding data by world standards but we are not allowed to use it properly. We have got sufficient data to answer important questions like: When we find patients receiving one level of treatment in the private sector and another in the public sector, what is the outcome? Does the failure to use bypass surgery mean that we use more services elsewhere? Does it mean that patients die earlier? We do not use existing data to answer such questions, and that is a social scandal.

Richard Scotton
Health Economist

The issue of managed competition was discussed briefly. If we are asking 'Why managed competition?' then we should go back to the basic objective underlying government involvement in health care. The basic objective of Medibank and Medicare was equity, and historically this is the primary reason for government intervention in health care. Nothing has changed in this respect, but increasing inequalities in income and associated health differentials have given increasing emphasis to the equity objective. Equity is more than universality, but certainly universality is a good part of it. So the only workable and ethically acceptable basis for a health financing system is one which operates within a universal and progressively financed framework.

Why move on? Medibank was devised in 1968 when the structure and cost of health care were vastly different to what they are now. We have since seen massive continuing increases in the complexity of health-based inputs and outputs and corresponding increases in the efficacy and cost of state-of-the-art health care. It has become enormously more important to achieve efficiency, both in the strict economic sense of maximising utility, and in achieving the extra welfare that results from using the resources allocated to health in a way that maximises health gains.

Further, a number of features of our present system inhibit the efficient use of health care resources to such a degree that there is a good case for implementing another round of major reform.

What is wrong with the present system? One could mention program multiplicity and fragmentation, funding and service overlaps between Commonwealth and state governments and their authorities, dysfunction between public and private sector funding and service provision, and remuneration arrangements that are largely unrelated to outputs and outcomes. All of these impose barriers to improving efficiency within the present scheme and in some respects incorporate positive incentives to inefficiency.

This points to the desirability of incorporating efficiency-promoting structures and incentives into the health system, but within a universal framework. The classical method of increasing efficiency is to introduce an element of market competition wherein 'signals' are provided in the form of financial incentives. The various people operating within the health system are sensitive to such signals. The key issue in looking at major reform is whether it is possible to devise a regulatory framework which will make market forces operate in a theoretical manner and which will take into account the special features that complicate the treatment of health services as tradeable commodities, but which will also preserve the objectives of universality and equitable funding.

This version of managed competition, which is unrelated in many ways to that which operates in other places, can be seen as a device for improving the efficiency of the Australian health care system working within a universal funding program. This would involve the following answers to the problems I have outlined:

- First, a comprehensive amalgamation of all publicly funded programs into a single program.
- Second, population-base funding for program delivery.
- Third, a substitution of market incentives for what we currently have – aspects of a command economy including government regulation, subsidies which are paid directly to providers and direct service provision by government agencies. This would entail the introduction of price signals, but also changes in the formulae for payment and reimbursement of providers and organisers of service provision.

Specific measures would include:

- First, the amalgamation of publicly-funded programs into a single program with the big benefit of removing barriers to efficient substitution.
- Second, clear and separate roles for the Commonwealth and state governments. The Commonwealth would legislate, regulate coverage, set the rules of the game, collect the revenue and meet program costs through risk-adjusted capitation grants to budget holders. State governments would be responsible basically for the planning and provision of publicly-provided health services. These would still constitute the same share of health service provision as at present. In addition, states would supervise and underwrite part of the regionally-based public budget holders.
- Third, substantial integration of private sector funding and service provision into the national program. Both public and private budget holders would receive risk-adjusted capitation payments for people enrolled with them and would provide them with the benefits and services covered by the program. Those services would be analogous to the sorts of services now provided by a whole gamut of

Commonwealth and state programs. In addition, private budget holders would collect premiums to cover administrative costs and additional services, including access to private hospital care. This system would look outwardly the same as the present one to consumers of health services.

Competing budget holders would be responsible for meeting all services provided to their enrolled populations – minus any legislated co-payments – out of their global capitation revenue. Service providers would have to contract with budget holders or intermediaries for payment for services provided by them. The basis of remuneration incorporated in these contracts would be the transmission belt for increased efficiency in the health system.

The rationale for managed competition is not conceptual neatness, although it has this. It is the only way in which it will be possible to deal with the many specific problems for which no solutions are apparent in the context of the present system.

In some ways, and certainly in principle, the introduction of managed competition would constitute a 'big bang' – as opposed to incremental – reform. However, well-designed transitional arrangements could ensure this would not be the case with regard to the impact on medical consumers.

General discussion

Graeme Samuel observed that, in 1995, Australia's nine governments implemented a package of measures called national competition policy (NCP). This package builds on the 'pro-competition' principles embodied in the Trade Practices Act 1974. Both are based on the idea that competition, if properly harnessed, can provide substantial benefits for consumers and boost economic performance. Like the Trade Practices Act, NCP contains an explicit 'public interest' test to allow restrictions on competition to be retained where they are in the broad community interest. But, whereas the Act remains limited in its scope, NCP seeks to reap the benefits available from competition, where it is appropriate, in all parts of the economy. Importantly, the experience of the past seven or eight years with NCP reform initiatives has been almost universally good.

The health sector has thus far largely avoided the effects of pro-competitive regulation. It is unclear why the health sector can argue that competition – which every economist agrees will produce lower cost, lower prices, higher quality and more consumer choice – should not apply to it. The Productivity Commission and others are well positioned to ask serious questions about the performance and operation of the health system that those within the system itself do not want to address.

Regarding the issue of equity and fairness, let us accept the desirability of government involvement in health care through programs such as Medicare. Given this, we should then be asking some quite basic questions such as: Why can't our providers of health care compete against each other in the provision of both public and private health care services? Why do we build anti-competitive pricing structures into our private health insurance scheme and then prohibit the Productivity Commission from examining the public interests served by so doing? Why do we limit the number of doctors in the system? Why do we preserve anti-competitive structures in the pharmacy industry, even when a government-sponsored review found that they serve no public interest whatsoever? Why do we allow structures which give rise to distortions and resulting inefficiencies to persevere while avoiding active debate about alternatives, such as that put forward by Richard Scotton? Why don't we effectively means test the public funding of health care in the same way as pensions and other social welfare payments? Why not provide consumers with more information and fund them rather than the health providers, so that consumers can make their own choices as to the provider of their health care?

Informational asymmetry is the fundamental distortion that exists in the health industry, and it is perpetuated by those who benefit from keeping consumers ignorant. That is why managed competition is a way forward – it addresses the fundamental problem of asymmetric information. It starts to provide a mechanism in the form of brokers or health buying agents whereby consumers can become better informed about providers.

These are the sorts of questions that the Productivity Commission may well want to address in its future work.

John Paterson noted that, since our starting point in health is what the Europeans might call a 'social model', the managed competition route is probably practical – it does not go too far from the existing (over)managed model. Going from a non-market system to a market system would involve extensive changes, and the consequences are difficult to predict. Avoid big bangs, free things up a little and hope to go a lot further over the following ten years.

Paterson thinks three main areas offer considerable scope for system improvements. The first is the medical or clinical workforce. Nursing is one of the great disasters of job design in terms of credentials and the common rule gone mad. It is not true that 'a nurse is a nurse is a nurse' – some nursing work requires knowledge and skills at the highest level, while apprenticeship is better training for other nursing work. A huge amount of change is required, but industrial politics is against it. Change is required, not only in terms of policy design but also with respect to the politics in this area.

Second – information; markets work best with full information and in health care there is precious little. Improved information is a precursor to more market-oriented reform initiatives. Improved operational efficiency and better practice can be assisted by the use of electronic record bases for clinical support, patient administration and patient empowerment. It is the path to continuous improvement. Paterson is optimistic about the prospect of improvements through increased use of IT over the next decade; the key obstacles are cultural and financial, not technological.

The third area concerns product definition in health care. Many opportunities for shared care and other efficient uses of resources are prevented at present by inflexible program structures. There are some moves afoot to slightly loosen program rules but the system needs many more degrees of freedom.

In each of these areas – health workforce, information systems and their applications and loosening the regulatory bounds of health programs, there is a need for developmentally oriented research.

Bob Douglas maintained that the problems inherent in the present system are derived from the rather crazy dichotomy between public and private systems, and the fact that they are not effectively complementing each other but are instead rivals for the same resources. He underlined the importance of universality and expressed support for the managed competition model described by Richard Scotton. The debilitating relationship between state and federal governments has been the cornerstone of the whole problem and the cause of the failure to make better use of market forces to encourage efficient outcomes. So we need to tackle problems concerning monopolies within the health system, and those monopolies at present have an active interest in hiding information. We do not need a big bang with predictably disastrous results. Rather, there is a need to address problems in a carefully researched manner and to proceed gradually with reform. Finally, Australia is now better poised than most countries to take advantage of improvements in IT simply because we are so far behind at present.

Vince FitzGerald observed that one issue – financing – had received only scattered treatment during the Roundtable. There seems to be a tendency to understate the effects of ageing in this context, and it is likely that health expenditure as a percentage of GDP will rise significantly in the future due to it. It is possible to do a number of things to contain costs. There is, for example, tremendous potential for IT to help make resource use more efficient as well as scope for other productivity-enhancing measures. However, there are also significant trends pushing in the other direction. Examples include the trend in disease management to use more costly drugs, such as statins, which people will stay on for long periods of time; advances in molecular medicine and other areas, widening the range of treatments available;

and the high costs of intellectual property – intensive new treatments. These factors alone will ensure that the scale of cost increases will be significant, even without ageing. We should not, however, be unduly concerned about upward movements in the cost of health care per se. As our standard of living rises, individuals will want better health care, and this will probably entail increasing costs.

Given the scale of the likely increases, however, the political economy of funding growing health expenditures from the tax system must be considered.

Further discussion focused on:

- proposals for the reform of health care; and
- influences on future health care costs.

In response to Graeme Samuel's appeal for competitive forces to be applied fully to health, one participant suggested that this might have unintended and unwanted consequences. He cited the example of rural towns where the limited number of medical practicioners meant that doctors divided specialty areas between them. It made little sense to prosecute such practicioners for anti-competitive behaviour.

Another participant maintained that there is an established body of research which highlights that the health sector is different from other markets, and that such research should be considered before applying a managed competition framework to health. It was also suggested that a move to managed competition may lead to higher transaction costs, result in a multi-tiered health system that may be inconsistent with equity principles and give rise to competition by marketing rather than by cost-effectiveness.

Picking up on the theme of equity, another participant suggested that the objective function for health reform was not well defined. She argued that both efficiency and equity needed to be more clearly defined. This was necessary as they were potentially conflicting objectives, and decisions would need to be made about the relative weighting given to them within any proposal for reform.

Some discussion also occurred about the influence of an ageing population as a driver of future costs in health care. One participant observed that it may be another decade or more before ageing has much effect as a cost driver. Another participant argued that health care expenditure may rise to 15 per cent of GDP by 2020, but that this would not be primarily due to ageing. Instead, it would be because of societal choice to spend more on cost-effective health services. Another commented that ageing and technological change would, in tandem, be the major sources of future cost increases. It was recognised, however, that regardless of the sources of rising

costs, the efficient and equitable financing of increases in health expenditure remain as fundamental questions to be addressed by the Australian community.

A concluding comment

In closing the proceedings, Gary Banks observed that the presentations from the speakers and discussants had promoted stimulating discussions on each of the core health policy issues covered by the Roundtable. These discussions had revealed a number of areas of broad agreement, notably that the Australian health care system, while not in crisis, was far from perfect and that there was a need for more evidence-based development of reform proposals.

He noted that while many participants questioned the need for 'big-bang' type reforms, there also seemed to be broad acceptance that improved performance would require systemic changes, notably to the structure of incentives within the health care system. In this context, it was interesting to observe the interest from all sides in Richard Scotton's 'managed competition' proposal, which would clearly require significant structural, organisational and financial changes to the Australian health system. In reflecting on this, he considered that it would be useful to organise a further forum to examine the Scotton model in more detail, particularly the practical issues associated with its implementation. Such an endeavour was seen as fitting well with the Commission's charter of promoting well-informed debate as a precursor to improved policy outcomes.

Finally, on behalf of both the Commission and the Melbourne Institute, he thanked those who prepared papers for the Roundtable, particularly the main speakers. He also thanked participants for their contributions to the general discussion sessions.

APPENDIXES

A Roundtable program

Day 1 — Thursday 7 March

8.30 – 9.00 Registration

9.00 – 9.25 **Welcome and opening address**

Gary Banks/Helen Owens (Productivity Commission)

Session 1: International developments in health policy

9.25 – 10.00 *Speaker*: Alan Maynard (University of York)

10.00 – 10.30 Morning tea

10.30 – 12.00 *General discussion*

Discussants: Jane Hall (Centre for Health Economic Research and Evaluation)

David Johnson (Melbourne Institute)

Open discussion

12.00 – 1.15 Lunch

Session 2: Addressing cost pressures in health care systems

1.15 – 1.20 **Opening comments**

Peter Dawkins (Melbourne Institute)

1.20 – 1.55 *Speaker*: Tom Rice (University of California)

1.55 – 3.25 *General discussion*

Discussants: John Goss (Australian Institute of Health Welfare)

Phil Hagan (Dept of Health and Ageing)

Open discussion

3.25 – 3.50 Afternoon tea

Session 3: Access and service delivery issues

3.50 – 4.15 *Speaker*: Gavin Mooney (Curtin University)

4.15 – 5.45 *General discussion*

Discussants: Jeff Richardson (Monash University)

Peter Saunders (Social Policy Research Centre)

Open discussion

Day 2 — Friday 8 March

Session 4: Supplier–induced demand and occupational regulation

9.00 – 9.50 *Speakers*:Ian Monday (Productivity Commission)

Jeff Borland (Melbourne University)

9.50 – 10.20 Morning tea

10.20 – 12.00 *General discussion*

Discussants: John Freebairn (Melbourne University)

Bob Gregory (Australian National University)

Open discussion

12.00 – 1.15 Lunch

Session 5: Panel discussion

1.15 – 2.45 *Panelists*:
Peter Dawkins
Jane Hall
Alan Maynard
Helen Owens
Tom Rice
Jeff Richardson
Dick Scotton

2.45 – 3.00 *Closing remarks*

Gary Banks (Productivity Commission)

B Roundtable participants

Bain Dr Robert	Secretary General, Australian Medical Association
Banks Mr Gary	Chairman, Productivity Commission
Bhojani Mr Sitesh	Commissioner, Australian Competition and Consumer Commission
Borland Professor Jeff	Department of Economics, Melbourne University
Borthwick Mr David*	Deputy Secretary, Dept of the Prime Minister & Cabinet
Butler Dr Jim	National Centre for Epidemiology and Population Health, Australian National University
Choi Dr Ching	Health Division Head, Australian Institute of Health and Welfare
Dawkins Professor Peter	Director, Melbourne Institute of Applied Economic and Social Research
Douglas Professor Robert	National Centre for Epidemiology and Population Health, Australian National University
Duckett Professor Stephen	Dean, Faculty of Health Sciences, LaTrobe University
Fitzgerald Dr Vince	The Allen Consulting Group
Freebairn Professor John	Head, Department of Economics, Melbourne University
Goss Mr John	Australian Institute of Health and Welfare
Gregory Professor Bob	Head, Economics, Research School of Social Sciences, Australian National University
Hagan Mr Phil	Assistant Secretary, Dept of Health & Ageing
Hall Dr Jane	Director, Centre for Health Economics Research and Evaluation, University of Technology, Sydney
Johnson Professor David	Deputy Director, Melbourne Institute of Applied Economic and Social Research

Jordan, Mr James	Assistant Secretary, Dept of Health & Ageing
Kearney Professor Brendon*	Executive Director, Dept of Human Services, South Australia
Lapsley Ms Helen	Health Economist, University of New South Wales
Maskell-Knight Mr Charles*	First Assistant Secretary, Dept of Health & Ageing
Maynard Professor Alan	Director, York Health Policy Group, University of York, UK
Monday Mr Ian	Assistant Commissioner, Productivity Commission
Mooney Professor Gavin	Head of Health Economics, Curtin University
Owens Ms Helen	Commissioner, Productivity Commission
Paterson Dr John	(former Head, Dept of Health & Community Services in Victoria)
Reid Mr Michael	former Director–General, NSW Health
Rice Professor Tom	Vice-Chair, Dept of Health Services, University of California, Los Angeles
Richardson Professor Jeff	Director, Centre for Health Program Evaluation, Monash University
Samuel Mr Graeme	President, National Competition Council
Saunders Professor Peter	Director, Social Policy Research Centre, University of New South Wales
Schneider Mr Russell*	Chief Executive, Australian Health Insurance Association
Scotton Dr Dick	Health Economist
Sullivan Mr Francis	Executive Director, Australian Catholic Health Care Association
Walker Ms Agnes	Principal Research Fellow, National Centre for Social and Economic Modelling, University of Canberra

* Accepted an invitation to attend the Roundtable but were unable to participate.