

What Can Health Economics Offer?

Paper Presented to the 10 Year Celebration of the
Centre for Health Program Evaluation

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What Can Health Economics Offer?

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Introduction

The sub-discipline of health economics faces a number of challenges. The most obvious of these arise from the importance and complexity of the subject matter and from the cost of health services to the community. The health sector deals, quite literally, with the life and death of the population and with its quality of life. The direct cost to the economy is enormous. The health sector is 20 percent larger than the agricultural and mining sectors combined. As demonstrated in the USA, it has the capacity to double in size. In exchange for these expenditures there are obvious benefits. However the size of these is uncertain and, more importantly, the return on marginal expenditures is unknown. Individual studies indicate that some health programs generate very large benefits while others do not. However, the mechanism for selecting between such programs is highly imperfect. Likewise, there is enormous variation in the population's access to services but the importance of this inequity both in terms of its impact upon health and upon society's notion of social justice have not been documented.

The present paper is concerned with the contribution made by the discipline of economics to the resolution of these problems. Rather than focusing upon particular research findings it is concerned with the discipline per se: its strengths and weaknesses; its potential contribution and challenges. In particular, it focuses upon the unique contribution of the sub-discipline of health economics and the tension that commonly exists between it and more orthodox or mainstream economics. It is argued that the tension arises for two reasons. Firstly, the institutional setting—the health sector—is unique and incentives, motivations and objectives differ from those elsewhere in a number of important respects. Secondly, there are pressures from within the profession to conform more closely with theoretical orthodoxy, that is, to adopt a number of the assumptions which are normally made in theoretical economics. It is argued in the first section of the paper that these pressures should be resisted. In the following section some of the unique elements of health economics are discussed and, particularly, one of the defining characteristics of the economies of the health sector, namely the unique set of social objectives which appear to prevail with respect to the provision of health care.

In the final two sections, the work program of the Health Economics Unit of the CHPE and the future challenges it faces are discussed briefly. The objective is not to present a detailed description of these but to present the rationale for the selection of the major programs and the way in which these seek to address the major challenges facing health economics in Australia.

Economics: Strengths and Weaknesses

The justification for economics is that it seeks to answer a well defined and important question, viz, 'how do we maximise social wellbeing with finite resources?' At its most abstract level the answer given is compelling. It is that the benefits arising from an activity must exceed the (opportunity) cost. As opportunity costs are defined as benefits foregone the answer translates into the statement that to justify an activity the benefits gained must exceed the benefits foregone. This is not, of course, a theorem. Rather, it is an analytical framework which is independent of the units in which benefits and costs are measured. In most contexts, economists assume that the appropriate metric is 'utility', that is, the strength of people's preferences, which can usually be inferred from people's behaviour. In principle, however, any other value unit could be adopted. For example, lives, life years or Quality Adjusted Life Years (QALYs) could be the metric and the benefits-cost rule would translate into the statement that an activity should be undertaken if lives (life years or QALYs) gained exceeded lives (life years or QALYs) foregone because of the activity.

The framework built upon this fundamental rule embodies a number of powerful concepts which focus attention upon the questions which must be asked and the decisions which must be made to maximise social wellbeing. Because resources are finite we must *make choices*. This contrasts with the 'romantic' view that certain objectives should be fulfilled irrespective of their cost, and the 'monotechnic' view that there is a single and well defined procedure for achieving any given objective. A simple example of this latter attitude is the assumption that is commonly made in workforce planning that there is an objectively determined level of medical 'need' and a technically defined set of medical services for each medical condition. With respect to both production and consumption, economics emphasises the possibility of *substitution* and that choice will depend upon *incentives*. As the response to incentives is predictable it is possible to influence the achievement of social objectives. Importantly, economics emphasises the need to *quantify the magnitude of costs, benefits* and policy responses. This contrasts with disciplines which argue in terms of broad principles or tendencies. Finally, economics recognises the likelihood of *trade-offs* and the need for measurement to obtain the optimal trade-off.

It is relatively simple to demonstrate that the framework based upon these concepts must, as a matter of logic, be adopted explicitly or implicitly if social objectives are to be achieved as fully as possible from limited resources.

While the framework is powerful and compelling a large number of economists are critical of the way in which it is further developed in orthodox theory by the addition of a number of particular assumptions about market and individual behaviour and about social objectives. It is arguable that the extent to which a sub-discipline has remained empirically and policy relevant depends upon the extent to which it has embraced or resisted the orthodox framework. Zajac (1995), for example, expresses this view.

'Why do (public utility) regulators, and even the public generally, find it so hard to accept and apply the principles of economic efficiency—principles that are so obvious to trained economists... my continued immersion in public utility regulation has gradually led me away from the 'public is illiterate' view and more towards the 'economists are deaf' view.'

Zajac, 1995, quoted in Hurley, 1998
See also Richardson, 1999; 2000

From one perspective the alleged problem arises because too much is claimed by economists on the basis of too little. For example, Frey (2001) argues that economists must be the importers of ideas from other disciplines and be less imperialistic in its claims to explain and predict a diverse range of behaviours on the basis of a single and limited set of assumptions. For example, economic orthodoxy assumes self interested behaviour and rationality (defined a particular way). There is little doubt that numerous behaviours can be explained using these assumptions. Evidence does not, however, indicate that the assumptions are universally true. In complex decision contexts heuristics are adopted which are, objectively, 'irrational'. Behaviour in some contexts is commonly altruistic and in other contexts, envious: people will reduce personal wellbeing to harm another. In contexts where these behaviours dominate, simple orthodoxy should be adapted and not rationalised, as commonly occurs, by an increasingly convoluted set of definitions concerning the meaning of 'self interest' and 'rationality'.

From a second perspective the problem is more fundamental. Theoretical orthodoxy has adopted the methodology of (philosophical) Rationalism; that is, a methodology based upon pure reason. With this, 'intellectual insight' is used to derive a set of core axioms which, with or without ancillary assumptions leads to a set of conclusions which must necessarily be true if the axioms are true. The characteristic of Rationalism which distinguishes it from 'Empiricism' is not the analytical core—the deduction of conclusions from assumptions—but the start and end points of the analysis. Empiricism commences with an empirical problem to be explained and concludes with a set of tests which includes the ability of the theory to explain the initial problem. The difference is fundamental. In Rationalism, the emphasis is upon the analytical core. Contributions are judged by whether or not they represent 'good theory'; whether they are consistent with 'economic theory'. With Empiricism, the emphasis is upon empirical prediction¹. The contrast is nicely summarised by Waldrop's account of the interaction between leading economists and physicists at the Santa Fe Institute following a presentation by the economists.

'As the axioms and theorems and proofs marched across the overhead projection screen the physicists could only be awe struck at their counterparts' mathematical prowess—awe struck and appalled ... the physicists had no objections to the mathematics itself, of course...(but) physical scientists are obsessive about founding their assumptions and their theories on empirical facts ... (Arrow noted that) "we don't have data of that quality in economics..." (but) Physicists were nevertheless disconcerted at how seldom the economists seemed to pay attention to the empirical data that did exist.'

Waldrop, 1992

The emphasis upon analytical skills and the disregard of empiricism is reflected in a recent survey of US doctoral students reported by Frey (2001). Questioned about the relative importance of different skills for their careers the following results were obtained:

Thorough knowledge of the economy	3%
Excellent knowledge of maths	57%
Good at solving formal problems	65%

¹ Rationalism is not new. It commenced in the 6th Century BC. As I describe in Richardson (1999) 'By the end of the classical Greek era each of the elements of rationalism and its variants had been explored. The defining and central tenet was that knowledge can be reliably obtained only by the application of analytical techniques to a set of axioms. These, in turn, could be derived by divine revelation or by pure intellectual insight... All variants of rationalism were characterised by a belief in the unity of the truths underlying nature; that is, the context free nature of the truths... For most Rationalists mathematics had particular importance. In the Pythagorean scheme (it) had mystical powers for the revelation of truth. (Richardson 1999, p8)

Frey argues that the consequence of this emphasis upon analytical technique is that economics has become boring and increasingly irrelevant. He cites a startling statement by Clower, an ex editor of the leading economic journal in the world, the *American Economic Review*:

'What was remarkable (while editor of the *AER*) was the absolute dullness, the lack of any kind of new idea, that predominated in the selection of papers I got. Close to a thousand papers a year—and I swear that the profession would be better off if most of them hadn't been written, and certainly if most of them hadn't been published.'

Clower, 1989 in Frey, 2001

Frey, amongst others, has attributed the declining interest in economics amongst university students to this retreat from Empiricism and empirical relevance.

There has always been a tension in economics arising from the epistemological basis of the analysis. The contrasting approaches have sometimes been described as 'theoretical versus applied' economics. The description is misleading when 'applied' is used to describe ad hoc non orthodox theoretical approaches to empirical problem solving. A better description of the dichotomy would sometimes be 'Rationalism versus Empiricism'; 'orthodoxy versus institutionalist economics'. In health economics a distinction has been drawn between 'Welfarism' and 'Extra Welfarism', the former describing the adoption of the orthodox assumptions concerning social objectives and the latter (better described as 'not welfarism') referring to analyses which assume some other set of objectives.

Rationalism has not characterised the work of the major economists through history. Rather, each has commenced with an observed problem and each has adopted a set of assumptions appropriate for the particular theoretical argument. Adam Smith sought to explain how unregulated markets could increase wellbeing. Ricardo sought to explain the redistribution of income. Alfred Marshall sought to explain the efficiency of markets while Karl Marx focused upon the apparent exploitation of the workforce. Keynesianism grew out of the observed unemployment of the great depression while Keynes' contemporary, Schumpeter, proposed an explanation for the observed dynamism of capitalist economies. More recently, Milton Friedman, post Keynesian and post Classical economists have sought to explain the simultaneous existence of inflation and unemployment. By contrast, and as argued by Blaug (1992) games theory and general equilibrium theory which have dominated mainstream graduate economics for three decades have been concerned with existence theorems which have sought to solve theoretical puzzles arising from analytical structures. Their motivation is far removed from empirical problem solving and unsurprisingly they have added little or nothing to empirical prediction.

The contention here is not that economics has been utterly subverted!² After graduate course work, survivors generally engage in empirical studies. Theory is commonly a blend of rationalism and empiricism and in many sub-disciplines the empiricist methodology is clearly dominant. Examples include labour, agricultural, environmental, transport, monetary and—to date—health economics.

² Nobel laureate Solow notes that 'the past fifty years have, indeed, seen formalistic economics grow and prosper... but only a small minority within the profession practises economic theory in this style... Generally speaking formalists write for one another (Solow 1997 p43). Regrettably they also speak to students.'

Economics and Health Economics

The discussion of economic methodology in the previous section may appear puzzling in an article about the contribution of economics. It was included for two reasons. First, the institutions and objectives which characterise the health sector are atypical of markets elsewhere in the economy. Correspondingly, health economic analyses often have atypical assumptions, conclusions and policy recommendations. This commonly results in the suspicion that all is not well with the sub-discipline. Secondly, the implied criticism is accepted by some health economists who are, increasingly, impregnating the sub-discipline with orthodox analyses which is probably inimical to an understanding of the health sector and to the formulation of useful policy.

The coexistence and consequences of the Rationalist and Empiricist methodologies in health economics can be illustrated by two of its longest running debates. The first, concerning the theory of supplier induced demand, continued for over two decades and involved both empirical and theoretical argument. The widespread acceptance of the theory has important implications for workforce planning and for demand side economic policy. In contrast, there has now been a ten year debate over the respective merits of the Quality Adjusted Life Year (QALY) and the Healthy Year Equivalent (HYE) as measures of patient utility in the context of economic evaluation. The debate has focused upon the correspondence between each metric and the axioms of choice theory which are independently known to be violated in the health sector. Unsurprisingly, after more than a decade there has been no effect upon the conduct of cost utility analyses. However it is likely that a generation of students will have been required to follow the debate and thereby learn by osmosis that pure analysis—Rationalism—is the most valued part of economics and is the best vehicle for promoting their careers.

The importance of subject specialists dedicated to the health sector is illustrated by the results of a survey conducted by Stanford's Victor Fuchs, reported in his Presidential Address to the American Economics Society (Fuchs 1996). Forty six 'leading health economists' and forty four 'leading theorists' responded to a series of questions which required a knowledge of economic theory, a knowledge of the health sector, and, in some cases, required a personal value judgement concerning social policy. The results found were that health and general economists agreed on theoretical issues. Health economists agreed with each other on most positive issues. However with respect to questions concerning the health market, the theorists' answers were 'only slightly better than could be obtained by tossing a coin' (Fuchs 1999 p 19). Also of interest, there was significant disagreement amongst both theorists and health economists concerning normative issues.

Unsurprisingly, general economists advising governments on health policy gravitate to the solutions suggested by more orthodox theory. For example, there is an almost universal attraction to the use of copayments to control costs despite the definitive evidence and theoretical reasons for believing that copayments have a very limited effect on health expenditures. This observation is summarised humorously by Canada's Bob Evans:

'Devotees of rather simple minded economic views of human behaviour consistently insist that free care leads to over use, abuse, waste and exploding costs. This would appear, on the surface, to be a testable empirical issue. But a fascination with the "price system" or "the market", which in some systems of thought plays a role very similar to that of God for the 18th Century deists, leads to the conviction that "free" anything is profoundly immoral as well as fattening and therefore ought to be illegal regardless of consequences.'

Health Economics: Problems and Objectives

The suite of issues which constitutes the chief empirical ‘problem’ for health economists was noted in the introduction. The health sector is enormously expensive; costs have the potential to rise exponentially without immediate limit; the benefits from these expenditures is only poorly understood and marginal benefits even less so. The distribution of services is neither equitable nor efficient. In addition to these ‘problems’ the health sector presents a unique institutional context. Government intervention limits the size of the competitive market and market behaviour is severely constrained by regulation. Transactions are characterised by asymmetrical information and asymmetrical power. Service provision is from a complex system dominated by politically effective individuals and organisations. In the Australian context the complexity is increased by the division of funding and responsibilities between the State and Commonwealth governments. Along with the echidna and platypus, private health insurance must rank as one of the bizarre landmarks of Australia. Because of the tax surcharge on wealthier families which do not purchase private health insurance, families with incomes somewhere above \$100,000 have a larger net income if they purchase health insurance. They are effectively paid to have the product. But because of uninsured copayments they will often be out of pocket more if they use their insurance than if they remained in the public sector and did not use it!

Objectives of the sector are likewise complex and only poorly understood. Orthodox economics assumes Welfarism, that is, it assumes that social objectives are a function of utility and its distribution. In contrast, most argue that the core objective of the health system is the maximisation of health per se. In a recent survey Olsen and Richardson (1998) tested and rejected the hypothesis that utility, not health, is the objective sought. In the literature, other social objectives are usually limited to the achievement of ‘equity’, a concept which is not clearly defined. Recently the WHO (2000) adopted a more precise set of objectives. These are shown in Table 1.

Table 6 WHO objectives and importance weights

Objective	Importance weight (%)
Health outcome	25
Distribution of health	25
Responsiveness	12.5
Distribution of responsiveness	12.5
Fair financing	25
Total	100

Source: World Health Organization (2000)

A number of economists including myself have conducted empirical studies which suggest a far more complex, and probably country specific set of objectives. Two of these are illustrated in Figures 1 and 2.

Figure 3 Severity as an independent objective

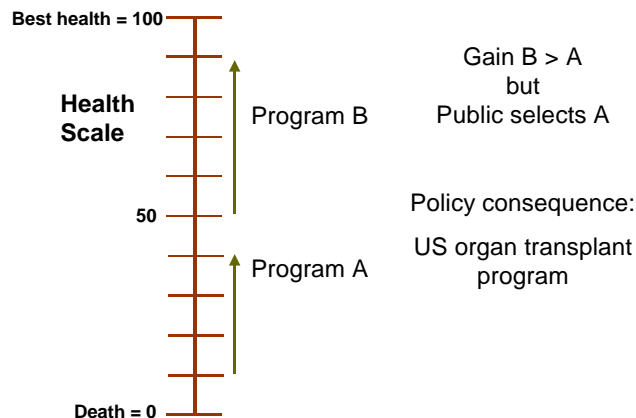


Figure 4 Capacity to benefit and non discrimination as an objective

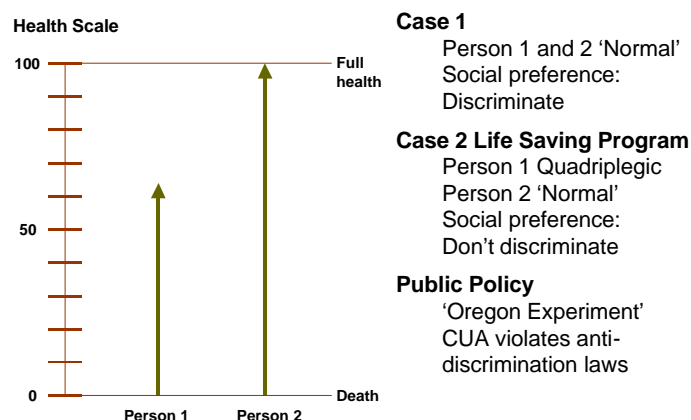


Figure 1 represents the health improvement arising from two programs, A and B. By construction, the improvement from Program B exceeds the improvement from Program A. However, survey respondents commonly select programs such as A in preference to 'more efficient' programs such as B because of the greater severity of the former program. This result has been obtained in Australia, Norway, the UK, Spain and the USA. (For summaries of the evidence see Menzel et al 1999; Nord 1999; Ubel 2000). The conclusion is not simply of academic interest. It is reflected in the prioritisation of organ transplant recipients in the USA. Patients in a more severe health state and with a poorer prognosis are prioritised above patients in a less severe state but with a better prognosis; that is, organs are allocated to those where the (statistically) expected health gain is less.

Figure 2 illustrates a further observed 'puzzle'. Members of the public are asked to select between two programs both of which will save a person's life. In the first case Person 1 will be returned to a state equivalent to quadriplegia. In the second program Person 2 will be restored to full health. When survey respondents are told that there is no difference between the two people

and that program costs are the same they give priority to Person 2, a result consistent with the theory that society seeks to maximise health. However, when respondents are told that Person 1 has been a quadriplegic all their life they will not discriminate between the two programs (Ubel, Richardson and Pinto 1999). This violates economic theory as it does not maximise outcome. Rather, it takes account of a contextual factor ignored by economic theory, viz, a person's previous health state.

This latter result has also been of policy significance. In the famous 'Oregon experiment' QALYs were used to prioritise services. Organisations representing the disabled successfully argued in Court that QALY maximisation violated anti-discrimination laws as it would give a higher priority to people with a greater capacity for health gain.

Finally, Table 2 illustrates a situation of apparent inequity which has not been included to date in any survey (Richardson 2001a).

Table 7 Distribution of and Cost and Benefits

Disease	A	B	C	D	E
Benefits (\$)	100	100	100	100	100
Costs (\$)	20	60	80	99	101
Social subsidy	20	60	80	99	0
Person pays	0	0	0	0	101

Five programs are represented by A - E. Each results in \$100 benefit to the patient. The cost of the programs increases so that the benefit of Programs D and E are marginally above and below the cost. Applying the normal rule of Cost Benefit Analyses would result in Program D but not E being funded in a national health scheme. However it is highly likely that the resulting pattern of subsidies and benefits would violate the normal conception of fairness. Individuals A - D receive a social subsidy; their disease is cured and they pay nothing. In contrast, Individual E, with only a marginally more expensive disease, receives nothing. However Individual E would clearly benefit from treatment. The treatment is withheld since economic theory does not permit a compromise rule in which Person E would receive, for example, a social subsidy of 100 with the residual \$1.00 to be paid personally. Rather, economic efficiency implies that Program E should not be provided and financed either publicly or privately.

These examples indicate that social objectives are far more complex than acknowledged or discussed in even the health economics literature. There is a need for a major research program into what I have elsewhere described as Empirical Ethics (Richardson 2001b).

Health Economics at the CHPE

The justification, strengths and weaknesses of economics and health economics discussed above, are reflected in the priorities of the Health Economics Unit at the CHPE. The overall mission statement of the Unit includes the need *‘to be recognised... for the contribution... to the welfare of the community’*. That is, economic theory is not an end in itself. Rather, its purpose is to add to community wellbeing. Following from this, priority has been given to activities which are (i) policy oriented; (ii) quantitatively important for either costs or health outcomes; and (iii) methodologically and theoretically innovative and indirectly of importance for our understanding of cost, outcomes and community welfare. Finally, significant efforts have been devoted to teaching as the greatest long run impact of a small group will be achieved through its educational programs.

The HEU’s policy orientation is reflected in even the most abstract of our research, namely the two papers that I have written discussing the philosophy of science. The motivation for these was very explicitly to shore up support for empiricism and resist the encroaching tentacles of Rationalism in health economics as it is the former, and not the latter, which is the basis for useful policy. This contention is illustrated by the comparison between the QALY-HYE debate and the controversy over the theory of supplier induced demand which was described earlier.

The policy orientation of the Centre’s research permeates virtually all of its work. It is most evident in the direct evaluation studies that have been undertaken which have included, at varying times, all of the Unit’s staff. The two largest programs in this body of work are the evaluations for the Pharmaceutical Benefits Advisory Committee (PBAC) and Medical Services Advisory Committee (MSAC) conducted and organised by Tony Harris. Staff have also had a direct policy input by their membership of government working parties and committees.

The next group of studies where a policy orientation is evident are those relating to hospitals and hospital costs. The early work of Dick Scotton and Helen Owens was highly influential and was a possibly decisive factor in the adoption of DRG based funding in Victoria. Subsequent work by Terri Jackson and Jenny Watts has employed the MIS data systems in Victoria to produce, *inter alia*, DRG weights for the Department of Human Services and to explore various costing issues associated with hospital performance. More recently Stuart Peacock and Duncan Mortimer have been investigating the use of Data Envelopment and Stochastic Frontier Analyses to determine hospital efficiency.

From a long term perspective the potentially most important research with a direct policy orientation has been the analysis of systems and system reform. Dick Scotton, in particular, has produced a series of influential papers advocating the adoption of Managed Competition in Australia and demonstrating how this might be implemented. System reform has also been discussed by other Centre staff. Andrew Street produced an early and influential paper for the State Department of Health relating to the use of purchaser-provider models in the hospital sector. More recently Leonie Segal, Stuart Peacock and I have explored the options for the adoption of capitation models in Australia and Ron Donato has used NSW data to investigate the feasibility of the Boston DCG software for predicting individual health expenditures—a prerequisite for the success of a competitive capitation model. System reform has been the subject of numerous presentations at conferences and workshops. For example I have made 43 such presentations since the commencement of the Unit (admittedly with repetition of some points!). Most recently, Stuart Peacock, John Wildman and I have commenced an econometric analysis of supply, demand and mortality outcomes in the health sector.

It is not possible, of course, to describe or even list the large number of economic studies conducted in the last decade at the HEU. Table 3 summarises the achievement. Three programs are, however, noteworthy as they represent the fulfilment of a long term goal set in 1992. This, in turn, reflected my perception of a major gap in the methodology and application of health economics. As illustrated in any of the numerous text books of health economics there are two well defined and largely separate elements in health economics. These are systems analysis and project evaluation. The former is concerned with incentives and the magnitude of the behavioural parameters which determine supply and demand. Its endpoint is the construction and recommendation of policies for system reform as discussed above. The latter—project evaluation—is concerned with the measurement of costs and benefits. There is, however a ‘meso’ level of analysis which corresponds with the subject matter loosely described as ‘priority setting’. At this level the question is how to determine broad priorities within and between disease categories when the number of interventions in each category is so large that it exceeds the capacity of the research budget to conduct exhaustive studies of every possible intervention.

This latter ‘problem’ resulted in three strands of research which probably represents the most important intellectual achievements of the Centre. The first of these was the creation of the Disease Based Model developed by Leonie Segal (with some initial input from myself) and piloted using diabetes as a case study. It is now being reapplied in the area of arthritis.

Table 8 Research output from the HEU

Research Projects	173	Publications	588
Health service evaluations	92	Refereed journal articles	126
Evaluation Methodology	40	Books	5
Health System Evaluations	41	Book chapters	29
		Books cited	3
Community Activities		Published conference papers	94
Public seminars	20	Commissioned reports	101
Conference and seminar presentations	37	CHPE working Paper series	103
		CHPE Research Report series	21
		CHPE Technical Report series	14
		Other journal articles	65
		Non commercial books	25
		Published conference abstracts	2

Secondly, Rob Carter has successfully combined large scale datasets and the DALY database in a decision analytic framework which permits the inclusion of a range of objectives in addition to those usually considered by economists. This (new generation) ‘Macro Economic Evaluation Model’ (MEEM) has been successfully used for priority setting in the cancer control initiative and it is currently being applied, in conjunction with the Victorian Department of Human Services, in the areas of mental illness and cardiovascular disease.

Thirdly, as meso economic analysis requires, *inter alia*, quality of life measurement, Graeme Hawthorne (Program Evaluation Unit) and myself have developed the ‘Assessment of Quality of Life’ (AQoL) multi attribute utility instrument. It represents the first time that the principles of psychometric instrument construction have been combined with the requirements of economic

evaluation and is now one of the six generic instruments, world wide, which may produce utility scores. (Economic evaluation can also employ the DALY database, although DALYs do not purport to measure individual utility.) A major five instrument 'validation study' has been conducted which indicates that the AQoL performs very well as judged by the performance of the other instruments. It has now been adopted in more than 40 studies.

Under the direction of Tony Harris and Jenny Watts the HEU now offers the largest set of conventional and distance education teaching programs in Australia. These are summarised in Table 4.

Table 9 Teaching at the HEU

Award Courses:
Postgraduate Diploma in Health Economics and Evaluation
Graduate Certificate in Health Economics by Distance Education
Graduate Certificate in Pharmacoeconomics by Distance Education
Master of Economics (Health Economics)
Doctoral studies

Subjects offered:
Master of Public Health (a Health Economics stream)
Master/Graduate Diploma of Public Policy and Management
Master/Graduate Diploma in Clinical Epidemiology
Master of Business Management (Distance Education)
Corporate Public Health Postgraduate Program

Conclusions

Health economics is a well established sub-discipline with its own journals, conferences, terminology and conventional wisdom. As suggested earlier it remains pragmatic or empiricist in its methodology: it has been driven by a set of empirical problems which are quantitatively of importance for both the economy and for social wellbeing.

The sub-discipline has been influential. In the UK and Europe it provided the intellectual basis for the adoption of the National Health Scheme and universal social insurance. In contrast, in North America welfarist economists have been more closely aligned with economic orthodoxy and, with some important exceptions, they have provided the intellectual justification for a reliance upon private health insurance! Australia followed the UK/European tradition. The country's earliest health economists, Deebie and Scotton, were—using today's terminology—extra welfarist in their analysis and policy recommendations.

Table 10 Does health economics have a future?

Recommendations for Funding Health Economics/Health Services Research		
1973	Hospital and Health Services Commission	
1986	Kerr White	
1993	Bienenstock	
1995	NHMRC	
1997	Economic Development Committee, Vic	
1998	Wills Report	
2000	AHMAC	
<hr/>		
Outcome		
Closure	RADGAC (Commonwealth Department Health) PHRDC Funding (NHMRC)	
SRDC (Economics)	...	\$125,000 pa
NHMRC Program Grants in Economics (2000)	...	0.004 Program Budget

While the number of health economists in Australia is miniscule there have been a number of notable contributions to policy and theory. The most important of these was the work of Deeble and Scotton which led to universal health insurance in Australia. While their pioneering was not *sufficient* for the establishment of Medibank it was *necessary*. Without it, Medibank would not have come into existence when, and in the form, that it did. Likewise, it is unlikely that Casemix funding would have been adopted in its present form or as speedily without the input of economists and, in particular, Scotton and Owens, Palmer and Duckett. While there are few high profile events or programs whose existence and success may be directly attributable to its research origins casual observation suggests that the 500 plus publications listed in Table 3 and the innumerable meetings and seminars which have drawn upon our expertise have had an important impact upon thinking in the health sector.

Despite notable achievements there remains an enormous agenda for health economics research and policy support that has not been carried out. (The large number of health economists who do not exist have had little impact in many areas!) It is arguable that with a better established sub-discipline there would have been less discordance between stated policy objectives and policy activities. For example, it is likely that the enthusiasm for privatisation in the health sector would have been muted by the outcome of proper research. The 'goals and targets' methodology for priority setting would, appropriately, have been replaced by an economic framework. Objectives such as the achievement of equity and allocative efficiency could have been better informed by the analysis of routine data collections. Each of these missed opportunities are, nevertheless, still amenable to research.

Despite the potential benefits from the fuller use of health economics and health economists the future of the discipline in Australia is unclear. As reported in Table 5 there have been numerous recommendations for the funding and support of health economics and health services research in Australia. Despite this, the sources of research funding have contracted. To date, and in contradiction of the recommendations of the various enquiries, the funding of health economics has become more problematical and the most secure and best paid careers in health economics are to be found overseas. This is unfortunate. The range of issues—methodological and empirical—which face economists in the health sector has been expanding, not contracting. There are no satisfactory methodologies for determining the appropriate level of spending at the

national level. We have not identified or quantified social values. Policy is often discordant with stated objectives. The vast majority of interventions in the health sector have not been evaluated. Each of these issues requires the input of the economics discipline and, at present, the future of independent health economics in Australia is very uncertain.

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