The submission to the enquiry into the "Implications of the Ageing of Australia's Population"

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Monday 20th September 2004

INTRODUCTION

Comments below are intended to parenthesise and extend the arguments in the attached document “Why ageing is unlikely to be a problem for the Health Sector: Research Note July 2004”. It comments specifically on the issues raised by Ralph Lattimore and Helen Owens during our meeting on 28 July.

An additional theme is that there is a serious risk of attaching too much credence to the results of analysis which are “psudo-rigorous”; results of quantitative procedures that are based and depend upon (stated or unstated) assumptions which are counter-historical and of extreme uncertainty. The risk of these procedures (coupled with precision and elegance of graphical presentation) is that they may convey an impression of inevitability - that there are “inexorable consequences” of ageing. This may obscure the full extent of the choices which are available and the types of policy conclusions which, I believe, are appropriate for this enquiry.

1 Ageing and Health Care Costs

The relationship between ageing and national expenditures shown in figures 2, 3 and 4 of my research note demonstrate why, as a matter of *strict logic* ageing and health expenditures may not be associated at the national level and why it is so common for commentators to draw the incorrect conclusion, that, historically, ageing must - and in the future, Australia's ageing population must - increase expenditures significantly. Figure 3 is used to illustrate that population ageing is consistent with falling national health expenditures. In summary, drawing time series conclusions from cross sectional data is problematical. The reason for this apparent paradox (increasing health expenditures with the age of an individual but little or no relationship between population age and aggrigate expenditures) is that health expenditures are primarily determined by the *level of expenditure within* every age cohort and not by the *difference between* cohorts (and thus by the relative number of persons per cohort).

Conclusion 1: *There is no necessary nexus between the age of a population and aggregate health expenditures.*

The above conclusion deals with the logic of cross-sectional and time series analyses. The historical evidence upon the relationship between population, age and health expenditures is incontravertable. There is little or no relationship. This is demonstrated in the data presented in the research note. This reveals the following:

- ageing explains little (and possibly none) of the increase in Australia's increasing health expenditures over time.

- there is little or no relationship between GP service use across Australia and the age profile of statistical subdivisions.

- age explains little or none of the difference in the growth of health expenditures between OECD countries

- there is little or no relationship between national health expenditures and the demographic profile of OECD countries

In 2002 Australia had a significantly younger population but higher per capita health expenditure than Denmark, Belgium, Sweden, Italy, Austria, Japan, UK, Ireland and Finland.

Conclusion 2: *As a matter of historical fact, average health expenditures in population groups have had little to do with the age of the* population groups.

2 Quantitative significance of rising expenditures

For reasons summarised below, health expenditures are likely to rise. But there is no reason why this should be regarded as a problem. In a properly run economy rising expenditures on health care for the aged or for any population cohort should - be of no greater concern than increased expenditures upon tourism or personal computers.

Conclusion 3 *The reason for exaggerated concern over future health expenditures is that commentators commonly underestimate the impact of a compound rate of economic growth upon GDP.*

A doubling of present health expenditures could (arithmetically) be accommodated by 4 to 5 years of GDP growth. More realistically, a doubling of health expenditures over a larger period of time could be accommodated by the redirection of the equivalent to 4 to 5 years of economic growth over the same time period, without any reduction in average consumption. A similar point has been recently made in the USA by Reindhardt [[U Hussey P, and Anderson G, 2004 US Health Care Spending in an International Context; Why is US spending so high and can we afford it, Health Affairs Volume 23 No. 3 10-25]] et al (2004)

3 Approaches to Modelling

Historically there have been two broad approaches to the prediction of future health expenditures and the need for health resources. These two approaches are the "deterministic, needs based" (or epidemiological) and the economic modelling approaches. Neither of these is, at present, a satisfactory basis for prediction. The most comprehensive needs based approach ever completed, the US Graduate Medical Education National Advisory Commission (GMENAC, 1980) was discredited. More

ad hoc needs based approaches to GP requirements resulted in a reduction in their training in Australia which resulted in the present (apparent) shortage of GPs.

Economic modelling has a number of advantages over deterministic models. However, no such model, incorporating a detailed description of the health sector exists for Australia and, to my knowledge is in use anywhere in the world except for The Netherlands. Nevertheless, this approach should be fully explored for a number of obvious reasons and the Centre for Health Economics is currently awaiting the result of an NHMRC application to develop such a model and for its integration with the general equilibrium model and national simulation model of the Centre's of Policy Studies (Monash University) and NatSem (ANU).

Conclusion 3 *Workforce and expenditure modelling of the health sector is rudimentary and highly unreliable. However for a number of reasons projections must be made and, consequently, it is desirable for there to be a significant national effort to develop a state of the art forecasting model.*

The reason for the failure of needs based modelling is that there is a highly variable relationship between illness - medical "need" - treatment and the use of medical resources. Despite the incontrovertible evidence of huge discrepancies in the type of health care received by different population groups, this simple "needs model" appears to have an irresistible attraction for modellers. It is for this reason that I have described the cohort based projection of health care needs as having "pseudo-

precision”. This comment does not deny the desirability of developing a system which incorporates evidence based medical care and a nexus between illness and resource use. However this presently does not exist.

As noted above, some form of projection is necessary. In the absence of a validated model for The Australian health sector, the best ad-hoc approach probably is the amalgamation of a cohort based needs model and an econometric projection of health expenditures. This conclusion does not contradict the earlier conclusions which were designed to point out the highly contestable nature of this default method. Trends do tend to continue in the short run due to "historical momentum". More accurately, expenditures generally depend upon institutions and funding formula which change slowly and therefore ensure a continuation of the past.

Conclusion 4 *Simple modelling is justified but it is imperative in the formulation of policy to recognised that the results reflect little more than the embedding of present institutions and not a reflection of inevitable outcomes. Rephrased, there is no gold standards. We cannot judge whether particular projections are " right or wrong" (an issue I was asked to comment upon). Each method is as accurate as its assumptions and each of the analyses to date, is highly contestable.*

Within the present institutional framework shortages, queueing and imbalances occur but this does not imply the inevitability of these shortages in the long run. It is just as likely to reflect the sclerosis of the funding channels and the paucity of system reform in the past two decades.

4.0 The building blocks of modelling

During discussions, I was asked to comment upon several modelling related issues. These were:

i. *the stability or otherwise of aged cost profiles*
ii. *the issue of "older but healthier" and its implications*
iii. *the importance of costs close to time of death*
iv. *evidence about age specific disability rates*

The first of these has been discussed above. Age cost profiles are highly variable and in the future will depend very largely upon technologies which we cannot accurately predict.

The remaining three issues are of second order importance. The key theme of this submission is that ageing per se will have a minimal quantitative impact and an impact which can easily be asorbed by GDP growth. Consequently, a relatively minor adjustment to an already small impact factor is of little quantitative significance for the capacity to fund future health expenditures.

Conclusion 5 *As ageing per se is unlikely to have a significant effect on the cost burden of future health services, it is even less likely that incremental changes in the*

timing of ill health and the relative health costs of different age cohorts will be of importance.

5 Productivity of the Health Sector

It is very difficult to quantify the efficiency of the Health sector relative to its potential as this is not known. Nevertheless there are reasons for believing it is poor and, in parts, abysmal. (The commonly made comparison between Australia and other countries' performance is possibly misleading. To use one facetious aphorism:"10,000 lemmings can be wrong!" - it is little comfort to those who suffer the effects of a suboptimal system to know that the quality of life and longevity of patients in other health systems is also less than what is achievable). The reasons for this conclusion are discussed in section 4 of my article "Priorities of Health Policy: Cost shifting or population health". This section particulary highlights the apparent disregard of relatively straightforward systemic changes which have had the potential to significantly reduce death and disability arising from the epidemic of adverse events in Australia.

Conclusion 6 *There is almost certainly a huge potential for improving the productivity of Australia's health system. But "National Health Policy" at the political level has focussed primarily upon cost containment and cost shifting. It has failed to address the quantitatively largest issues for population health and the productivity of the health sector.*

One of the obstacles the achievement of technical and allocative efficiency is the paucity of system research. Australia has a wealth of administrative databases which could be employed to investigate and improve system performance . As noted earlier service use is very uneven across Australia. To the extent that this violates the usual notion of ‘equity’ this information should be an important input into policy formulation. It does not appear to be used for this purpose outside NSW. However the quality of the data also present other opportunities. The effect of different treatments, such as the varying rates of angiography and revascularisation observed between public and private hospitals could be traced through time if record linkage were possible. This would allow an assessment of downstream costs, mortality and morbidity associated with the two patient groups. There are clearly many opportunities for longitudinal research of this sort. A further option which may be piggy-backed on administrative data is the routine provision of information to different groups of patients who have been identified by their service mix. Information of this sort is probably a highly effective way of ‘empowering patients’; that is, enabling patients, and particularly those with a chronic disease, to take greater control of their disease management.

These developments have not occurred for a variety of reasons. First, for an $80,000 million industry, research funding for ‘product development and marketing’—health services research—is astonishingly small. In the USA six Federal agencies alone spent $US 1,658 million in 2002 upon HSR. (The agencies and their expenditures are as

follows: Agency for Health Care Research and Quality $US 300 million; National Centers for Health Statistics $US 127 million; Extra Mural Prevention Research CDC $US 18 million; Centers for Medicare and Medicaid Services $US 55 million; Veteran's Health Administration $US 371 million; National Institute of Health $US 787 million.) Significant US funding is also obtained form the US network of Foundations which does not exist in Australia. Benchmarking against the Federal agencies alone , at an exchange rate of $US 0.70 = $AUS 1.0 (0.65) and scaling these expenditures down in relation to the size of the US and Australian economies, Australia should be spending about $AUS 120 million on HSR. Australia does not currently spend a fraction of this amount. As a major initiative, the NHMRC is to provide $10 million per annum for HSR—or about 7.7 percent of the US Federal benchmark.

A second and possibly related reason is that there is no dedicated instrumentality, similar to the AIHW, which has taken 'ownership' of the need to provide and periodically to review the need for information generated by HSR. Funding is currently inadequate but also ad hoc.

Thirdly, concern over the confidentiality of records has been elevated to such a level that easy and routine data linkage to observe the outcome of different service patterns does not seem to be a possibility. It is extremely doubtful that this concern in the bureaucracy over privacy would reflect the preferences of a well informed population. Patients almost certainly suffer and die because of the interpretation and

implementation of our confidentiality laws in a way which seriously inhabits the capacity to investigate the outcome of system performance and differences in individual treatments.

***Conclusion 7**: Routinely collected administrative data should be fully used to monitor system performance. In particular it should be employed to regularly monitor equity of access to services and to provide disease related information to population groups identified as having particular needs and interests. A statutorily independent national institute for health services research should be established whose terms of reference require the achievement of these objectives.*

6 Pharmaceuticals

Pharamaceuticals were an issue of particular interest to the Commissioners and particulary the question "*To what extent are there interdependencies between the different expenditure types that need to be taken into account when projecting future health care costs? For example, would increased expenditure on the PBS reduce the rate of growth of hospital care costs?"*

Recent policy has been based upon an apparent assumption that the opposite may be true, and that national health care costs (at least to the Commonwealth Government) can be limited by copayments for pharmaceuticals subsidised on the PBS. This latter

issue is discussed in section 3 of my policy paper. There it is concluded that copayments on pharmaceuticals violates an important principle of allocated efficiency, namely, that relative prices should reflect the relative cost and benefits (supply and demand) of different products. The high rates of pharmaceuticals coinsurance is likely to discourage the use of the product which may well be the most cost effective part of the system and which, probably, has the greatest potential for increasing population health at a relatively low cost (because of the low labour component in the cost of pharmaceutical production and distribution).

This does not directly address the commissioners question. With respect to cost saving, it is self evident that antibiotics and psychotropic drugs have dramatically reduced the use of hospitals and significantly increased health outcomes. Similar substitution effects are likely in the future. However, I am unaware of research which demonstrates the potential for further reducing health system expenditures by the increased use of existing pharmaceuticals.

7.0 Policy conclusions

The chief analytical conclusion from this submission is that the impact of ageing per se upon health costs - ie - the effect when every other variable is held constant - is likely to be very small. However, the impact of these other variables, and in particular, cost enhancing technologies are likely to be very significant and, consequently the interaction of ageing and new technologies may generate high levels of expenditure. A

second conclusion, however, is that there is at present, no demonstrably valid method for forecasting the impact of these other variables on health costs. For this latter reason, there is a significant risk that the use of a (legitimate) hybrid model incorporating the economic and epidemiological age cohort based methods of analysis might lead to an altogether unjustified conclusion that agein per se will have a relatively large effect and that the relentlessness of the ageing process compels particular policy conclusions.

However, as argued earlier, the quantitatively largest effect of such modelling would arise from the projection of past trends and future GDP growth. These do not lead to relentless cost pressures. They are consistent with a variety of policy responses.

The seond danger associated with these projection methodologies is that with an aura of pseudo precision they will deflect attention away from what should be the chief focus of the analysis. This is the achievement of a health sector which maximises flexibility, substitution opportunities and, in economic terminology, achieves allocative and technological efficiency. There is universal agreement that this does not currently occur. The real significance of ageing is that it accentuates the fracture lines between the major service sectors used by the elderly - primary and acute care and nursing home accommodation. Efficent subsitutuion between these is of enormous significance for efficiency ie for community costs and the quality of life of the elderly.

One of the terms of reference of the recent review of the Tasmanian hospital system, which I chaired, was an examination of this problem of the interface between services for the elderly and the problem of so-called “bed blockers” - elderly “near patients” filling acute care beds because Commonwealth funding for approved nursing home facilities had not been forthcoming. The problem was exacerbated by the poor co-ordination of primary health care provided by Commonwealth funded general practitioners and other state funded services. Efficiency requires a seamless transition between all of the services provided for the aged. For well-known reasons a necessary but not sufficient condition for achieveing this is the creation of a single fund holder responsible for all of the services provided to a patient. This was recommended in the Tasmanian review and accepted by the State Government.

In sum, the ageing of the population highlights the need for a comprehensive and independent enquiry into aged and health care services.

Conclusion 8 *The productivity should consider the following recommendations:*

i. *that priority should be given to all possible means for increasing the flexibility of the health system and particulary the substitution possibilities between the various services provided to the aged*

ii. *that there should be a national, independent and comprehensive enquiry into health and aged care services with the chief terms of reference being the achievement of allocative efficiency between these services*

iii. *that there be an endorsement of the Tasmanian enquiry's recommendation that Tasmania should be given the opportunity to pool health and aged care funds from the Commonwealth and the State and, subject to Commonwealth regulation, be encouraged to experiment with the reorganisation of these two sectors.*