26 October 2004

Ageing Impact Study
Productivity Commission
PO Box 80
BELCONNEN ACT 2616

Dear Sir/Madam

Submission to the Productivity Commission Inquiry *Economic Implications of an Ageing Australia*

Thank you for the opportunity to make this submission to the Productivity Commission on the role of medicines and the Pharmaceutical Benefits Scheme (PBS) in the context of Australia's ageing population. Medicines Australia strongly argues that any future consideration of the effects of ageing on the PBS should consider the positive impacts that spending on medicines has on both workforce productivity and participation, and the potential for such spending to provide offsetting savings in other parts of the health system.

About Medicines Australia

Medicines Australia is the national association representing the prescription medicines industry in Australia. MA's member companies represent over 90 per cent of the prescription market, and are engaged in the research, development, manufacture, marketing and export of prescription medicines. Medicines Australia is committed to enhancing the health of Australians by providing medicines of the highest quality, safety and efficacy, and developing new and improved medicines, to which patients should have timely and universal access.

Medicines and Australia's ageing population

Medicines funded under the PBS play a vital role in prolonging the active, working lives of Australians. This is a particularly important point as our population ages. The *Intergenerational Report* suggests that over the next 40 years the ratio of dependants to workers will rise and population factors will detract from GDP per capita[1]. It is estimated that in 2042 in a population of around about 25 million people, the number of people that are aged 54 or less will be approximately the same. It is the people over 55 that will be increasing as a proportion of the population, making up nearly all of the population increase between now and 2042.

[1]Treasurer, *Intergenerational Report 2002-03*, p. 31.

The Federal Treasurer has made the very critical point that work force participation among older Australians will have a much more immediate and direct impact on GDP per capita than rising fertility rates. To gain a cultural shift to increased participation and the consequent increased productivity among older Australians, we will need to maintain and enhance the health of our ageing Australian population. Access to innovative medicines will play a major role and the relationship between the pharmaceutical industry, pharmacists, doctors and government will remain critical.

Proposed changes to the superannuation and retirement rules announced by the Federal Treasurer in launching *Australia's Demographic Challenges* will encourage people to stay in the work place longer – if they remain healthy. The projections in the *Intergenerational Report* released suggest that the PBS is going to be the fastest growing area of health spending over the next forty years. It may be that the pressure on the PBS, particularly as a result of the demand for innovative medicines by an ageing baby boomer population, is with us now.

This pressure will intensify in the future as more innovative medicines become available and our population ages. These medicines can and will treat life-shortening illnesses such as cancers, leukaemia, heart disease, diabetes and mental illness to name a few examples. They have the capacity to offer significant savings and / or efficiencies in other parts of the Health budget, including number of days in hospital, costs of alternative, more invasive therapies, and the extent to which medical practitioners need to become involved.

However, various cost-containment factors including the increase in patient co-payments along with several major patent expiries will see a significant slowing in the growth of Commonwealth expenditure on PBS in the next few years. The PBS forward estimates in the Commonwealth Budget do not take into account the fact that several major types of medicines in the PBS, such as statins, are due to come off patent in the next few years with a likely reduction in prices. For this reason, it is likely that the forward estimates overestimate the future cost of the PBS over the next few years.

The effect of the PBS on productivity and participation

Australia's Demographic Challenges correctly points out that improvements in workforce participation are affected, at least in part, by the health of the workforce. The report states "Poor health often leads to early retirement, spells out of work, and lost productivity through sickness or injury"[2].

However, while it is recognised that medications can improve Australians' health and workforce participation, there is not sufficient recognition in either the *Intergenerational Report* or *Australia's Demographic Challenges* of the value that medicines can bring to improving the health of Australians. The reports make little mention of the fact that

[2]Treasury 2004 *Australia's Demographic Challenges*, p. 6.

increased PBS spending, while obviously needing to be funded, can positively contribute to health, labour productivity and economic growth.

As well as treating symptoms and extending life, innovative medicines improve peoples' activities and functions in daily life, including their physical, social, emotional and cognitive well being. These all contribute to a person's ability to participate in the community and the economy.

It could well be that increased PBS spending may improve economic growth and should be seen as an investment, not just a cost, for the community. As a case in point, several of the examples of key health conditions affecting Australians highlighted in *Australia's Demographic Challenges*, such as circulatory diseases and depression, are now directly treatable by innovative medicines available on the PBS.

As the Institute of Actuaries argued in a recent paper for the Committee for Economic Development of Australia, *Official Forecasts of the Fiscal Impact of an Ageing Population: a Critique*, the modelling for the *Intergenerational Report* omits several 'feedback loops', where variables in the model may interact with each other[3].

One such feedback loop that deserves further consideration in the modelling is the impact of higher PBS spending on participation and productivity. For example, as well as the main forecasts in the *Intergenerational Report*, there are alternative modelling scenarios contained in that report based on different assumptions about labour productivity and workforce participation of older workers.

Changing these assumptions gives significantly different economic and fiscal outcomes to those suggested in the main modelling in the *Intergenerational Report*. Higher labour productivity or greater participation in the workforce by older Australians leads to higher economic growth and helps reduce the budget deficit in the longer term.

It is likely that one factor that causes an increase in workforce productivity and participation may actually be an improvement in Australians' health, attributable in part to access to innovative medicines via the PBS. This improvement in health then has all the flow-on benefits of greater GDP growth, lower budget deficits and so on. In this case, an improvement in productivity and participation is not due to an 'exogenous' influence external to the model, but actually due to an 'endogenous' factor contained elsewhere in the model, namely PBS spending.

This is a feedback loop that should ideally be included in modelling the impact of the projected growth in PBS spending on productivity, GDP and the budget deficit. The fact that higher PBS spending could lead to greater economic growth deserves more detailed consideration in future analysis of the impact of an ageing population.

[3]Institute of Actuaries of Australia 2004 "Official Forecasts of the Fiscal Impact of an Ageing Population: a Critique" *Growth*, 51, March, Committee for Economic Development of Australia, pp. 21-29.

Studies on the value of medicines for productivity and growth

In his paper *The Economic Value of Innovation: Measuring the Linkages of Pharmaceutical Research, Use of Innovative Drugs and Productivity Gains,* Australian researcher Paul Gross confirmed that higher levels of national health expenditures are associated with better health outcomes[4]. Moreover, better health outcomes obtained with modern innovative medicines lead to higher gross domestic product (GDP) by increasing both workforce participation and productivity.

A 2002 Access Economics report on schizophrenia[5] found that improved outcomes, dependant in part on access to newer antipsychotic medications, could reduce a projected $1 billion health burden associated with the illness. In 2001 the lost earnings from people unable to work due to schizophrenia was $488 million. Further investment on psychosocial and vocational rehabilitation is essential to maximize the effect of the investment in new medicines via the PBS. This exemplifies the need to regard PBS expenditure in a holistic fashion, not as an isolated silo of health expenditure. Further investment in basic biomedical research is also essential if we are to conquer the "brain and mind" disorders.

A more recent Access Economics report[6] notes that in Australia there were over 162,000 people with dementia in 2002. The prevalence of dementia is growing rapidly and will reach the 500,000 mark around 2040. Dementia cost over 117,000 years of healthy life in 2002 and will become the largest cause of disability burden in Australia by 2016. By mid-century, according to Access Economics, dementia costs may exceed 3% of GDP – unless we can find effective treatments.

In a 2002 National Bureau of Economic Research paper[7], Frank Lichtenberg confirmed that pharmaceutical technical progress has increased per capita output via its effect on employment rate and hours worked per employed person. Each successive vintage of innovative medicines has produced a progressive increase in per capita output. The research concluded that the use of new medicines reduces the rate of human capital depreciation.

A recent study in the United States by MEDTAP International[8] showed that spending on medicines has substantial health gains. For example, it showed that every dollar spent on medicines that lower a diabetic's cholesterol produces $3 in health gains, each additional dollar spent on hormonal treatments for breast cancer results in at least $27 of health

[4]Gross, P. 2003 *The Economic Value of Innovation: Measuring the Linkages of Pharmaceutical Research, Use of Innovative Drugs and Productivity Gains,* Institute of Health Economics and Technology Assessment: Dee Why.
[5]Access Economics 2002 *Schizophrenia Costs: an Analysis of the Burden of Schizophrenia and Related Suicide in Australia*: Canberra.
[6]Access Economics 2003 *The Dementia Epidemic: Economic Impact and Positive Solutions for Australia*: Canberra.
[7]Lichtenberg, F. 2002 *The Effect of Changes in Drug Utilization on Labor Supply and Per Capita Output,* Working Paper No. w9139, National Bureau of Economic Research, September: Cambridge, Mass.
[8]MEDTAP International 2004 *The Value of Investment in Health Care:* Seattle.

gains, each dollar invested in beta-blockers to treat heart attacks produces $38 in health gains, and every dollar spent on therapies to prevent strokes in high-risk patients has delivered health gains valued at $2 to $6.

In a 2004 article in *Finance and Development*, Professors David Bloom, David Canning and Dean Jamison found that better health has significant benefits for GDP growth[9]. They found that good health raises per capita incomes by improving labour productivity. Better health also leads to a greater incentive to save – lower mortality means saving for retirement becomes a major issue for people.

In an earlier 2000 article in *Science*, Bloom and Canning found that health influences GDP per capita in several ways[10]. Healthier populations tend to have higher labour productivity, suffer fewer lost work days from illness or need to care for family members that fall ill. People have stronger incentives to invest in their education because they enjoy the benefits over a longer time frame and tend to save for the longer term because of improved longevity. There is also a demographic dividend where lower infant and child mortality leads to a larger workforce.

The World Health Organisation has established that access to new knowledge-medicines and vaccines was substantially more important in achieving the dramatic decline in mortality rates throughout the twentieth century than income growth, improved educational levels and improvements in nutrition and sanitation.

Further academic studies have shown that the use of prescription medicines reduces absenteeism of chronically ill workers and increases their productivity by a value far greater than the cost of the medications. Other studies have shown that poor health has a substantial impact on a person's earnings, workforce participation and productivity.

The effect of the PBS on other areas of health expenditure

A second effect of PBS spending is its impact on overall health spending. A cursory analysis would suggest that increased spending on medicines through the PBS would lead to an overall increase in health spending, as is outlined in the *Intergenerational Report*. However, the relationship may not be as simple as that.

There is evidence to suggest that increased spending on medicines can and does lead to greater offsetting savings in other parts of the health system. Treating conditions like high cholesterol, mental illness and cancer with medicines now can reduce the need for more expensive options such as hospitalisation and surgery. The result is savings in other parts of the health system. The fact that spending on medicines could give rise to savings in other parts of the health system has been flagged by the Chair of the Productivity

[9] Bloom, D.; Canning, D. & Jamison, D. 2004 "Health, Wealth and Welfare", *Finance and Development*, 41(1), pp. 10-15.
[10] Bloom, D. & Canning, D. 2000 "The Health and Wealth of Nations", *Science*, 287, 18 February, pp. 1207, 1209.

Commission[11]. Again, the *Intergenerational Report* makes no allowance for the interactions between different parts of the health system like the PBS and hospital costs[12].

International research suggests that a general increase in spending on medicines is more than offset by greater savings in other parts of the health system. A 1996 study by Lichtenberg in the *American Economic Review* found that for every $1 increase in spending on medicines there was a $3.65 saving in hospital care expenditure[13].

Freund and Smeeding in their discussion of future health care costs in an ageing society point out that governments often do not take the benefits of spending on medicines into account. "By far, the most important lesson to be learned here is that governments and policy analysts consider only the costs of new treatments and new drugs, and ignore the benefits"[14]. Making a full assessment of the impact of an ageing population on medicines can only be made once the benefits of medicines, including for productivity and for other costs in the health system, are taken into consideration.

Assessing the impact of increased spending on medicines on health outcomes, productivity, workforce participation, health spending and economic growth is difficult. However, the studies outlined above suggest that there are overall economic benefits from greater spending on medicines.

Further involvement of Medicines Australia

Medicines Australia has an on-going interest in researching intergenerational issues and how they will impact on health policy into the future. While making this preliminary submission, we would be very interested in working further with the Productivity Commission on issues of ageing and productivity into the future. For example, Medicines Australia is developing a micro-simulation model of the PBS, MediSim, in partnership with the National Centre for Social and Economic Modelling (NATSEM) at the University of Canberra. This model analyses the PBS and its impact on the community and will soon have a health outcomes component to examine the health benefits of spending on medicines.

Areas we intend exploring with the MediSim model include the impact of an ageing population on the PBS and gaining more insight into how medicines and the PBS might play a role in enhancing Australia's productivity. Medicines Australia would be very interested in working with the Productivity Commission in this research.

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[11] Banks, G. 2004 "An Ageing Australia: Small Beer or Big Bucks?" *Presentation to the South Australian Centre for Economic Studies, Economic Briefing*, 29 April: Adelaide, p. 24.
[12] Dowrick, S. & McDonald, P. 2002 "Comments on Intergenerational Report, 2002-03", Australian National University: Canberra, p. 10.
[13] Lichtenberg, F. 1996 "Do (More and Better) Drugs Keep People Out of Hospitals?," *American Economic Review* 86, May, 1996, 384-388.
[14] Freund, D. & Smeeding, T. 2002 "The Future Costs of Health Care in Aging Societies: Is the Glass Half Full or Half Empty?" Prepared for the Seminar *Ageing Societies: Responding to the Policy Challenges*, 8 April, University of New South Wales, p. 18.