THE ROLE OF PHARMACEUTICALS IN AN AGEING POPULATION

Issues, Policies and Future Directions

December 2009
“…in the past, governments may not have recognised that expenditures on pharmaceuticals are not just a cost. It can be a savings if used properly…We know that many of the drugs that are paid for on the [Pharmaceutical Benefits Scheme]...help to reduce pressures on other parts on the health system.”

The Hon Nicola Roxon MP  
MINISTER FOR HEALTH AND AGEING, 8 APRIL 2008

“Because at its core, good health policy is good economic policy.”

The Hon Kevin Rudd  
PRIME MINISTER, 28 JUNE 2007

“…health policy will increasingly influence not just the well-being of the Australian community, but our economic performance. As individuals, Australians won’t fullfill our potential to enjoy long lives and well-being if looming health crises are not addressed now. Likewise, our economy will fall short of its potential as workforce productivity is strained and participation rates fall.”

Dr Ken Henry AC  
SECRETARY TO THE TREASURY, 28 JUNE 2007
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RECOMMENDATIONS

- Given the importance of the Intergenerational Report (IGR) in framing Government policy deliberations on health and pharmaceuticals policy, the next IGR should explicitly recognise that:
  - health spending can improve workforce participation and productivity, and in doing so increases GDP;
  - new medical technologies, including up-to-date medicines provide positive benefits to an ageing population, including productivity and workforce participation benefits, and
  - spending on new medicines can deliver greater savings in other areas of government spending.

- The next IGR should model the current and future economic benefits of medicines into costing of the PBS and incorporate the impact of growth of pharmaceutical spending on:
  - other areas of the health budget, such as expenditure on hospitals, doctors and nursing homes, and
  - workforce participation and productivity.

- Future considerations of pharmaceutical policy reform should be couched in the context of new medicines being critical to ensuring long-term productive and healthy ageing in Australia.

- Future pharmaceutical policy and reimbursement decisions should recognise that the Government’s pricing decisions have the potential to encourage development of future medicines that could improve participation and productivity of ageing workers in the long run.

- Any reforms to Australia’s health and pharmaceutical policies, and the economic assessment of these, should be developed with full consultation with relevant stakeholders. Medicines Australia and its members continue to develop and consider policy options and want to work with all parts of Government involved in policy reform to develop a system that ensures access to innovative, new medicines for all Australians into the future.
EXECUTIVE SUMMARY

Medicines are a vital tool for ensuring that Australia’s population remains healthy and productive as it ages. How the Australian Government manages Australia’s use of medicines in the future, and the Pharmaceutical Benefits Scheme, will be a key determinant of Australia’s future social and economic prosperity.

One of the major public policy challenges is how to ensure that the well-being of Australians and the Australian economy is enhanced to the maximum extent possible from the technological advances being made with medicines while maintaining an appropriate level of fiscal control.

New medicines offer both valuable new treatments as well as improvements on existing treatments that allow for more appropriate care in response to the needs of individual patients. This can reduce both the incidence of associated downstream health issues and the overall cost of care.

While the benefits of spending on medicines are increasingly being understood in the debate about ageing, the key test is translating that understanding into policy action.

While unmanaged spending runs the risk of causing fiscal problems for future generations, too little spending runs the risk of Australia’s population being less healthy and less productive as it ages.

Spending on medicines provides social and economic benefits that need to be recognised in any discussion about future policy and spending decisions.

Social and economic benefits of medicines

Medicines provide a range of social and economic benefits to society. At the patient level, obviously, medicines help prevent and cure illness. New technological developments are finding new treatments and cures for conditions that were previously untreatable, and improvements over previous treatments that mean that patients get more effective and appropriate care. In a modern society, having access to such treatments as they become reality is fundamental.

Medicines also provide a range of economic benefits to society that help to lift workplace participation, efficiency and productivity, as well as reducing overall health expenditure. In the United States, for example, it has been calculated that for every dollar now spent on newer medicines in place of older drugs, total healthcare expenditure drops by US$6.17\(^1\).

There is increasing recognition, both domestically and globally, that medicines can help people stay healthy, improve their workforce participation, and reduce costs in other parts of the health system. Moreover, this benefit improves with each new generation of medicines. The benefits of accessing new medicine, therefore, include improvements to both individuals’ well-being and that of the economy. These impacts will become more valuable and pronounced as Australia’s population ages. The

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continued effect of better technology from newer medicines combined with an ageing population suggests that the benefit of medicine spending will increase with time. As the OECD has recently commented:

*Pharmaceuticals play an important role in the prevention and treatment of disease. Innovative medicines are one of the key factors in medical advances that have helped populations worldwide to live longer and healthier lives. Pharmaceutical breakthroughs in the past decade have been responsible for undisputed advances in preventing and treating diseases such as AIDS, cervical cancer and influenza. Innovations with broader, but less dramatic public health impact, such as new forms of asthma medicines, have also made it possible for patients to be treated with greater convenience and comfort.*

**Ageing population and impact on public policy**

The issues around an ageing population and the consequent implications for health and medicines spending are not unique to Australia. Most industrialised countries are experiencing population ageing, some much more acutely than Australia. In many ways, population ageing will transform the social, economic and political landscape and have profound implications for public policy in the future.

One of the key areas where ageing will impact on public policy is in the area of spending on health and medicines. However, exactly how it will impact and the extent to which governments should be concerned about this is currently the subject of much debate. While finances obviously need to be managed, there is no clear consensus on whether increased spending on health and medicines as a result of ageing is necessarily a cause for concern. The decision revolves around the appropriate balance between what a country can afford and the benefits that society receives from its spending.

Governments around the world are taking measures to better manage their health and medicines spending, partly in response to an ageing population. There are various principles and policy options being considered and applied, all designed to improve the quality, access, responsiveness, affordability and efficiency of health systems. Because pharmaceuticals have tended to be one of the faster growing components of health spending worldwide, these have been a focus for attention and action.

However, in only focussing on the potential growth in the cost of medicines, governments risk ignoring the benefits of this spending when considering future policy options.

A comprehensive approach to medicines policy would consider the full benefits of medicines for society and the economy alongside the fiscal cost to government. Good public policy requires that such approaches are adopted when considering the framework of future medicines policy and spending.

The 2010 Intergenerational Report (IGR) represents a real opportunity for a comprehensive and considered examination of future spending on medicines and its role in ensuring a healthy and productive population. Given the IGR’s importance in framing the Government’s thinking about medicines and other important policy topics,

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it is critical that the next IGR should substantively account for the benefits of medicines spending on an ageing population to properly reflect their economic value.

By properly considering the economic value of medicines, informed policy and resource allocation decisions can be made to achieve a sustainable approach to addressing the long term issues facing Australia.

The risk is that if spending on medicines is constrained, this will send negative signals to the market and dissuade investment in future R&D. This has the potential to jeopardise patient access to new medicines over time, putting at risk the potential for efficiency and productivity improvements to occur as Australia’s population ages.
INTRODUCTION

Medicines Australia represents research-based pharmaceutical companies who discover, develop and manufacture prescription medicines. Medicines save lives, treat disease and limit government and private sector expenditure on more expensive treatments such as surgery, hospitalisation and the need for increased aged care. Medicines reduce workplace absenteeism, increase workplace participation and increase labour productivity - all of which are essential stimulants to the economy.

The role of pharmaceuticals in an ageing population is an issue for Australia as a whole and is a key focus of the Australian pharmaceutical industry.

This report focuses on three important issues in relation to the ageing population:

- what benefits pharmaceuticals bring to the ageing population;
- the issue of the ageing population, and
- what governments are doing in relation to it.

Chapter One looks at the role of pharmaceuticals, including the research and development efforts of the industry, the benefits that pharmaceuticals can provide in relation to the health of Australians and the Australian economy.

Chapter Two focuses on population ageing trends both internationally as well as in Australia. The future consequences for societies are discussed as is the impact of ageing on health spending and health policy formation around the world.

Chapter Three reviews governments’ approaches to reforming healthcare and pharmaceutical policies and how an ageing population can influence these reforms and policies in Australia and around the world. It also looks at health spending, in particular, on pharmaceuticals and the reasons for its growth.

The conclusion of the report highlights the key findings and, in addition, provides recommendations for the Australian Government to consider when developing the 2010 Intergenerational Report.
1. THE ROLE OF PHARMACEUTICALS

Pharmaceuticals will continue to have an increasingly important place in the delivery of healthcare. This is because many governments are experiencing a growth in pharmaceuticals’ share of general health expenditure, a trend that is subject to debate as to whether or not this is a negative phenomenon. Pharmaceuticals are a key component, if not the most important component, of promoting ‘healthy ageing’.

1.1. THE INCREASING ROLE OF R&D AND NEW MEDICINES IN THE RISE OF NATIONAL HEALTH EXPENDITURE

Over the years, measures to contain health costs in Australia have included a strong focus on reducing spending on medicines. Invariably, ageing of the population accentuates attention on medicines, as in a society like Australia medicines are very likely to be a component of everyday lives. However, to focus overly on reducing spending on medicines increases the risk of missing out on the benefits of such spending.

It is sometimes claimed that governments will automatically constrain future rises in health costs relative to GDP arising from ageing by slowing the acquisition of new technologies below historical rates. While this could be a way of offsetting the impacts of ageing, it would transmute the cost of ageing from a fiscal to a technology deficit.\(^3\)

The pharmaceutical industry contributes a great deal more to the economy than is generally recognised: it keeps people healthy and productive for longer and often reduces their call on health care facilities, both acute and others. Pharmaceutical companies make major investments in new medicines over significant periods of time. Consumers, on balance, benefit from these advances in therapeutics researched by the pharmaceutical industry. Indeed, if rising costs of new medicines are a key driver of the growth, the reasons for it are rational.

One of the main reasons for the rising cost of medicines is higher consumption, driven by higher demand from the patient side of the equation and motivated by the reasonable expectation of improved health outcomes.

Moreover, spending on medicines is cost-effective in that they represent “value for money”. Frank Lichtenberg from Columbia University has been instrumental in demonstrating this value. Lichtenberg notes that between 1986 and 2000, the average life expectancy in 52 representative countries included in his study grew by almost 2 years. Using a sophisticated statistical approach, he was able to calculate that of this additional 2 years of life that society now enjoys (on average), over 14 weeks is attributable to new medicines introduced during those years.\(^4\)

According to Lichtenberg, the incremental cost benefit ratio (expenditure per person per year on new drugs divided by the increase in life-years per person per year

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attributable to new drug launches) has been some US$6750. Even this figure is far lower than most estimates of the value of a statistical life-year.

Overall, the benefits of pharmaceutical R&D on medicines are more than 100 times greater than its costs. For every $1 that we invest in health and medical research in Australia, there is a $5 economic spin-off.\(^5\) Lichtenberg stresses that new medicines are, in general, more effective than the older ones.

Investment in research saves lives and money. Benefits linked to research and development of new medicines include things like increases in life expectancy, which is an economic gain and new medicines to replace surgery, which have led to savings of $600 million a year.\(^6\)

Furthermore, a study conducted this year by Rexford Santerre from the University of Connecticut found that by empirically examining the impact of new drugs on various types of health care spending at the national level in the U.S. and on total health care spending in some OECD countries, it could be established that the typical new drug increases pharmaceutical spending but lowers hospital and physician expenditures at the margin. Taking all factors into account, the typical new drug lowers the growth of overall health care spending per capita by 0.063 percentage points in the short-run and 0.187 percentage points in the long-run. In the U.S., the average new drug is found to produce $1 billion of savings in the short-run and $3 billion of savings in the long-run.\(^7\)

The R&D conducted by the pharmaceutical industry is pivotal to driving this new drug development. In the US in 2008, the government spent US$20.8 billion on R&D compared to US$ $65.2 billion spent by the private sector.\(^8\) Additionally, the industry is vital in assuring the strength of the link between research and implementation. It is the pharmaceutical industry that commercialises and develops medical research such that this leads to new medicines being available to patients. The pharmaceutical industry is a highly research-intensive industry (Figure 1).

\(^6\) Mary Hendrix, Australian Society for Medical Research Medal recipient, Address to the National Press Club. 2005, June 9.
\(^8\) Burrill & Company, analysis for PhRMA, 2005- 2009; Pharmaceutical Research and Manufacturers of America, PhRMA Annual Member Survey, *Research & Development in the Pharmaceutical Industry, 2009*
1.2. PHARMACEUTICALS: A KEY CONTRIBUTOR TO HEALTHY AND SUSTAINABLE AGEING

Growth in pharmaceutical expenditure is above all a social, political and economic health care choice. Pharmaceuticals’ increased share of healthcare expenditure is not a threat to sustainability but actually delivers net economic benefits while enabling progress towards the overarching objective: the improvement of healthcare and healthcare status.

1.2.1. Spending less: medication rather than hospitalisation

While it may be tempting to view the rise of pharmaceuticals share of national health expenditure as a source of concern, such a response ignores the full situation.

Medicines were created with the intent to prevent or alleviate acute care needs. Their use should intuitively reduce demands on hospital and long term care institutions.

The global shift in government health spending towards pharmaceuticals seen over the last 40 years is due to the technological developments that have occurred in medicine, allowing societies to treat a whole range of diseases that were simply not treatable, or not treated as effectively, before that time.

While obviously needing to be managed, this shift is because in terms of the efficiency of such spending in treating people, and in terms of the health and social benefits provided, medicines have delivered substantial benefits to society and provided a range of new treatments compared with other areas of health spending. It makes good sense for governments to shift their health spending towards pharmaceuticals – it is where the most benefit lies for patients and the community.
In the last several years, many researchers have documented the key role that medicines play in maintaining health, lowering mortality, improving work participation and productivity, and preventing expensive emergency room visits and hospitalisations. Evidence of cost savings from appropriate use of medicines needs to be taken into account as policymakers seek solutions to health care cost increases. Examples of the growing body of research documenting medicines’ role in producing better health outcomes and lower overall health costs are provided below.

The positive impact on health care costs of the wider use of pharmaceuticals has been clearly demonstrated. The Boston Consulting Group reports that medicines save patients and insurers at least US$224 million a year in the US. Overall, for every dollar spent on newer medicines in place of older drugs, total healthcare expenditure drops by US$6.17.

Although pharmaceuticals are increasing their share of the total national expenditure on healthcare, in many cases this is likely to lead to a decrease of other sources of expenditure and thus to the ultimate goal of minimising our national healthcare expenditures while maximising patient care for the same cost.

For example, the availability of a new generation of medicines to treat depression in the 1990s enabled a sizable decrease of costs (19%) as reported in a US study by reducing the need for hospitalisation.

Furthermore, new medicines for diabetes have been decisive in preventing serious complications that would otherwise have led to hospitalisation and possibly death – causing a drop in the average cost per patient in the US of US$685-$950 over two years.

Age-related diseases are among those that can be treated most effectively from new medicines. The new pharmaceutical treatments now becoming available are delaying nursing home care for Alzheimer’s patients by slowing, the progression of cognitive decline, which allows the patient to remain independent longer. This not only decreases the costs related to hospital and nursing home care but also alleviates the pressure those two institutions endure because of the excessive number of patients relative to available beds. Costs are further reduced by medicines’ cost-effectiveness: even though the implied costs per patient rose by US$1000, the overall medical costs fell from US$11,947 for the patients taking older medicines to US$8,056 for those taking the new treatment.

The implication is that, whatever their costs may be, more often than not, pharmaceuticals save more than their own value. Schizophrenia medicines, which cost $47,500 per year, save more than $70,000 in institutional treatment costs. Medicines that treat congestive heart failure increased overall costs by 60% but cut

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12 Hill J.W et al. The Effect of Donepezil Therapy on Health Costs in a Managed Care Plan. Managed Care Interface 2002: 63-70.
hospitals costs by 78% and as for asthma, a US study found that new asthma medicines decreased emergency room visits by 42%.

The benefits of pharmaceuticals use include reduced acute care hospital costs, a lower proportion of the aged population in long term care and a higher proportion of the working age population in productive employment – all of which are valuable public policy outcomes. These beneficial outcomes can be measured and quantified.

In addition, there are the intangible benefits of pharmaceuticals which also enhance well-being, such as the ability of patients to live with their families rather than spend time in hospital or long term care. There is also the human benefit of the lives spared, the years added to life and the life added to the years by new medicines.

An Advance PCS study has shown that “the average worker in the United States loses 115 productive work hours each year due to a health condition, costing employees US$250 billion or more.” Ageing only reinforces this phenomenon, as older workers are more likely to suffer from health problems. If new medicines succeed in improving our daily health, their economic impact could be tremendous.

Various studies have shown the importance of new medicines in increasing productivity and decreasing absenteeism. The same Advance PCS study stated that “the top five conditions (headache/pain, cold/flu, fatigue/depression, digestive problems and arthritis) cost employers more than US$180 billion annually.” Three of them have been decreased by the use of pharmaceuticals:

- Migraines: A new anti-migraine medication led to reduced use of health services by patients, who also missed less work time and were more productive. In the specific case of the triptan injection for a migraine attack, 50% of workers returned to work after 2 hours, as opposed to 9% of those who received a placebo.
- Arthritis: The first new disease-modifying antirheumatic medicine specifically developed for the treatment of rheumatoid arthritis in more than a decade has decreased disability rates, improved physical functioning and increased worker productivity.
- Allergies: Non-sedating antihistamines have greatly increased productivity. Workers taking non-sedating antihistamines had an average 5.2% increase in daily work output three days after starting the treatment, while workers taking sedating antihistamines experienced a 7.8% reduction in work output.

Medicines also play an important role in improving the productivity and workforce participation of carers. Voluntary or “informal” carers provide the bulk of care to aged Australians. The Australian Bureau of Statistics survey conducted in 2006 showed...
that over 822,000\textsuperscript{22} people aged over 65 years were living at home supported by unpaid carers, compared to only 156,056 people living in residential aged care.\textsuperscript{23}

Pharmaceutical treatments for conditions prevalent in older populations, such as arthritis and Alzheimer’s disease, can allow patients to manage their conditions and live more independently, reducing the hidden burden on carers and their productivity. This is important as the Productivity Commission has found that the number of carers will not match the growth of the elderly population.\textsuperscript{24}

Although medication is mainly used against pre-existing diseases, pharmaceuticals such as vaccines, allergy and osteoporosis treatments help to avoid the need for further care, which is both a clear advantage for the patient who suffers less or not at all, and for the healthcare system.

1.2.1.1. Pharmaceuticals are a key contributor to the improvement of health status, especially age-related health

All the above arguments would be far less relevant if the most important one proved untrue. As John Calfee, a pharmaceutical policy analyst at the American Enterprise Institute, states:

\begin{quote}
The ability of pharmaceuticals to reduce the total expenditures for health care, as well as business costs is important but secondary. Modern drug therapy means patients and consumers are gaining better health, longer life, reduced pain and discomfort, and other blessings.\textsuperscript{25}\end{quote}

In developed countries, health spending is a significant component in the general well-being of the population and the improvement of our societies. The good health of the population and rising healthcare costs in government budgets has been a key indicator for the stage of development experienced by countries all over the world. Health is sensitive to national and individual incomes: developed countries spend more per capita and allocate a higher proportion of their GDP to health.\textsuperscript{26} Generally, the higher a country’s income, the more it spends on medicines.

Health is not a static situation but a process in constant redefinition and evolution, which is sustained by technological progress. Twenty years ago, advanced surgery options for the elderly were almost non-existent, whereas today the elderly benefit from major and complex operations. Rising health expenditure is above all a social and political choice in a particular context. US studies have found that “every additional dollar spent on healthcare in the US over the past 20 years has produced health gains worth US$2.40-$3.00.”\textsuperscript{27} Increasing healthcare expenditure could be a way to deliver benefits from the ageing of our society.

\begin{itemize}
\item \textsuperscript{24} Productivity Commission, 2005. Economic Implications of an Ageing Australia. Final Report, Canberra.
\item \textsuperscript{26} Productivity Commission, 2005. Economic Implications of an Ageing Australia. Final Report, Canberra.
\item \textsuperscript{27} Innovation.org, Controlling Healthcare Costs, www. Innovation.org [Accessed 12 September 2009]
\end{itemize}
The reason that there is a relationship between growth in a country's income and growth in health spending is open to debate. While initially one might assume that health spending is dependent on income, in fact there is an equally compelling argument that health spending causes income growth. According to Bloom and Canning, the well-known positive correlation between health and income per capita is not one way. Governments that make health a priority can count on increased productivity since better health corresponds to greater physical energy and stronger mental capacity, while decreasing the probability of lost workdays (Figure 2).

**Figure 2: Health and GDP: a positive correlation**

- Higher Fertility and Child Mortality → Higher Dependency Ratio
- Child Illness → Child Malnutrition
- Child Malnutrition → Reduced schooling and impaired cognitive capacity
- Lower GDP per capita
- Labour Force reduced by mortality and early retirement
- Adult Illness and Malnutrition
- Reduced Access to natural resources and global economy
- Reduced Investment in Physical Capital
- Reduced Labour productivity
- Reduced schooling and impaired cognitive capacity
- Lower GDP per capita
- Higher Dependency Ratio
- Higher Fertility and Child Mortality

In this way, it can be said that “Health equals Wealth” (Box 1).

**Box 1. “Health equals Wealth”**

“We need to encourage a counter-current in health economics thinking. A new perspective on health as a productive force in economic prosperity needs to take hold in Europe. Based on agreed methodologies and hard data, this new perspective should confirm a few key messages:

- That health is a limited, fragile and invaluable resource.
- That well-managed health systems are positive, forward looking investments.
- That health is a productive economic factor in terms of employment, innovation and economic growth.
- That significant reductions in avoidable and costly ill-health, can be achieved with relatively modest investments.
- That effective health promotion and disease prevention can eventually improve the options available within tight budgets.
- That the health of our politics, will depend on managing the politics of health. For our European citizens, access to affordable high-quality healthcare, is one of the benchmarks of successful modern governance.
- That in many ways, the long term health of the European economy, will depend on the health and longevity of its citizens.

“The message is clear. Health is a driver of economic prosperity. Or to summarise it: Health equals wealth.”

Source: David Byrne, EU commissioner for Health – excerpt from speech at the European Health Forum, Bad Gastein, 2003 (www.healthfirsteurope.org).

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Finally, Joann Wilkie and Adam Young have argued in their article in the Treasury’s Economic Roundup that the overall health of nation’s population has a significant effect on that nation’s productivity and economic performance. Wilkie and Young argue that there is a high correlation between GDP per capita and population health status. The basic rationale being that improved health outcomes lead to an increase in the proportion of the population that is physically capable to work and the quality of work being undertaken.\(^\text{29}\)

Wilkie and Young also argue that although the efficiency with which healthcare resources are used will determine the extent to which health outcomes are enhanced and increased Government expenditure on health should not be automatically seen as an budget impost.\(^\text{30}\) Increased expenditure on cost-effective medical treatments can facilitate better productivity and higher GDP growth.

This spending on medicines and on medical research is a constructive way to boost productivity and efficiency in the economy as well as improve the longevity and quality of life of people. Moreover, the invention of newer medicines will help boost income and productivity. This benefit will become even more important in the future as Australia’s population ages. The extent to which ageing is occurring in Australia and worldwide, and how much that is an issue for health policy, is examined in the next section.

\(^{29}\) Wilkie and Young. *Why health matters for economic performance*, Economic Roundup Issue 1, 2009, p57

\(^{30}\) Ibid, p61
2. AGEING AND ITS IMPACT ON SOCIETIES: COMPETING PERSPECTIVES

Ageing of the population will have a significant impact on society on a number of levels. However, while the issue is often discussed at length by policy makers there is no agreement on its impact on society.

Some have suggested that an ageing society will be devastating for government budgets and cannot be afforded, while others have suggested that the changes can be managed and will have positive aspects.

2.1. AGEING: THE FACTS

In one sense, ageing of the global population is nothing new. With improvements in health and longevity, the world’s population has been getting older for some time. According to the United Nations Population Division, the number of persons aged over 60 tripled from 1950 to 2005, moving from 205 million worldwide to 673 million. These figures could treble, reaching 2 billion – one fifth of the world’s total population – by 2050.31

Developed countries are experiencing a more pronounced ageing of the population, although even the least developed countries are expected to see an ageing of their population over the next few decades (Figures 3 and 4).


The reason for this is a higher growth rate of the older population, currently at 2.6% versus 1.2% for the total population, which could even grow three times faster than the total by 205032. At the same time, the proportion of people under 15 years decreased from 34% to 30% of the world’s population over the second half of the

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The role of pharmaceuticals in an ageing population is a significant issue in the twenty-first century and is likely to continue to decline until equalling the proportion of older people, around 21% each, by 2050.

**Figure 4: Median Age of the World 1950-2050**


Furthermore, it is not just the total population that is getting older, but the old themselves are getting older. The number of individuals over 80 years old will increase, even more so than the total “older population” (Figure 5). The growth rate of the former is currently twice as high (3.8%) as that of the latter (1.9%). This means that by 2050, people over 80 will constitute 4.3% of the human population, compared to around 1% today.33

**Figure 5: Population Aged 80 and Over – 1950-2050**


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The ageing of the world’s population is a result of falling fertility rates and increasing life expectancy. Evolving societal expectations, along with improvements in health brought about by better public health and new medical technologies like pharmaceuticals, have led to these trends.

Access to new medicines and vaccines was substantially more important in achieving the dramatic decline in mortality rates throughout the twentieth century than income growth, improved education levels and improvements in nutrition and sanitation.34

The global fertility rate is now about 2.6 children per woman, while it was at five children per woman fifty years ago.35 In another fifty years, it is expected to have dropped to the replacement level – 2.1 children per woman. At the same time, global life expectancy has increased from 46.5 years in 1950-1955 to 67.6 in 2005-2009 and should increase by another 10 years in the next five decades.

The ageing population trend is more acute in developed countries. In 2007 almost one in seven people in developed countries’ combined population was over 65 years old. By 2050, one in four will be aged 65 years.36 The proportion of people over 65 years old is already bigger than that of children37 (19% against 18% in 2005) and while the child share of the population is projected to decrease to 16% in 2050, the older person share will increase to 34%.38

![Figure 6: Proportion of Elderly in the Total OECD Population](image)

**Figure 6: Proportion of Elderly in the Total OECD Population**


In OECD countries the fertility rate is, on average, well below the replacement level. Currently, the average fertility rate among OECD countries is under 1.6 children per

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36 OECD. 2009, OECD Factbook 2009, Economic Environmental & Social Statistic, [http://lysander.sourceoecd.org/vi=1948428/cl=11/nw=1/rpsv/factbook2009/01/02/01/index.htm](http://lysander.sourceoecd.org/vi=1948428/cl=11/nw=1/rpsv/factbook2009/01/02/01/index.htm) [Accessed 12 September 2009].
37 Aged 0-14 years.
38 OECD. 2009, OECD Factbook 2009, Economic Environmental & Social Statistic, [http://lysander.sourceoecd.org/vi=1948428/cl=11/nw=1/rpsv/factbook2009/01/02/01/index.htm](http://lysander.sourceoecd.org/vi=1948428/cl=11/nw=1/rpsv/factbook2009/01/02/01/index.htm)
women, compared to a 2.8 rate in the 1950s. This shift can be explained by changes in lifestyles, diet, medical treatments and social change such as the increased proportion of working women. By 2040, fertility rates in OECD countries are expected to stabilise at less than 2.1 – the replacement rate. The expected decline in Australia’s fertility rate is expected to be similar to that experienced in other countries.

![Figure 7: Fertility Rates in the OECD – 1950-2040](image)


At the same time, mortality rates have dropped, resulting in huge gains in life expectancy at birth. More developed regions now enjoy life expectancy ranging from 72.4 years (Latvia) to 82.7 years (Japan). Life expectancy will continue to grow so that by 2045-2050, the average will be 82 years (Figure 8).

![Figure 8: Life Expectancy at Birth in Developed Countries 1950-2050](image)


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Ageing of the population in developed countries is particularly prevalent in Western Europe and Japan. For example, in seven countries (Austria, Czech Republic, Greece, Italy, Japan, Slovenia and Spain) one in three people will be 65 or older by 2050 according to the UN Population Division. However, developing countries are also confronting an ageing population. In Africa, for example, the median age will grow from 38 years to 49, a difference of 11 years.

The total dependency ratio, (the ratio of the combined population of under 15 year olds and over 65s versus the working age population), has increased globally from 65% in 1950 to 74% in 1975 (Figure 9). The dependency ratio is expected to decrease until 2050 where it is estimated to return to year 2005 levels of 54%.

However, in the more developed regions, the increase in the total dependency ratio is expected to start rising earlier to 57% in 2025 and to 73% in 2050.

The dependency ratio composition is likely to change and explains the ratio's expected variation. The balance between the youth and old age component are set to become more equal which is the result of the decline in fertility and the increase in longevity, as it currently consists largely of the younger population. As the proportion of young people declines, so too does the dependency ratio, with an increasing proportion of older people over 65 years. In the more developed regions the old age component is expected to rise to 63 per cent in 2050, up from 44 per cent in 2000.

Australia, while not in as acute a situation as Western Europe and Japan, is also experiencing an ageing of its population. The 2007 IGR Report projects that one quarter of Australians will be aged 65 years or more by 2044-45, roughly double the present proportion. In every year between 2012 and 2028, the aged share of the Australian population is projected to increase by more than 0.35 percentage points — an increase around four times the long-term average.

41 Ibid.
According to the Australian Bureau of Statistics population growth is expected to fall from 1.2% in 2008 to 0.2% in 2042, and those aged 55 to 64 will constitute more than 50% of total growth. Australia’s projected median age of 38.2 years in 2010 will increase, to between 46 and 49.9 years by 2051.

Indeed, these statistics highlight the need for the Australian Government to strategically ensure that its older population is as healthy and productive as possible. This will involve spending more on health, but the benefits to the economy over the long term of doing are likely to be significant.

Population ageing is really about the age structure of the population — the ratio of the old to other ages. Any given number of older peoples’ needs can be met as long as there are sufficient numbers of younger people to drive the economy and provide the required services. It is this changing balance between older and younger Australians that is primarily facilitating debate.

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43 ABS, 1301.0 - Year Book Australia, 2008
44 ABS, 1301.0 - Year Book Australia, 2008
A major source of budgetary pressure facing Australia is health care costs. The Productivity Commission notes that ageing accounts for around 2.2% of the projected rise in total health spending of 4.5% of GDP by 2044-45\textsuperscript{45}. Of course, not all of the projected increase in health spending in coming years is attributable to ageing. However, Banks demonstrates that if non-age related demand/technology pressures and population changes are kept constant, while preserving the age structure of 2000-01, the separate effects of ageing relative to this imaginary ‘forever young’ world are still significant, leading to health costs in 2050-51 that are about one third higher than without the ageing effect (Figure 11)\textsuperscript{46}.

Over the entire period to 2050-51, it has been predicted that ageing of the population will account for an additional $1.2 trillion in government-funded spending.\textsuperscript{47}

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\textsuperscript{45} ibid, p. 172.

\textsuperscript{46} Banks G. An ageing Australia: small beer or big bucks? 29 April 2004, p. 23.

\textsuperscript{47} Banks G. An ageing Australia: small beer or big bucks? 29 April 2004, p. 24.
However, conclusions about the impact of ageing on health spending risk ignoring the productivity improvements in an older population as a result of that health spending.

Before going on it is worth noting that recent figures released by the Treasury Department indicate that, Australia’s population could be larger and younger than presented in previous IGR projections. According to Treasurer Wayne Swan, the next IGR Report will project that Australia’s population will grow by 65 per cent to reach over 35 million people in 2049, up from around 21½ million people now. This projection of 35 million people is significantly higher than the IGR2 projection of 28.5 million in 2047 and will be largely driven by a greater number of women of childbearing age, higher fertility rates, and increased net overseas migration.

However, although these new figures seem to indicate that economic and fiscal pressures facilitated by an ageing population might not be as severe as was first projected in IGR2, it is still projected that the proportion of people aged 65 and over will rise to 22 per cent in 2049, compared with around 13 per cent today. This figure represents a huge change from the current proportion of older people in Australia’s population and will still require a decisive response from the Government in the form of good health policy.

2.2. CONSEQUENCES FOR THE FUTURE

The ageing of the population will have a range of impacts across society including on labour structure, productivity and workforce participation, economic growth, fiscal sustainability, pensions and social security, and health spending.

In its report on the economic impacts of an ageing Australia, the Productivity Commission examined the ageing of Australia’s population including labour markets, productivity, economic growth implications and health expenditure. It also looked at aged care expenditure and carer payments, personal benefit payments, education expenditure and ageing as well as other expenditure and revenue. Local government and regional impacts were also examined as was the implications of the ageing population.

The report concluded that greater life expectancy for Australians can be attributed to the economy, political decisions and technology available. In addition, the change in the age structure can be attributed to lower fertility rates due to female reproductive control, education and labour force participation along with lower infant mortality. The demographic transition of the population in Australia will be large, but at the same time it will be a gradual process. The report also states that trends in spending and revenue will increase the fiscal pressure for the Government but concludes that this is not a crisis if it is dealt with appropriately. Governments are responsible for many areas impacted by the ageing population, in particular health and aged care, economic growth and population policies. Finally, the Productivity Commission argues that population ageing can only be conceived as a crisis if society lets it become one.

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48 The Hon Wayne Swan, The Population Challenge and Australia's Future, Address to launch the Australian Institute for Population Research, 18 September 2009
49 Ibid
For example, one major aspect of society and the economy to be affected will be in the supply of labour, which is heavily related to the proportion of those aged 15-64 years in the total population, since that age bracket encompasses the majority of the working-age population. Although the labour force will continue to increase over the next five decades in countries like Australia – from 13.2 million in 2009 to 17.7 million in 2051, as a proportion of the population it will decline from 67% to between 57% and 59%.\footnote{Australian Bureau of Statistics, 3222.0 Population projection Australia 2002-2101, 2005 November 29.} As a result, economic growth is expected to slow.

The critical point is that work force participation among older Australians will have a much more immediate and direct impact on GDP per capita than rising fertility rates. Participation rates have increased in the last four decades (from 58% in 1960-1961 to 64.4% in 2005) following the strong rise of female participation, but these trends are unlikely to continue.\footnote{Productivity Commission 2007, Workforce Participation Rates – How Does Australia Compare?, Research Report, Canberra.} While a shrinking labour force relative to the population could lead to a reduction in unemployment, it could also lead to labour shortages in some sectors. The workforce participation rate of older Australians will be critically influenced by their health and the extent to which medical treatments like new medicines are available to keep older Australians healthy in the future.

Another impact on society of ageing is in the retirement or social security system and its sustainability. It can only remain sustainable if the working population is numerous enough to support the young and the elderly. Ageing is a serious issue for this universal system, most notably because of its fiscal implications. The 2007 Intergenerational Report forecasts that the total number of age pensioners in Australia, which between 1980 and 2005 passed from 1.3 to 1.9 million, will double in proportion to the total population.\footnote{Intergenerational Report 2007, Canberra, April 2007. p. 55.} The Chairman of the Productivity Commission, for example, predicts that in Australia, the 5.25 working people caring for every person over 65 years today will only number 2.2 by 2050-2051.\footnote{Banks, G. 2004. An Ageing Australia: Small Beer or Big Bucks? Available http://www.adelaide.edu.au/saces/publications/issues/EIP11AgeingSociety.pdf.}

### 2.3. IMPACT OF AGEING ON HEALTH SPENDING

The impact on health spending is one of the most contentious issues associated with the ageing population. The extent to which ageing is likely to be a problem for many countries, including Australia, is hotly debated. While a range of differing perspectives exist, the debate can be characterised into two schools of thought that have been described as the ‘Doomsday’ school and the ‘Panglossian’ school.

The Doomsday perspective argues that the ageing of the population witnessed by countries like Australia will lead to large, unsustainable increases in health spending. This perspective argues that healthcare spending relies heavily on demographic trends, and because older people consume more health care resources, spending is going to increase.

One of the problems with this perspective is that it tends to focus only on the cost of older generations. However, it is not a forgone conclusion that an ageing population automatically switches into a less productive society or that ageing automatically leads to increased costs. One of the factors that influence this is the level and type of health care delivered in a country.
The Productivity Commission suggests that the total government health expenditure in Australia is projected to increase from 5.7% in 2002-03 to around 10.3% of GDP in 2044-45. An Access Economics report done for the Pharmacy Guild of Australia projects even higher health expenditure growth, suggesting it will reach 12.4% of GDP by 2033.\textsuperscript{55} Projections using a non-demographic growth rate show that hospital, Medicare and other expenses will have a growth rate of 0.6% above the projected GDP growth per capita. Small variations in the non-demographic growth rate still show that spending on health will grow faster than GDP growth. The Productivity Commission estimates that if health costs per person increased at 0.3 percentage points above the growth in GDP per capita, total government expenditure is projected to be around 9.0% in 2044-45. Furthermore, at a growth rate of 0.9% above GDP per capita, expenditure is estimated to reach over 11.5% of GDP.\textsuperscript{56}

Australia is not the only country in this situation. The OECD reports that health spending in most OECD countries rises due to a simultaneous increase of health expenditure and a decrease of economic growth. On average in 2006-07, health spending represented 8.9% of GDP in OECD countries, versus 7.8% in 1997. In the US, “health expenditure grew 2.3 times faster than GDP, rising from 13% in 1997 to 15.8% in 2006-07”\textsuperscript{57}. The rest of the OECD experienced a health spending rise 1.7 times faster than GDP. Australia’s health spending as a percentage of GDP had increased to 8.8% by 2006-07 (Figure 12).

![Figure 13: Health Expenditure as a Proportion of GDP (%)](source: OECD HEALTH DATA 2009, June 09)

Certainly health spending is increasing for a combination of reasons, including the ageing population, consumer expectations and the availability of new medical technologies, including pharmaceuticals. People over 65 years old do tend to
consume more health resources than other age groups in society. For example, males aged between 65-74 years old cost 18 times that of 15-24 year old males.\textsuperscript{58}

As people live longer, conditions associated with ageing will be a big driver of healthcare expenditure. For example, dementia costs are projected to grow from 1% of GDP in 2004 to 3% in 2050.\textsuperscript{59}

There may, however, be cause to be sceptical of the common view that healthcare costs will be unsustainable. Firstly, as Kinnear states, the statistics are against the doomsday supporters’ view.\textsuperscript{60} In many countries that have, or will have, the highest proportion of older people, the ageing trend has not been associated with rising health expenditure. Public health expenditure has increased slightly in some countries (Italy and Switzerland) but has remained virtually unchanged everywhere else: total health spending has remained almost constant between 1997 (72.3%) and 2002 (72.8%)\textsuperscript{61}.

In Japan, where in 2006 people aged over 65 constituted 19.8% of the total population, health spending as a proportion of GDP was only of 8.1%.\textsuperscript{62} Finland and Germany too have relatively low levels of health expenditure (respectively 8.2% and 10.6%) yet both have ageing populations representing 16.8% and 19.4% of their populations respectively\textsuperscript{63}.

Conversely, the United States had healthcare spending of 15.3% of their GDP but an older population of only 12.6% in 2006\textsuperscript{64}. The observation is that a high proportion of the population that is older does not automatically lead to higher health spending.

\begin{figure}[h]
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\caption{Health Expenditure and Ageing: a Correlation?}
\end{figure}

\hspace{1cm}

\textsuperscript{58} Productivity Commission 2005, Economic Implications of an Ageing Australia. p 147.
\textsuperscript{62} OECD Health Data, 2008.
\textsuperscript{63} OECD Health Data, 2008.
\textsuperscript{64} OECD Health Data, 2008.
Professor Jeff Richardson, from Monash University’s Centre for Health Economics calls the assumption of rising health costs due to ageing trends “a total beat-up”, stating that, as in Japan and Northern Europe, economic growth “would far exceed the relatively small increases on the public health system that ageing by itself will generate”\(^{65}\). He adds that “the ageing of the population in Northern Europe, Japan and the UK was not accompanied by serious economics problems of the sort foreshadowed”\(^{66}\).

Some argue that this is linked to reasons other than ageing, such as the increasing use and cost of medical technology and pharmaceuticals, the availability of new treatments, increasing consumer demand and expectations, a rising per capita income, population growth and private and public choices about spending more on health.

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The Productivity Commission estimated that ageing would account for around 50% of the increase in health spending over the next 40 years.\(^67\)

Rather than a person’s age being the determinant of their consumption of health resources, it has been suggested that a person’s proximity to death is the major explanation for their consumption of health resources. Their argument is that it is less important that the population’s life expectancy is increasing, as this is just pushing out the costs of mortality into later life.\(^68\)

Reports in the US, Canada and UK have found that patients in the last year of life cost up to six times more than other patients. Gray established that the “proximity to death strongly increased probability of hospitalisation” - nothing so definitive can be said about ageing.\(^69\)

In summary, more people now live long enough to grow old before they die but the principal cause of their increased cost of care is their death not their age. The availability of high cost medical treatment in the last year of life is the most relevant factor not their absolute age at death.

It is also reasonable to question the legitimacy of criticising the rise of healthcare expenditure. Although increases in spending need to be appropriately funded and managed, health, like education, is an important area of spending. Intelligent health spending produces a more productive, healthier population.

The OECD has argued:

> Spending more is not necessarily a problem, particularly if the added benefits exceed the extra costs. The new drugs, devices and procedures that are responsible for much of the cost growth have also been responsible for better health and reduced disability. But since three-quarters of OECD health spending is publicly financed, rising costs increase the pressure on governments to contain costs or force them to divert resources from other priorities.\(^70\)

The OECD has also noted, in comments on Australian spending on medicines that:

> While growth in PBS outlays has recently slowed, historically strong growth in PBS outlays, as well as their projected growth in both the Intergenerational Report and Productivity Commission fiscal projections suggests options to constrain expenditure by increasing co-payments should be considered. A difficulty with any such increase is that the heaviest burden will be on low income earners, and there is also a risk that if patients go without necessary

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\(^70\) OECD 2004, “Health Systems Must Seek Better Value for Money, OECD Concludes in Report to Health Ministers”, May. Available: [http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1_1,00.html](http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1_1,00.html). [Accessed: 9 December 2004].
medication then other medical costs, such as for hospital care, may increase by more than any savings on pharmaceuticals.\textsuperscript{71} (emphasis added)

2.4. IMPLICATIONS FOR GOVERNMENT ACTION

Whatever the merits of the debate, the ageing population is a key factor causing governments around the world to reform their health systems. Even if ageing is not the only factor explaining growing health budgets, the fact that there will be more older people drawing on health resources in the future as the population ages is putting pressure on governments to reform their health systems. The next section of this paper looks at what measures governments are undertaking to reform their health systems.

3. REFORMING HEALTH CARE AND PHARMACEUTICAL POLICIES: GOVERNMENT APPROACHES

Whether ageing of the population represents a crisis or just an issue to be recognised, governments around the world are reforming their health policies in response to an ageing population, and pharmaceutical reimbursement policies are one of the key areas of focus.

Governments are adopting a variety of policy responses to drive greater efficiency in the health system and ensure financial sustainability into the future. It is not necessarily the case that systems such as Australia’s should be changed solely to decrease health expenditure. Rather, systems should be reviewed to extract savings where possible while providing incentives for the introduction of new prevention and care options that offer improved overall outcomes. This will promote the most efficient spending of the health dollar. The concern is that governments are focussing excessively on cost containment without ensuring that access to new medical technologies, like medicines, is maintained.

3.1. IMPLICATIONS OF AGEING FOR GOVERNMENT POLICY

Population ageing will have significant impacts on a range of areas of government policy. Areas such as superannuation, education, labour market policy, fiscal policy, family policy and taxation all have the potential to be affected by population ageing. A broad overview of the debate related to ageing is beyond the scope of this report. General approaches to ageing include preparing for greater call on public resources in some areas, trying to rebalance population growth by encouraging fertility and maintaining the contribution of the older population to the economy and society.

Seven principles have been suggested\textsuperscript{72} to guide reforms aimed at ensuring that the way societies transfer resources to a rapidly growing number of retired people creates neither major economic nor social strains:

1. Public pension systems, taxation systems and social transfer programs should be reformed to remove financial incentives to early retirement, and financial disincentives to later retirement.

2. A variety of reforms will be needed to ensure that more job opportunities together with the necessary training are available for older workers.

3. Fiscal consolidation should be pursued and public debt burdens should be reduced. This could involve phased reductions in public pension benefits and anticipatory increases in contribution rates.

4. Retirement income should be provided by a mix of tax-and-transfer systems, funded systems, private savings and earnings. The objective is risk diversification, a better balance of burden-sharing between generations, and to give individuals more flexibility over their retirement savings options.

\textsuperscript{72} Carey D, 1999. \textit{Coping with population ageing in Australia}. Available http://www.oecd.org/LongAbstract/0,2546,en_2649_37435_1879123_1_1_1_37435,00.html.
5. In health and long-term care, there should be a greater focus on cost-effectiveness. Medical expenditure and research should be increasingly directed to ways of reducing physical dependence and explicit policies for providing care to frail older people should be developed.

6. The development of advance-funded pension systems should go hand-in-hand with that of a strengthening of the financial market infrastructure, including the establishment of a modern and effective regulatory framework.

7. Strategic frameworks should be put in place at the national level now in order to harmonise these ageing reforms over time, and to ensure adequate attention to implementation and the build-up of public understanding and support.

In Australia, there is increasing recognition that health systems and health policy need to be reformed to prepare for the ageing of Australia’s population. As Gary Banks, Chair of the Productivity Commission, has noted: “The actions of governments today will determine how well Australia copes with ageing pressures in the future.” The earlier governments act, the less risk of crisis measures in the future.” 73 The Commission says that the economic pressures of an ageing population do not yet constitute a crisis and would only become one if the country allows that to happen. The Commission recommends immediate action to avoid costly or inequitable drastic interventions in the long term - such as excessive taxes or service rationing. 74

The ageing population represents a potential mismatch between revenue and expenses and is a long-term structural challenge for Australia. This mismatch will either be filled by massive increase in taxes or by putting our expenditures on a sustainable basis and growing our economy so that we can meet that challenge.

3.2. GOVERNMENT APPROACHES TO HEALTH POLICY REFORM: A TAXONOMY

At the first ever Meeting of OECD Health Ministers held in May 2004, health ministers from the industrialised world agreed that OECD countries had experienced improvements in health. However, the Ministers agreed that health systems are under increasing pressure to provide high quality health care while ensuring financial sustainability and efficiency.

The Health Ministers recommended that, subject to national differences, OECD countries should:

- a) build upon current success in improving life expectancy and health status, by using the most cost-effective means to provide the highest quality of health care to their citizens;
- b) attach priority to illness prevention and promotion of healthy lifestyles in the face of rising threats to health, such as obesity, tobacco, alcohol and drug abuse, mental disorders and traffic accidents;
- c) reduce the lingering disparities in health and access to healthcare in OECD countries;
- d) continue to secure the financial sustainability of their health care systems; if private health insurance plays a role in this task, it requires a well-designed regulatory framework to support its development;

e) strive to achieve the gains in productivity that are required to contribute to financial sustainability and to improve quality of care;
f) do more to encourage industry to develop innovations which meet health needs in an affordable way;
g) ensure that long-term care offers quality and choice, and is affordable; and
h) make sufficient investment in human resources and their professional development to meet the future demand for health care.\textsuperscript{75}

Health policy reform is therefore a balancing act of sorts. On the one hand, governments are concerned to ensure long-term financial sustainability by allocating money more efficiently to our healthcare systems in order to make savings whenever it is possible. On the other hand, governments need to ensure that they provide for a healthy, productive population by ensuring access to a high standard of health care including access to the newest treatments, which are more efficient than those they replace.

In its recent studies into health policy\textsuperscript{76}, the OECD has identified five areas where OECD governments are undertaking reform:

- Quality;
- Access;
- Responsiveness;
- Affordability, and
- Efficiency.

\textit{Quality}

In recent years OECD countries have become more focussed on ensuring that the quality of services provided by the health system are appropriate. Countries are introducing benchmarking indicators to measure the performances of health systems against other countries. Governments are also reviewing the current arrangements for regulating standards of health services, such as the medical profession and nursing homes, to ensure that standards are being improved and an appropriate level of quality maintained. Funding systems are also being reformed to introduce financial incentives to reward quality improvements, be it public hospitals or private insurers.

\textit{Access}

Ensuring citizens’ access to health services is another area of concern for countries around the world. OECD governments are introducing measures to ensure that all their populations are covered by health care, either through reforming public funding of health services or introducing initiatives to encourage the use of private health insurance. Such policies include measures to ensure that lower income and disadvantaged groups can afford health care. In addition to affordability, governments around the world are also looking to redress other barriers to access such as ensuring a sufficient supply of doctors and nurses, the availability of long-term care for the aged, introducing assessment processes to ensure appropriate access to new medical technologies, and developing new techniques to introduce new medical technologies in the context of uncertainty about final cost and uptake.


Responsiveness
The responsiveness of health services to patient need is another area of policy reform. Using demand and supply side policies to manage waiting lists in hospitals, measures to improve hospital productivity and raising clinical thresholds, and introducing models of aged care that meet the needs and expectations of patients are examples of the types of initiatives used to develop a more responsive health system. Increasing the options available to consumers for health treatment and encourage private health insurance have also been introduced to encourage greater responsiveness to patient need.

Affordability
Affordability, both for the patient and for government, is another key area of policy attention. This is particularly the case in countries with ageing populations and where funding for the health system relies on contributions from the working population. Governments have introduced cost-containment policies to ensure financial sustainability. This includes initiatives such as the regulation of prices, controls on the supply of medical purchases and budgetary caps on health spending. Governments have also sought to encourage greater private funding of health care, either by introducing patient contributions, private health insurance or encouraging private saving for long-term care in old age.

Efficiency
Finally, governments are also reviewing the efficiency of their health systems to ensure that countries are obtaining the best value for money from the expenditure on health. The use of cost-effectiveness analysis in health technology assessment is increasing around the world, although sometimes this can be difficult due to a lack of data. On the demand side, measures being examined include encourage personal or medical savings accounts to give consumers greater incentive to efficiently utilise health services, communicating the latest evidence on best practice health to patients, and the use of second opinions or demand managers before expensive treatments are used. On the supply side, the introduction of purchaser-provider arrangements, decentralisation, fraud control, deploying human resources more efficiently and reviewing payment structures for visits to general practitioners have all been examined by OECD governments. Measures to improve efficiency in hospitals and long-term care institutions, such as improving accountability and restructuring payments to encourage productivity have also been introduced. Greater use of techniques of health technology assessment and cost-effectiveness evaluation, reference pricing and cost and volume agreements have all been used to try to improve the efficiency of health systems. Equally, greater competition amongst health insurance providers has been encouraged to drive efficiencies.

3.3. THE ROLE OF PHARMACEUTICALS IN HEALTH SPENDING

A key trend common to OECD countries has been the increasing importance of spending on pharmaceuticals as a proportion of total health expenditure. Australia has seen significant growth in its spending on pharmaceuticals, although this growth has varied and currently remains at relatively low levels.

Although by 2008-09, Government spending on the Pharmaceutical Benefits Scheme had reached $7,654 million, the real growth rate (adjusted for inflation) in Government spending on Australia’s PBS has been very low. The real growth rate has varied from 21 per cent in 1992-93 to just over seven per cent in 2008-09 over the last two decades.
It should also be remembered that spending on the PBS not only covers the costs of the medicines themselves, both innovative and generic, but also includes the distribution costs associated with delivery by wholesalers and the dispensing of medicines to patients through pharmacists.

The growing importance of pharmaceuticals in the health budget is not unique to Australia. Most OECD governments have seen their spending on pharmaceuticals become a progressively larger component of their total health budget (Table 1). While the Australian public sector has seen an increase in the proportion of its health budget accounted for by pharmaceuticals, this level is still not high relative to other OECD countries and is below the OECD average.

In fact, in spite of the growth in the PBS in Australia over the last decade or so, the proportion of the health budget devoted to pharmaceuticals when compared to its OECD peers is still below average.

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<th>Table 1: Public sector pharmaceutical spending as a share of public health spending, per cent</th>
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Source: OECD Health Data 2009.

Furthermore, the nominal annual growth rate of the PBS has been falling over the past seven years since a high of 19.2 per cent in 2000-01 (12.4 per cent real growth). In the 2008-09 financial year growth was 9.2 per cent (7.6 per cent real). Recent growth figures clearly show that in real terms, PBS growth remains considerably low compared to historical standards.
Given the potential benefits that new technologies can bring to health care, increased spending on pharmaceuticals should not be seen in completely negative light. Indeed, spending money on medicines may result in spending reductions elsewhere in the health system and social benefits such as reduced time in hospital and lower proportions of the population required to enter nursing homes. Moreover, such growth in pharmaceuticals is, as with other areas of growth in health spending, not unusual over the OECD.

Figure 14: Real growth in government spending on the PBS, 1958/59 - 2008/09

Figure 16: Public expenditure on pharmaceuticals and medical non-durables in OECD nations as a percentage of GDP

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77 Source: DoHA 2008, Annual report 2008-09, Canberra; ABS cat 6401.0 Consumer price index. Note: includes highly specialised drugs program. Growth figures adjusted for inflation using ABS consumer price index

78 Source: OECD Health Data, 2008, Public expenditure on pharmaceuticals and medical non-durables as percentage of GDP in million NCU.
Indeed, the importance of implementing long-term pharmaceutical funding policies that transcend immediate budgetary concerns is highlighted in the 2008 OECD Pharmaceutical Pricing Report.

...growing pharmaceutical spending is not necessarily undesirable, from the perspective of social welfare, as long as there is no more valuable use of available resources. It is also possible that added spending on pharmaceuticals, particularly ones that prevent hospitalisations or conditions requiring further treatment, could offset spending in the health sector or in other areas where costs are borne socially. 

Although increasing spending on pharmaceuticals will increase their share of the total national expenditure on healthcare, it will ultimately lead to a decrease of other sources of expenditure and thus to the ultimate goal of minimising our national healthcare expenditures while maximising patient care for the same cost.

Furthermore, a speech given last year by the Chairman of the Productivity Commission, Garry Banks on health costs and policy in an Ageing Australia, it was asserted that although there is little doubt the ageing of the population will place pressure on future budgets, governments should avoid implementing reactive cost saving policies that simply work to diminish the quality of healthcare received by patients. Banks declares that knee-jerk cost saving policies would lead to lower quality staff, use of older technologies, longer waiting periods, and greater rationing of treatments. Banks also warns that although these policies may help to avoid a fiscal deficit; they would soon create a service deficit — something more insidious because it is less visible, with the potential to adversely affect people. It would also be pushing against the tide of demand for services generally.

In his speech Banks points to examples where the use of pharmaceuticals has helped to avoid more expensive surgical procedures and hospital stays. However, Banks stresses that fiscal rationalisation should not be the sole imperative when formulating health policy to deal with the ageing population. Ultimately, health policy reform is about changes that can lead to improvements in people’s wellbeing. While greater cost-effectiveness and efficiency must be an integral part of this, mere cost containment should not be the ultimate goal.

In summary, growth in pharmaceutical expenditure is above all a social, political and rational health care choice. Prescription medicines’ increased share of healthcare expenditure is not a threat to sustainability but a way to achieve it and at the same time, to respond to the overarching objective, the improvement of healthcare and healthcare status consistent with the National Medicines Policy.

3.4. REASONS FOR THE GROWTH IN PHARMACEUTICAL SPENDING

The factors that facilitate growth in pharmaceutical spending are varied. The demand for medicines by ageing population is obviously one of them, although as already discussed there is some debate over the actual impact ageing will have on health spending.

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80 Banks, G. Health Costs and policy in an ageing Australia, speech delivered at the 2008 Health Policy Oration at the Australian National University (ANU) on 26 June 2008. p13
81 Ibid p22
A range of factors have been identified that contribute to spending on medical technologies like pharmaceuticals. Australians have developed an expectation that they will receive the most up to date and most effective treatments that are available. Drivers of demand include consumer expectations influenced by consumer preferences, the prevalence of disease, co-payment levels, the diffusion and awareness of new technologies and population growth\(^82\).

As discussed earlier, this spending should not simply be thought of as a cost. New medicines bring a range of benefits to patients, the community, the economy and the health budget.

Estimates of cost effectiveness of individual technologies, where they are available, suggest that many advances in medical technologies used in Australia are likely to have been cost effective relative to alternative treatments. Technologies that deliver both cost savings and additional health benefits clearly provide value for money\(^83\). In spite of these benefits and indeed, notwithstanding such benefits, governments around the world have sought to ensure that growth in spending is contained for fiscal reasons and to ensure efficiency and value for money.

This otherwise apparently contradictory behaviour arises in part from the fact that such cost benefit analysis and the interaction between pharmaceuticals and other sections of the health system is only now becoming clearer with the availability of long term mortality and morbidity studies.

There is merit in taking into account the indirect benefits of medicines when assessing individual medicines for PBS listing, in addition to such issues being taken into consideration at the broad policy level. Exactly how to better account for the indirect productivity benefits of medicines in submissions for listing on the PBS is the subject of debate at the moment. As well as being an important discussion in its own right, the debate highlights the need to incorporate such considerations at a broader policy level.

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\(^{82}\) Productivity Commission, 2005. *Impacts of Advances in Medical Technology in Australia*, Research Report, August, Melbourne, pp. 11-16.

\(^{83}\) Productivity Commission, 2005. *Impacts of Advances in Medical Technology in Australia*, Research Report, August, Melbourne, pp. 11-16.
CONCLUSION & FUTURE DIRECTION: HOW TO INTEGRATE PHARMACEUTICALS IN HEALTHCARE REFORM

Pharmaceuticals: a key tool for an Ageing Australia

Pharmaceuticals can play a critically important role in the future health care of an ageing Australia. Whether they are seen as something to be avoided or embraced depends on whether decision makers recognise the evidence that is available.

If pharmaceuticals are simply viewed as a financial cost, then the growing importance of new medical technologies like pharmaceuticals will be a concern. However, if pharmaceuticals are recognised as a technology that helps improve productivity in the economy through better health outcomes for individuals, workforce participation and health sector efficiency, then pharmaceuticals will be viewed as an integral part of ensuring a healthy ageing Australia and both new and incremental benefits of new medicines will be recognised.

The statistical evidence from the developed world is clear – populations are slowly increasing and so is the average age of the population. Between 1950 and 2050 it is expected that the percentage of the population of the developed world over 80 years of age will increase from 1% to over 9%.

This change has an obvious potential impact on the economies of the developed world and on the allocation of health care resources. Given the productivity of the young in the workforce and the consumption of health care by the aged, such a demographic trend could spell significant change in the traditional economic balance of the developed world’s economies.

While there have been concerns that these trends will lead to an unsustainable financial burden, in fact whether or not ageing in the context of our healthcare system is a ‘time bomb’ is a question where there is no agreed answer. There is much debate here and internationally about the extent to which governments need to be concerned about the ageing population.

Medicines were created with the intent to prevent or alleviate acute care needs and their use should intuitively reduce demands on hospital and long term care institutions. The positive impact on health care costs of the wider use of pharmaceuticals has been clearly demonstrated. The Boston Consulting Group reports that medicines save patients and insurers at least US$224 million a year in the US.\(^84\) Overall, for every dollar spent on newer medicines in place of older drugs, total healthcare expenditure drops by US$6.17.\(^85\)

\(^{84}\) Boston Consulting Group, Inc. 1993, *The Contribution of Pharmaceutical Companies: What’s at Stake for America, Executive Summary*, September

The Minister for Health and Ageing, Nicola Roxon, has highlighted the long-term cost minimising benefits of medicines

“. . . in the past, governments may not have recognised that expenditures on pharmaceuticals is not just a cost. It can be a savings if used properly . . . We know that many of the drugs that are paid for on the [Pharmaceutical Benefits Scheme] . . . help to reduce pressures on other parts of the health system”86

Governments around the world are all looking at their health budgets, pharmaceuticals included, in an effort to control spending. However, as the evidence reviewed in this paper suggests, it is important that governments consider the benefits of their health spending, not just the costs.

Policy challenges facing Australia

It is important that future policy consideration takes into account the benefits of spending on new medicines as well as the costs and recognise that such spending can be a part of the solution and not the problem.

At the policy level therefore, rather than simply focussing on the cost of future spending on medicines, future consideration of long term health spending and intergenerational policy should also take into account the fact that new medicines are part of the solution to achieving a healthy ageing Australia.

As the Productivity Commission has identified, it will be important to ensure that future health policies do not try to solve a perceived fiscal deficit by creating a technology deficit, such as a lack of new medicines in Australia compared with other countries:

*It is sometimes claimed that governments will automatically constrain future rises in health costs relative to GDP arising from ageing by slowing the acquisition of technologies below historical rates. While this could be a way of offsetting the impacts of ageing, it would transmute the cost of ageing from a fiscal to a technology deficit.*87

In this case, a ‘technology deficit’ is a lack of new medical technologies, such as the latest pharmaceuticals, to treat disease. It will be important to recognise that the latest pharmaceuticals may be either completely new treatments or improvements on old ones that are more suited to individuals’ needs than those they replace. Both offer valuable improvements.

It is a fine but important balance to achieve if the Australian community is to enjoy a healthy and productive lifestyle for decades to come.

The two previous *Intergenerational Reports* focussed on the costs of the PBS and their potential growth over the coming 40 years. It is important that the impact of higher PBS spending be modelled to show the benefits on participation, productivity, GDP and the budget deficit. Otherwise long term Budget decisions will be based on invalid assumptions. The result will be that the financial costs to taxpayers, health

86 The Hon Nicola Roxon MP, Minister for Health and Ageing, 8 April 2008, Address toAusPharma 2008 The Realm Hotel, Canberra
costs to patients and economic costs to society will be far greater than they need otherwise have been.

One problem with the earlier Intergenerational Reports was that they did not take into account ‘feedback loops’ where variables in the model may interact with each other. 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 previous Intergenerational Reports, there are alternative modelling scenarios contained in the reports 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 Reports. 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.

Furthermore, it should be noted for that the 2007 IGR projections for the Pharmaceutical Benefits Scheme (PBS) were significantly below those released five years earlier in the 2002 IGR. The PBS is now projected to be 2.5% of GDP by 2046-47, up from 0.66% today. This compares with the 3.4% projected for 2041-42 by the 2002 IGR. By way of comparison, while the 2002 IGR was projecting the PBS to account for 3.4% of GDP by 2041-42, the 2007 IGR projected that the PBS will only be 2.2% in the same year. This is a reduction of 1.2% of GDP or a one-third reduction in the size of the projected PBS relative to the economy.
The PBS is still projected to grow the fastest amongst the components of Australian Government health spending. The PBS is expected to grow four-fold over the next four decades, compared to six-fold in the 2002 IGR. Moreover, while the 2007 IGR projected the PBS to be the fastest growing component of health spending, by 2046-47 it is still projected to be only marginally higher than spending on hospitals and health services, which are expected to equal 2.3% of GDP (compared with 2.5% for the PBS).

Indeed, the reduction in the non-demographic growth rate stems from an assumption in the 2007 IGR’s modelling of the PBS. The 2007 IGR argues that while historical trends might suggest the PBS will grow strongly over the next 40 years, constant exponential growth is unlikely to be sustained. So the 2007 IGR assumes that over the longer term, growth in the PBS will reflect growth in health spending, resulting in a more stable share of total health spending. “This is because pharmaceuticals are not consumed in isolation from other health care services, but form part of a broader health care plan for individuals, and government health policy reflects this”\(^{88}\).

Another problem with the earlier Intergenerational Report was that it did not take into account the impacts of PBS reforms on overall PBS expenditure. At least three estimates of the PBS reforms savings are available and all indicate substantive savings that will improve long-term sustainability of PBS. PBS reforms measures such as the price disclosure and 12.5% policy will continue to reign in PBS expenditure as increasing numbers of medicines face patent expiry and are subject to market competition. Moreover, while the 2007 IGR acknowledged that the recent PBS reform package was likely to trim growth in PBS expenditure, Government estimates of the savings derived from the PBS reform package are significant underestimates. The Government will realise substantially more savings than originally forecast. A future Intergenerational Report should take this into account.

Figure 16: Projected PBS reforms savings in 10 years to 2017-18

- Australian Government: $3 billion
- Medicines Australia (CSES estimates): $6 billion
- Pharmacy Guild (Illuminate consulting estimates): $7.4 billion
RECOMMENDATIONS

- Given the importance of the Intergenerational Report (IGR) in framing Government policy deliberations on health and pharmaceuticals policy, the next IGR should explicitly recognise that:
  - health spending can improve workforce participation and productivity, and in doing so increases GDP;
  - new medical technologies, including up-to-date medicines provide positive benefits to an ageing population, including productivity and workforce participation benefits, and
  - spending on new medicines can deliver greater savings in other areas of government spending.

- The next IGR should model the current and future economic benefits of medicines into costing of the PBS and incorporate the impact of growth of pharmaceutical spending on:
  - other areas of the health budget, such as expenditure on hospitals, doctors and nursing homes, and
  - workforce participation and productivity.

- Future considerations of pharmaceutical policy reform should be couched in the context of new medicines being critical to ensuring long-term productive and healthy ageing in Australia.

- Future pharmaceutical policy and reimbursement decisions should recognise that the Government’s pricing decisions have the potential to encourage development of future medicines that could improve participation and productivity of ageing workers in the long run.

- Any reforms to Australia’s health and pharmaceutical policies, and the economic assessment of these, should be developed with full consultation with relevant stakeholders. Medicines Australia and its members continue to develop and consider policy options and want to work with all parts of Government involved in policy reform to develop a system that ensures access to innovative, new medicines for all Australians into the future.
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THE ROLE OF PHARMACEUTICALS IN AN AGEING POPULATION

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