04. The Value of Medicines & Australia's Medicines Industry

Medicines Australia

Better health through research and innovation

The Value of Medicines

Summary: The Australian healthcare system is one of the nation's highest priorities for government funding. Australians enjoy one of the highest life expectancies in the world; living approximately 33 years longer than people born in 1890. The good health of Australians places us in the top third of OECD countries for life expectancy.[1]

Challenge	Solution
Ensuring the government and the Australian community understand and gain from the broader health, social and economic value and wider benefits of new and emerging medicines and vaccines.	Government, industry and other stakeholders to demonstrate the value of medicines and working together to deliver policy levers that encourage investment and economic growth for Australia.

The value of medicines derives not only from the health outcomes that they deliver but also from the broader non-health impacts to our society, the community and the economy. The medicines industry works with the Australian Government to ensure optimal patient outcomes through access to new and emerging medicines and vaccines, and contributes to a healthy, productive and diverse economy where innovation, investment and jobs are created.

This depends on timely medicines access through regulatory and reimbursement processes and a stable and predictable business operating environment to encourage investment. Working with the Australian Government on iterative Strategic Agreements should create an environment that delivers health outcomes and generates broader economic value to the Government through health and well-being and through second round effects of improving productivity, increasing GDP, generating government revenue through income tax collection and reducing expenditure on welfare benefits, as well as spillover effects in jobs and knowledge creation.

According to the Australian Institute of Health and Welfare, the rate of fatal burden of disease decreased approximately 20 percent between 2003 and 2015, reminding us that advances in modern medicines reduce the overall burden of disease and premature deaths. Patients and taxpayers see the value in new cures, treatments and collaborations provided by the innovative medicines industry.

Of the top 10 priorities Australians have for the Australian Government, three of them relate to funding health-related services. The number one priority for funding is hospitals and the healthcare system, a consistent survey result recorded by Research Australia since it commenced polling in 2003. Additional funding for health and medical research is the number 6 priority and increased funding for preventative health care is number 7.[2]

Australians also regard access to medicines through the Pharmaceutical Benefits Scheme (PBS) as a cherished part of their health system. In a recent consumer sentiment survey conducted by Nielsen, 68 percent of respondents agreed that thanks to the PBS, the innovative, research based, medicines industry is delivering a more prosperous future for Australia, with almost all respondents indicating the importance of Government funding for the PBS.[3]

Figure 1: Research Australia results:
What should be the Australian Government's top priorities?

27 priorities for Australian Government spending in the next two or three years were shown to respondents. The scores reflect the proportion of the respondents who rated each priority 7 or above out of a ranking of zero ('not important') to 10 ('extremely important').

Source: What do Australians think about health and medical research, Opinion Poll, Research Australia 2012? An up to date infographic can be found here: https://researchaustralia.org/wp-content/uploads/2018/09/Research-Australia-2018-Opinion-Poll.pdf

1. Benefits To Patients

Australia's innovative medicines companies improve the Australian health system through the provision of new medicines, vaccines and biotherapeutic treatments.

Recent research conducted by Professor Frank Lichtenberg (2019) has found that pharmaceutical innovation was responsible for a 75% decline in the premature mortality rate before the age of 85, and a 53% reduction before the age of 80.
A key take-away from this research was that almost all (94%) of the 1998 and 2015 decline in premature mortality rates were due to pharmaceutical innovation. The study also found that were it not for new drugs listed on the PBS between 1987 and 2003, years of life lost would in fact have been 27.2% higher. The evidence from this research has found that, in the long run, pharmaceutical innovation was not only lifesaving, but cost saving also.[4]

The value of innovative medicines is also illustrated by the changes in mortality in patients with diseases where there have been significant advances in treatment. For example, although coronary heart disease remains the leading single cause of death in Australia, the rate of deaths attributed to the disease has decreased by 79 percent since 1980.

Research by Professor Deborah Schofield confirms that early and effective treatment may help to keep patients out of hospital, reduce dependence on welfare benefits, enable participation in the workforce or school, and enable Australians to be more productive and enjoy improved involvement in their life, families and community.[5]

The availability of new treatments for patients is bringing better health outcomes in a range of disease areas including numerous cancer types, chronic disease and blood borne viruses.

For example, 2017 was a pivotal year for oncology with eight new medicines reimbursed by the Australian Government representing new classes of drugs and new approaches to cancer treatment. This is particularly poignant as, on average every day in Australia, 380 people are diagnosed with cancer.[6]

2017 also saw an additional two innovative medicines reimbursed for the treatment of Hepatitis C.[7] Access to new Hepatitis C DAA medicines has changed how the disease is viewed in Australia.

In 2016, the Australian Government endorsed the World Health Organisation (WHO) Global Health Sector Strategy on Viral Hepatitis 2016–2021, followed in 2018 by its fifth National Hepatitis C strategy, which aims to further the overarching goal of elimination of viral hepatitis as a major public health threat by 2030. The new Hepatitis C medicines are critical to this strategy.

However, the challenges in health are not over, with recent Australian Bureau of Statistics (ABS) forecasts signalling the first decline in life expectancy projections since the 2015 Intergenerational report. This is largely predicted to be a result of the increasing burdens of an ageing and growing population and impacts of rising levels of chronic diseases or precursors to debilitating diseases, such as obesity, mental health, diabetes, etc.[8] Additionally, Australia's Aboriginal and Torres Strait Islander populations do not enjoy the longevity expectations of others.[9]

Moreover, this highlights the challenges of unmet clinical need that still must be addressed and the critical role that the pharmaceutical industry will play, through extensive research and development programmes, and investment in partnerships with researchers, universities and biotechnology companies, to identify and explore significant areas of unmet clinical need and strive to find solutions.

It is critical that government policies encourage these investments, facilitate broader research programmes and enable rapid and efficient access to new treatments when they become available.

Key Facts: Reducing the overall burden of disease and premature deaths.

New medicines have transformed the impact of diseases like heart disease - where the death toll has fallen 5-fold in Australia.

Medicines introduced over the past two decades have contributed to reduced premature mortality by 14% – in other words, 14% fewer people died before the age of 75.

Pharmaceutical innovation is responsible for almost all (94.8%) of the decline in premature (pre-age 90) mortality between 1998 and 2015. 48% of the increase in survival rates for cancer patients from 2001-2005 to 2011-2015 was due to the launch of new cancer medicines.[10]

2. Economic Opportunities

> Research[11] into public opinion conducted by Medicines Australia in 2019 also suggests that in comparison to other industries, Australians see the medicines industry as being one of the most valuable industries globally in the next five years.

Of participants surveyed, 64% believe Australia has the capacity to be world leading in this area. This can be significantly attributed to our national interest in areas of STEM – as a skillset, an industry, a source of healthcare and an economic powerhouse.

Public polling research conducted by Research Australia[12] in 2018 recorded 89 percent of Australians being interested in health and medical research. Moreover, Nielsen Research found that 87 percent of Australians agreed that it is important for the Government to invest in the PBS, so that Australia is better prepared for the future. It follows that the economic opportunities and economic benefits of the medicines industry are strongly supported by the general public.

> **Key facts:** The value of pharmaceutical exports in 2017-18 was $3.6 billion[13] - an 11.8 percent increase on the preceding financial year.

Australia currently exports medicines to over 70 countries. These exports support and develop a highly skilled workforce. Significant pharmaceutical exports demonstrate that Australia is internationally competitive in this sector. The end of the mining boom provides an opportunity for the Australian economy to further diversify by focusing on attracting investment into pharmaceutical research and development as well as advanced manufacturing. This economic growth will dovetail into increased exports and establish Australia as an industry leader in the Asia Pacific region.

For further information, please refer to our briefs on ‘Workforce Development’ and ‘Investment’.

3. Preventative Health

> Preventive health interventions make a difference. Medicines and vaccines play a pivotal role in the primary, secondary and tertiary prevention of illness and disease.[14]

For example, the World Health Organisation (WHO) defines immunisation as one of the most successful and cost-effective health interventions ever implemented,[15] making Australia's National Immunisation Program (NIP) one of Australia's great health-related achievements.

The National Immunisation Strategy 2019-2024 builds upon the first National Immunisation Strategy 2013-18 and aims to expand and improve the NIP. Australia's high-quality immunisation programme is internationally acclaimed with national coverage sitting at 94.6% among 5-year-old children.[16]

Over the last 50 years the National Immunisation Program has grown to be a major public programme funded by both the Australian Government and State and Territory Governments. Over the same time the incidence of vaccine-preventable diseases has dramatically declined.

4. Value of Medicines To Health Systems and Broader Society

> It is important to consider the value of medicines to individual Australians, to the wider health system, and to society more broadly.

Investing in medicines not only helps to save lives, it also assists in averting future hospital spending, and helps minimise lost productivity.

Medicines keep Australians out of hospital, prevent disease and play a pivotal role in ensuring a productive and healthy community.

Many chronic conditions place a huge economic burden on society through, for example:

- employee absenteeism
- in-patient hospital and surgical costs (typically associated with later stages of treatment for serious disease)
- societal (psychological, family and community) costs associated with illness, permanent disability or premature death.

There are also significant hidden benefits of medicines and other treatments in terms of improvements in productivity with flow on effects to the whole Australian economy. Studies and analyses show more clearly that new treatments can, and do, directly save the Australian Government money. There is a link between health interventions and increased economic outcomes.[17]

There is an opportunity to better capture and assess the wider value of medicines to the economy and the community if productivity measures are developed and monitored. This, in turn will inform valuable decisions on investment in new medicines and deriving greater cost efficiencies and economic benefit.

In the context of an ageing population and half of all Australians living with chronic disease,[18] the reduced workforce participation and lost productivity continues to place increasing pressure on

the healthcare system and the broader economy. According to the report "Our Health, Our Wealth: The Impact of Ill Health on Retirement Savings in Australia", produced in partnership with the McKell Institute, early retirement due to ill health imposes a significant economic cost, almost 4.5 times government expenditure on the PBS in 2016-17. Enabling people to stay out of hospital or better selfmanage their illness in consultation with a health care professional will ensure the population can better participate and remain productive. Furthermore, Lichtenberg (2015) found that the $5 billion spent on the group of innovative medicines first listed on the PBS between 1989 and 2002 saved $7 billion in additional hospital visits (hospital separations) in 2011.[19]

Mental Health Case Study[20]

> The importance of including the societal perspective in terms of resource use is very well illustrated by the economic burden of schizophrenia.

Ekman et al (2013) investigated the healthcare resource utilisation and cost of illness study for patients with schizophrenia in Sweden. The total cost per annum per patient was estimated to be €55,000 (2008) of which 60% of the total was indirect costs due to productivity losses in relation to sick leave and early retirement.

In terms of direct costs, the proportion of total cost was made up of community care (22%), inpatient cost (8.1%), outpatients (6.6%) and pharmaceuticals (3%), respectively.

In Australia a study undertaken for SANE Australia by Access Economics estimated that the cost of schizophrenia was $1.85 billion in 2001, with direct costs being $661 million and indirect costs being $722 million (SANE, 2002).

This schizophrenia example highlights the importance of expanding the criteria of valuing a medicine to incorporate broader societal, and economy impacts. Australia lags the world in valuing these aspects with countries such as the Netherlands, Sweden, Germany better incorporating productivity gains, caregiver benefits and savings in welfare costs into funding decisions and budgetary allocations. By excluding these additional perspectives, there is potential for lower reward for innovation than is warranted than if the full economic benefit of the intervention is considered. In addition, government is not fully accounting for savings or efficiencies that may be achieved in other areas of the healthcare system, or the broader societal and economic benefits, through the availability of such treatments.

5. Value of Clinical Trials

> Clinical trials contribute to the global efforts to find, discover and develop the latest breakthrough medicines, vaccines and biotherapeutics.

Australia is ranked in the top tier of international clinical trial activity and is an optimal market for testing innovative breakthroughs in therapeutics due in part to a strong clinical and medical research infrastructure.[21] According to AusBiotech there are over 1,000 new clinical trials annually in Australia, contributing around $1 billion to the Australian economy each year. However, Australia is competing in a global environment to secure access to clinical trials, and therefore it is incumbent on the Australian Governments, in partnership with key clinical trial stakeholders, to ensure Australia's regulatory and governance framework for clinical trials is as efficient and effective as possible.

Clinical trials provide significant spill over benefits to Australian patients. They facilitate earlier and faster access to new, breakthrough treatments. Clinical trials also bring health professionals together to deliver better care for patients and encourage patients to actively participate in their care. Evidence indicates that patients on clinical trials do better than other patients with the same condition or disease.[22] Australia's scientists, doctors, nurses and specialists also benefit through exposure to, and growing their knowledge about, diseases and emerging treatment methods.

For additional information, please refer to our brief on 'Clinical Trials'.

Key fact: Clinical trials are estimated to be worth around $1 billion to the Australian economy each year.[23]

6. Developing a Skilled Workforce

> Australia's innovative medicines industry employs nearly 23,000 people across 78 offices and facilities, who live in more than 850 different post codes across metropolitan, rural and regional Australia.[24]

The medicines industry also creates many more indirect jobs for other industries and suppliers, supporting thousands of people in indirect employment. These include services equipment suppliers, such as containers suppliers, label suppliers and advanced manufacturing equipment suppliers.

Innovative research partnerships between the medicines industry and hospitals, universities, and research institutions also supports the employment of many Australian scientists and researchers.

It follows that Australians want a workforce designed for the future. When asked about Australia's prospective workforce and education system, Research Australia found that 59% of respondents nominated STEM subjects as more important than others. The innovative medicines industry is committed to being part of the design and strength of that workforce and is excited to work alongside government as it grows.

For additional information, please refer to our brief on 'Workforce Development'.

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4 Pharmaceutical Innovation Improves Patient Outcomes and reduces Hospital Demand; Frank Lichtenberg 2018 – available at www.medicinesaustralia.com.au

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