

ASSETFUTURE

Empower Tomorrow

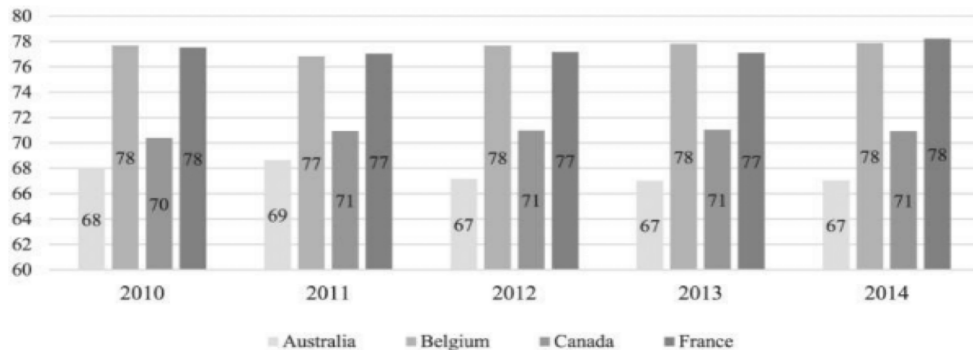
HEALTH CARE AUSTRALIA: INDUSTRY VIEWPOINT

Overview

Australia's health care system ranks well compared to other OECD countries in terms of life expectancy with both male and female life expectancy being in the best third according to the Australian Institute of Health and Welfare.

One of the big factors in this is Australia's emphasis on prevention and health management, but there is still room for improvement. Australia's system is a hybrid model where the government provides funding for basic coverage and privately funded health insurance can be sought to provide additional coverage.

Of four countries with similar hybrid systems, Australia had the lowest public health expenditure compared to the overall health expenditure during the period 2010–2014 as illustrated in the diagram below:

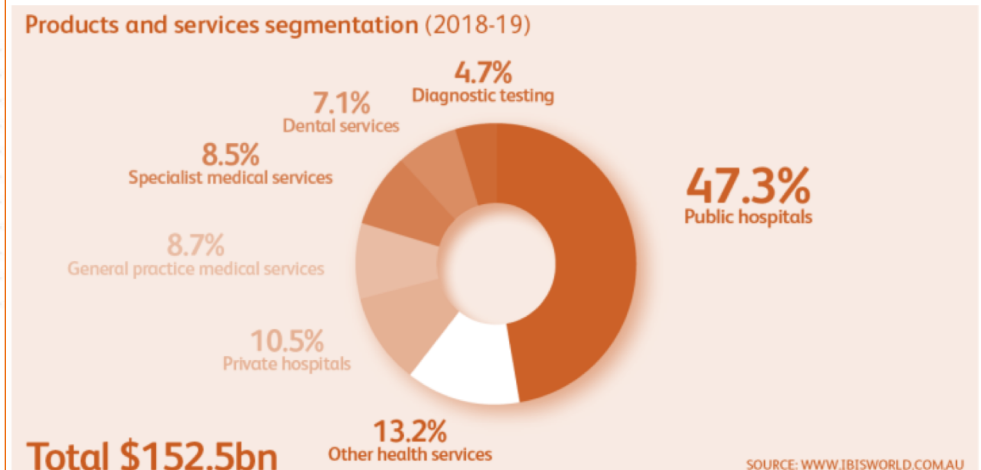


Source: "A review of the Australian healthcare system: A policy perspective", SAGE open Medicine, 12th April 2018, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5900819/>

Mandatory public health insurance, known as **Medicare**, is funded by an income tax levy at the rate of **1.5%** of each person's income or **2.5%** if the individual or family has not purchased private health insurance. Medicare makes payments to hospitals through the states and territories, and payments to doctors and some health professionals for services provided. This funding is supplemented by federal government budget.

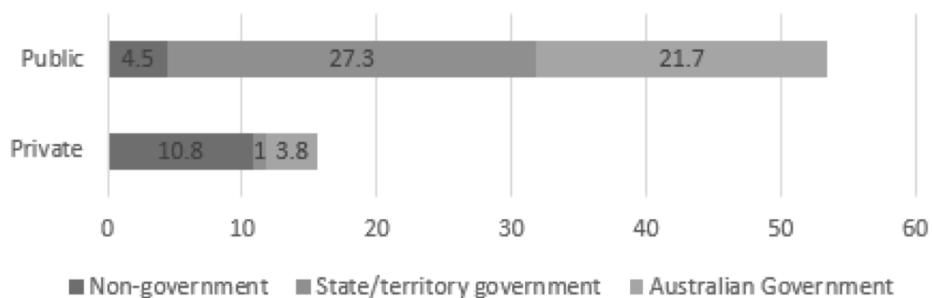
Hospitals

Public hospitals account for **47.3%** of health services revenue while **Private hospitals** account for **10.5%** as illustrated in the diagram below.



There were **693 public hospitals** and **657 private hospitals** in Australia according to the “Hospital resources 2017–18: Australian hospital statistics”. The government funded a total of **92%** of public hospital services and only **31%** of private hospital services in 2016-17 with a breakdown of funding provided in the diagram below.

Funding sources for hospitals 2016-17
(\$ billion)



Hospital beds

Public hospital bed numbers rose by an average of **1.3%** each year between 2013–14 and 2017–18 to **62,000 beds**. This is only about one third the rate of average annual increase in hospitalisations in the public system over the same period.

Private hospital bed number rose by an average of **3.6%** each year between 2012–13 and 2016–17 to **34,300 beds**.

In 2017–18, Australia had a total of **3.9 beds per 1,000 population in public and private hospitals** compared with an average of **4.7 beds per 1,000 population** for countries analysed by the Organisation for Economic Co-operation and Development (OECD) and ranked in the middle of the 35 OECD and other selected countries.

Whilst this may seem to compare favourably, the accessibility of beds is not reflected in these numbers based on geographic location of the beds in relation to the prevalence of diseases and injuries requiring these beds.



Pressures on the health care system

Aging population pressures

As health care in general is continually improving, the ratio of the people in the workforce to the number of people on the pension will gradually decrease. This will inevitably lead to further pressure on the ability of the government to fund health care needs. The figure below illustrates the projected age of the Australian population.



Source: AIHW, Australia's health 2018. Chapter 3.14. Canberra: AIHW, 2018.

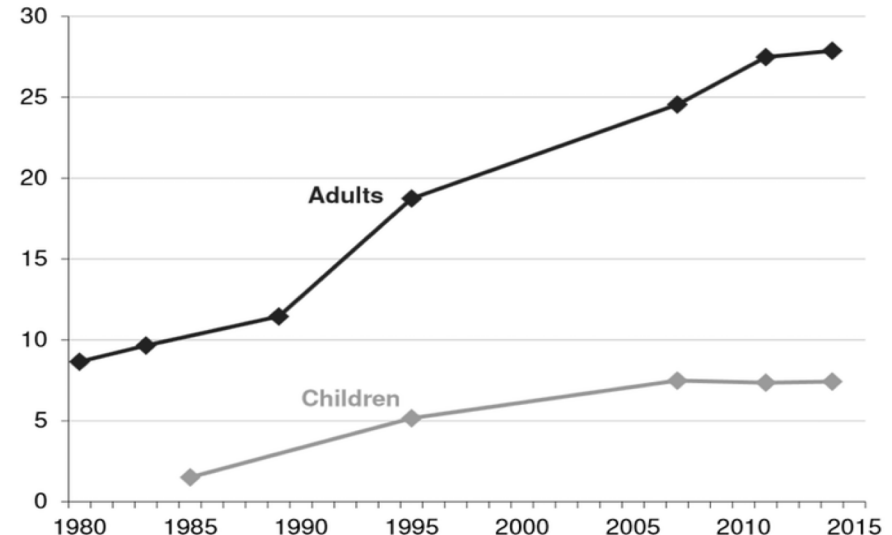
The implication of the aging population is two-fold. Older patients will require higher levels of care and will become more likely to have multiple health conditions to deal with. Chronic diseases are becoming more prevalent, which often require hospital care to manage such illnesses. Terminal illness, more prevalent in the elderly often requires palliative care, which mainly takes place in hospitals.

Rise in Obesity Rates

Another issue is putting pressure on the health system is the rising obesity rates in Australia. The graph below illustrates the rise in obesity percentage in adults and children over a period of 35 years.

This unfortunate statistic has led to increased incidence of cardiovascular disease (mainly heart disease and stroke), type 2 diabetes, musculoskeletal disorders like osteoarthritis, and some cancers (endometrial, breast and colon). These conditions can lead to the need for hospital care.

Figure 1.1: More than one in four Australian adults are obese
Per cent obese



Notes: Obesity classified as BMI of 30 or more. BMI from measured height and weight. 1980, 1983 and 1989 are adults 25-64, other years 18 and over. Children aged 5-17, except 1985 which is NSW school children (kinder to year 10). Not age-standardised.

Source: Australian Bureau of Statistics (2009), Australian Bureau of Statistics (2013a), Australian Bureau of Statistics (2015a), Australian Institute of Health and Welfare (2003) and Hardy et al. (2010).

In addition to hospitalisation, there is an increase in:

- Spend on **pharmaceuticals** due to increased admission or dosage
- Cost of **equipment** to manage overweight people such as beds, wheelchairs and walkers
- Hospital staff **injury** caused when helping patients with mobility

Modelling conducted by PwC found that the direct cost of obesity in Australia in 2011-12 was **\$3.8 billion**. Direct costs included GP visits, allied health and specialist's visits, hospital incurred costs, pharmaceuticals and weight loss interventions.

Adding to this burden on the health system is the indirect costs to the economy including absenteeism, presenteeism, disability payments, forgone earnings and taxes and unemployment.

These indirect costs were modelled to be **\$4.5 billion in 2011-12** making it more difficult for the Government to support this significant and growing problem.

Environmental Factors

Much research has been undertaken to quantify the impact that the environment has on patient outcomes whilst in hospital. Some of the more documented environmental factors include:

1. Excessive heat exacerbating the effects of air pollution and increase the risk of biological hazards.
2. A 0.9% increase in mortality for every 1 degree Celsius increase in maximum temperature in Sydney. This affects elderly people in particular as they have a reduced ability to regulate body temperature.
3. Climate change is said to lead to an increase in temperature related deaths by as much as 10% in Queensland and the Northern Territory by the end of the century.
4. Low UVR exposure can cause vitamin D deficiency which is associated with rickets and osteoporosis.
5. Poor building ventilation and chemical and biological contaminants can lead to Sick Building Syndrome (SBS) which is known to cause headaches, irritation of eyes, nose or throat, dry and itchy skin, dizziness and nausea, difficulty concentrating and fatigue.
6. Dampness and mould can increase respiratory and asthma related health outcomes by 30-52%.

Government Strategies to Deal With These Pressures

While 70% of funding is coming from the Government, it started to push back on the rising pressures by:

- Implementing a Medicare rebate freeze in 2012 to limit Government sourced revenue
- Providing tax incentives for people taking out private health insurance to reduce the load on the public system
- Introducing State Government-wide requirements to apply good asset management practices and manage costs appropriately

Medicare Rebate Freeze

The Labour Government first introduced the Medicare rebate freeze in 2013 as part of a temporary **\$664 million** budget saving. Then, on being elected, the Liberal Government froze the Medicare rebate starting July 2014 and then extended the freeze until 2020.

However, since 2017 there has been a phased lifting of the freeze for GP bulk-billing incentive payments (July 2017), standard GP consultations and other specialist consultations (July 2018), medical procedures (due July 2019) and targeted diagnostic imaging services (from July 2020).

While providing some relief to GPs, the easing of the rebate freeze has done little to support the rising costs associated with the hospital system. It has also led to an increase in patient out-of-pocket expenses in some cases.



Private Health Insurance Tax Incentive

The Australian Government has a number of mechanisms to encourage the public to take out private health insurance and reduce the load on the public system. The two most common mechanisms are the Private Health Insurance Rebate and the **Medicare Levy Surcharge**.

The Private Health Insurance Rebate is designed to make private health insurance more affordable for all Australians. It's means tested in order to provide a premium rebate for those individuals and families in most need.

Similarly, the Medicare Levy Surcharge encourages high income individuals and families to take up private health insurance by reducing income tax if privately covered.

Combined, these two mechanisms aim to relieve the pressure on the public health system by seeking alternative funding for the private system.

Mandatory Asset Management Requirements

State Governments are increasingly introducing mandatory requirements intended to provide confidence that physical assets such as hospital buildings, machinery and equipment, are being managed in a financially responsible manner therefore minimising the cost pressures faced by the sector.

An early example of this was the introduction of the [Asset Management Accountability Framework in Victoria](#). The framework outlines a series of requirements that Government organisations have to attest to meeting in their annual reports. The requirements are essentially related to good asset management practice with service delivery at the core of the process as illustrated below.



One of the primary aims sought by the Government is that organisations *“efficiently provide the services required by Victorians by ensuring that assets are appropriately planned, built, acquired, used, maintained and exited from or disposed of”*.

A more recent example is the Infrastructure NSW Asset Management Policy. Similar to the Asset Management Accountability Framework, it prescribes a series of mandatory requirements to which compliance must also be attested on an annual basis.

Some of the key requirements of these Government led initiatives include:

- The development of an appropriate asset register that contains accurate and comprehensive information on the planned and current asset portfolio
- The development of Asset Management Plans comprehensively documenting all lifecycle activities required to support services and the financial implication of these activities
- The implementation of procedures to manage asset information so it is comprehensive, accurate, up-to-date, and relevant to the effective management of the assets

While these State Government initiatives only apply to Government entities, the principles equally apply to private enterprises wishing to maximise the value of investment in physical assets providing a service. Appropriately implemented, solutions to comply with these requirements will relieve the cost pressures that the Health sector is currently facing.

How AssetFuture can help deal with these future pressures

AssetFuture is a cloud-based asset intelligence tool that provides a highly data driven means of forecasting operating and capital funding required to maintain health facilities and equipment to a pre-determined condition and risk level.

The data analytics can not only determine the baseline funding required over the life of the assets, it can also assist with balancing condition and risk in an environment where funding is constrained. This is especially important to health care providers struggling for sufficient funding to suit their needs and minimise the cost of maintaining facilities.

This helps reduce the cost pressures placed on the health care sector, maximising the ability for each organisation to continue to provide much needed and increasing services to the community.

Asset Register

At the core of the **AssetFuture** platform is a comprehensive asset register containing:

- a unique identifier for each asset in the portfolio
- a location identifier within the asset hierarchy as well as a geographical reference
- the current condition of each asset
- the criticality of each asset to achievement of the organisation's objectives
- levels of service required for each asset based on its criticality
- activities required to maintain the asset over its lifecycle including to the determined level of service
- the future financial, risk and condition implication of each of these activities

Type	Name	Short Name	Items	Imp	Cost/F	ID	Status
Administration	Medical Imaging Work Room	MedImaWorkRm	15	60.00	1.00	237.9.1.35	Active
Circulation	Medical Imaging Lobby	MedImaLob	14	60.00	1.00	237.9.1.143	Active
Medical	Medical Imaging Film Store	MedImaFILStr	13	60.00	1.00	237.9.1.155	Active
Medical	Medical Imaging Dark Room	MedImaDarRm	16	60.00	1.00	237.9.1.167	Active
Medical	Medical Imaging	MedIma	23	60.00	1.00	237.9.1.179	Active
Medical	Medical Imaging Change Room	MedImaChaRm	17	60.00	1.00	237.9.1.191	Active
Circulation	Medical Imaging Waiting	MedImaWai	12	60.00	1.00	237.9.1.203	Active
Medical	Special Treatment	SpeTre	21	60.00	1.00	237.9.1.216	Active
Storage	Health Store	HeaStr	15	60.00	1.00	237.9.1.4	Active
Medical	Health Gym	HeaGym	25	60.00	1.00	237.9.1.17	Active
Medical	Health Cubicle 1	HeaCub1	0	60.00	1.00	237.9.1.29	Active
Medical	Health Cubicle 2	HeaCub2	0	60.00	1.00	237.9.1.41	Active
Circulation	Health Wait	HeaWai	0	60.00	1.00	237.9.1.49	Active
Administration	Health Office	HeaOff	16	60.00	1.00	237.9.1.50	Active
Circulation	Entry Reception	Entec	23	60.00	1.00	237.9.1.51	Active
Administration	Admin General Office	AdmGenOff	18	60.00	1.00	237.9.1.52	Active
Administration	Admin DAAS Office	AdmDAASOff	15	60.00	1.00	237.9.1.53	Active
Administration	Admin DON Office	AdmDONOff	14	60.00	1.00	237.9.1.54	Active
Administration	Admin MS Office	AdmMSOff	14	60.00	1.00	237.9.1.55	Active
Administration	Admin General Office	AdmGenOff	15	60.00	1.00	237.9.1.58	Active

Asset Management Plan

The platform is used as a primary input source to the Asset Management Plan required by Government asset management frameworks. These Asset Management Plans optimise asset related outcomes based on stakeholder expectations and a given funding level by prioritising investment where it is most needed. This maximises patient outcomes as well as satisfaction levels with services provided.

Asset Information Management

AssetFuture also works with organisations to maximise the benefits associated with using the platform. This can include carrying out an Asset Information Management Maturity Assessment in order to identify process improvements to the way asset information is managed across the business. **AssetFuture** can then work with the organisation to develop an Asset Information Strategy which is essentially a road map of prioritised activities to carry out improvements identified during the assessment.

The Internet of Things

The Internet of Things (IoT) is another area AssetFuture is working with organisations to maximise service outcomes. This involves working with the organisation to determine the most appropriate use of IoT devices to gather data that provides insights to inform asset design and operation practices.

For example, the challenges caused by environmental factors previously mentioned can be better managed through:

1. Monitoring built environment temperatures to ensure they are within a reasonable range to not exacerbate air pollution and biological hazards, or significantly increase mortality.
2. Monitoring UVR levels in the built environment to reduce the risk of rickets and osteoporosis caused by a lack of vitamin D.
3. Monitoring CO2 levels to reduce the risk of Sick Building Syndrome.
4. Monitoring relative humidity to identify dampness issues that can lead to respiratory and asthma related health outcomes.



For more information visit: assetfuture.com

