Ensuring the Sustainability of the Australian Health System

Global Access Partners, July 2019

AUSTRALIA'S HEALTH 2040
TASKFORCE REPORT

gap
A Vision for Australia

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ABSTRACT

This report summarises the deliberations of the *Australia's Health 2040* Taskforce – a strategic policy group brought together by Global Access Partners (GAP) in 2018 to produce a blueprint for the future of the national healthcare system. The Taskforce was co-funded by GAP, EY, Bupa Health Foundation, Johnson & Johnson Australia and Westpac, and was chaired by Martin Bowles AO PSM, National Chief Executive Officer of Calvary Health.

DISCLAIMER

The report represents a diverse range of views and interests of the individuals and organisations involved in the Taskforce. Given the different perspectives of Taskforce members, it should not be assumed that every participant would agree with every argument or recommendation in full. The Taskforce is the initiative of GAP, and its existence, process and results do not imply any form of endorsement from any branch of government or the public service.

The report has been prepared in good faith from the information available at the time of writing and sources believed to be reliable. However, evaluation of the material remains the responsibility of the reader, and it should not be used as a substitute for independent professional advice.

ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACEs	Adverse childhood experiences
AI	Artificial intelligence
AIHW	Australian Institute of Health and Welfare
AM	Member of the Order of Australia
AO	Officer of the Order of Australia
CEO	Chief Executive Officer
COAG	Council of Australian Governments
COTA	Council on the Ageing
CPI	Consumer Price Index
ED	Emergency Department
EY	Ernst & Young
FY	Financial year
GAP	Global Access Partners
GDP	Gross Domestic Product
GP	General Practitioner
GPPCCC	General Practice and Primary Care Clinical Committee
GST	Goods and Services Tax
HACS	Hospital-Acquired Complications
HTA	Health Technology Assessment
ICT	Information and communications technology
IHPA	Independent Hospital Pricing Authority
LHNs	Local Hospital Networks
MBS	Medicare Benefits Schedule
MSAC	Medical Services Advisory Committee
NHHRC	National Health and Hospitals Reform Commission
NHS	National Health Service (UK)
NSW	New South Wales
OECD	Organisation for Economic Co-operation and Development
PBAC	Pharmaceutical Benefits Advisory Committee
PBS	Pharmaceutical Benefits Scheme
PHCAG	Primary Health Care Advisory Group
PHI	Private health insurance
PHNs	Primary Health Networks

PLAC	Prostheses List Advisory Committee
PSM	Public Service Medal
PwC	PricewaterhouseCoopers
RACGP	Royal Australian College of General Practitioners
SIS	Standard Information Statement
TCG	Technical Computing and Graphics
UHG	Unified Healthcare Group
UK	United Kingdom
US	United States

TABLE OF CONTENTS

1 Executive Summary 1
1.1 Context and objectives 1
1.2 Summary of reform options 2

2 The Future of Health 10
2.1 Where we are today 10
2.2 The economics of health 14
2.3 Major health trends 16

3 Impact on stakeholders 20
3.1 A vision for 2040 20
3.2 Impact of trends and a potential future reality for stakeholders 21

4 Challenges and blockages 22
4.1 Common global reform challenges 22
4.2 Common Australian health reform challenges 23
4.3 Increasing the likelihood of success in reforms 23

5 Potential reform options 25
5.1 Process to identify reform options 25
5.2 Summary of near-term reform options 25
5.2.1 Providing consumers with the right type of care 26
5.2.2 Paying the right price for care 33
5.2.3 Operating transparently and efficiently 33

6 Appendices 43
Appendix A: Impact of near-term reforms 43
Appendix B: Detailed reform options 43
Appendix C: Taskforce members 51
Appendix D: Endnotes and references 52

1 EXECUTIVE SUMMARY

1.1 CONTEXT AND OBJECTIVES

Australia's healthcare system has consistently achieved excellent health outcomes at a relatively low cost, ranking amongst the top countries in the world for overall health status.[1] At the heart of this system lies Medicare, the Commonwealth-funded insurance scheme which provides Australians with access to high-quality, affordable services, both in the acute setting and throughout the community. Through both Medicare and Australia's private healthcare market, Australians have seen improvements over the last few decades in many process measures (e.g., decreased time to access services) and outcome measures (e.g., improved life expectancy).

However, the system now faces many headwinds, including an ageing population and the rising burden of chronic disease. Our fee-for-service model is increasingly inefficient in light of these headwinds, creating few incentives for practitioners to contain healthcare spend whilst striving to improve patient outcomes. New technical interventions and pharmaceuticals, which are welcome developments in terms of patient longevity and quality of life, present a challenge from a cost perspective. With increasing access to, and ability to integrate, datasets across government, there is a unique opportunity for Australia to invest in leading global thinking in addressing all of the broader contributors to health outcomes, including income, education, employment and social support. Our healthcare system must be nimble in order to continue to improve patient outcomes whilst upholding the initial aim of Medicare: to create the most equitable and efficient means of providing health insurance coverage for all Australians.[2]

The *Australia's Health 2040* Taskforce was convened in 2018 by the independent non-profit institute for active policy Global Access Partners (GAP) with the aim of identifying reforms to the system that could be implemented to improve healthcare outcomes whilst enhancing sustainability. The Taskforce brought together senior representatives from federal and state governments, business, academia, healthcare providers, private health insurers, health industry associations, advocacy bodies and consumer groups (see membership list in Appendix C). The Taskforce met several times between March 2018 and March 2019 to discuss the issues and oversee the development of a final report and recommendations.

The Taskforce's final report proposes a set of priority reform options which can be implemented in the context of Australia's federated model of healthcare funding and delivery, and within the guardrails of Medicare's historic purpose of

achieving coverage for all. Moreover, the reforms preserve and enhance patient choice, represented by Australia's dual public and private service provision model.

The proposed reforms also take into account the following four broad objectives:

- **Improve health outcomes of the community, with an emphasis on quality of life.** Quality of life – rather than simply extension of patient lifespan – needs to be emphasised, with patient choice and dignity firmly positioned at the centre of all healthcare services.
- **Improve equity of healthcare outcomes within Australia.** The right initiatives and incentives must be created for services to better reach Australia's most vulnerable people.
- **Appropriately balance cost-effectiveness, sustainability, and safety/quality.** Costs of care must be maintained at sustainable levels, but not at the expense of significant drops in safety or quality of service delivery; a holistic view of cost-effectiveness must also be taken, with the increased economic activity generated through restored economic participation of patients considered together with direct clinical benefits.
- **Increase focus on, and transparency around, health outcomes rather than inputs.** Evaluation of safety, quality, and the effectiveness of interventions should be emphasised and shared more readily between hospitals, clinicians, and patients alike, with resources directed towards better measuring value created for patients instead of service volumes.

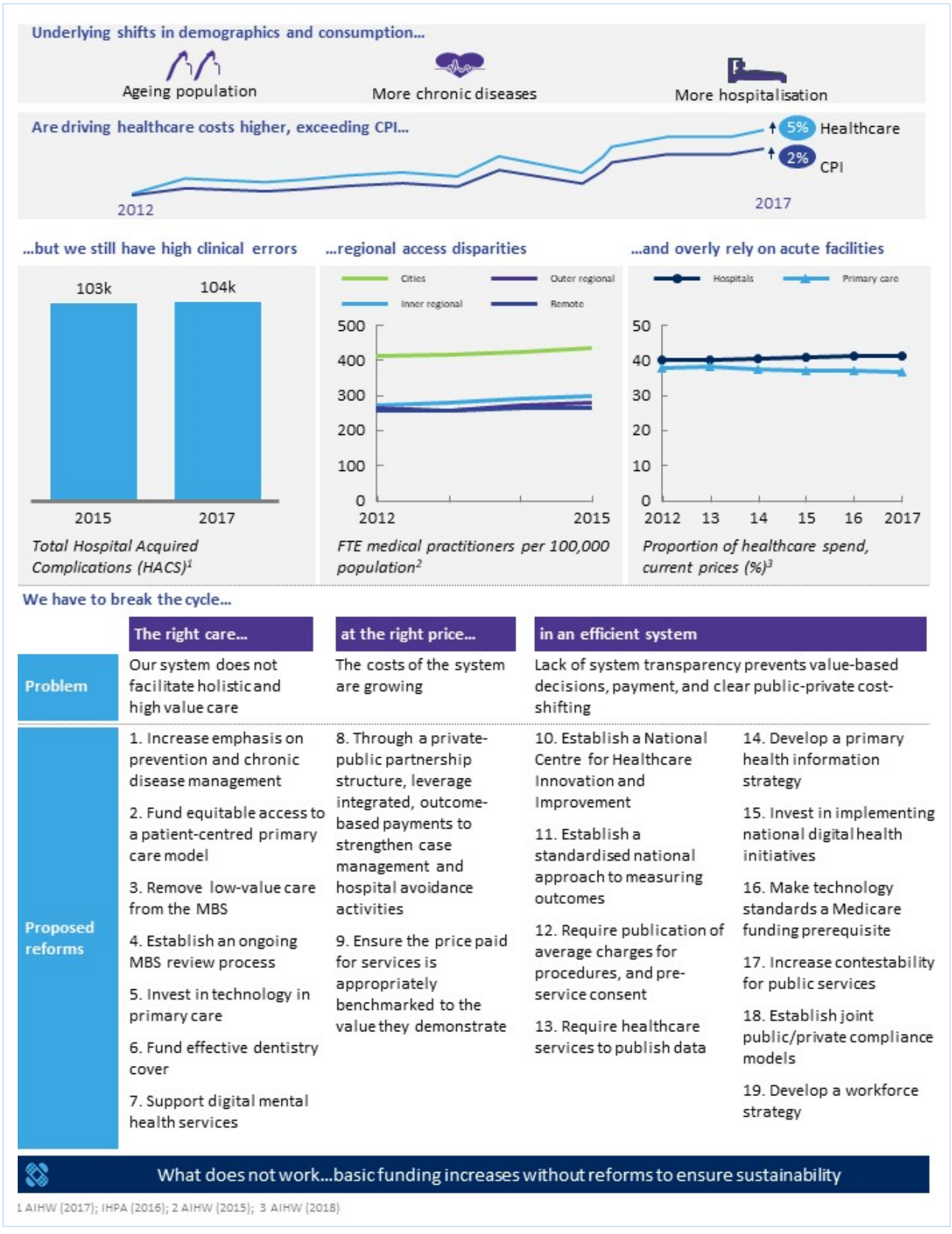
1.2 SUMMARY OF REFORM OPTIONS

Australian governments, health providers and insurers work together with the shared purpose of delivering one of the world's most innovative and successful health systems. We must continue this effective collaboration to ensure our health system continues to deliver high-quality, accessible and affordable care for all Australians. We can only do that if our health system:

- provides people with the right type, quality and timing of care;
- provides that care at the right price; and
- operates as transparently and efficiently as possible.

To these ends, the Taskforce proposes 19 reforms that can be implemented in the near term to better adapt our health system to underlying shifts and trends and provide a platform for more fundamental reforms over the long term. Exhibit 1 summarises the case for reform, including proposed reform options (see next page).

Exhibit 1: The Case for Reform



Providing consumers with the right type of care

The right care means providing the services that are needed, when they are needed, to the standard they are needed. Seven major reforms will assist:

1. ***Increase emphasis on prevention and chronic disease management services.*** Although chronic disease accounts for 83% of premature deaths and 66% of the total disease burden in Australia, only $2 billion, or around 1.3% of total health expenditure is spent on prevention each year – at $89 per capita, this is lower than most similar OECD countries.[3] Funding support for both prevention and management should be increased, in light of cost-effectiveness and increasing burden of disease. Particular attention should be paid to rural and remote prevention and special needs of Aboriginal and Torres Strait Islander communities.

2. ***Fund equitable access to a patient-centred delivery model in primary care.*** The Primary Health Care Advisory Group (PHCAG) and the General Practice and Primary Care Clinical Committee (GPPCCC) recommended a shift to a patient-centred delivery model in primary care, with participation remaining voluntary for both consumers and practices and a significant shift away from largely fee-for-service payment models. The initial response to the PHCAG in the form of a Health Care Homes trial involved challenges, including limitations on funding.[4] A return to the initial PHCAG primary care proposal, supported by the GPPCCC recommendations, funded at an adequate level, would address many of the challenges faced in providing integrated care to patients suffering from chronic and complex medical conditions. The GAP Taskforce recommends that a shift to consumer-centred funding models begin with chronic disease and over time be extended to primary care more broadly.

3. ***Implement all independent MBS Review recommendations as soon as possible, to remove low-value care and improve patient outcomes.*** Low-value care is defined as care that either has no effect, causes harm, or is not worth its cost. Over $400 million has already been saved through removal of low-value care items through the MBS Review[5], with the potential to reduce spend, and continue to improve patient outcomes, through implementation of remaining recommendations.
4. ***Leverage the existing clinical committee infrastructure from the MBS Review to create an ongoing review process to identify low-value care opportunities.*** The demonstrated success of the MBS Review should be built upon through ongoing, rather than ad hoc, review. This will ensure that low-value care is rapidly eliminated as new innovations are introduced to the

system, enhancing sustainability. The review should also take into consideration the contextual nature of care and its impact on the quality of life, measured through improved reporting on patient outcomes.

5. ***Invest in the utilisation of technology in primary care, e.g., telehealth, consumer email and out-of-hours communication, and online self-help resources.*** Global research indicates a significant appetite for increased use of technology amongst consumers and medical practitioners, but concerns about data security, data/coding standards, a lack of usage guidelines and quality assurance, and unavailability prevent adoption. Policymakers have an opportunity to facilitate adoption through both direct investment in technology and regulation to build confidence in digital tools. It is important to simultaneously create the right incentives for adoption of new technologies.

6. ***Provide effective cover for dentistry services, particularly for children, the elderly and people in lower socio-economic groups, including Indigenous Australians.*** Patients are currently compelled to pay high out-of-pocket costs for dental care or tolerate poor dentition. Poor dental health is associated with lower socio-economic status, and with conditions such as poor nutrition, cardiovascular disease, stroke and diabetes, which place additional burdens on Australia's health system.[6] Funding access to dentistry services will address this significant inequity, while health and social services should be working more closely together to address social determinants of poor dental health. Differentiation between clinically necessary and cosmetic procedures would have to be maintained and strictly monitored, however, to prevent cost blow-outs.

7. ***Support the utilisation of mental health services, including digital services, to improve access to services and the delivery of treatment services that are consistent with best-practice care.*** In addition to web-based resources, further support can be provided to facilitate uptake of digital mental health services such as web-based video consultations. These services are particularly important for rural and remote Australians, who frequently struggle to access appropriate services.[7] More medical research is required to tackle current intractable problems in mental health, such as schizophrenia.

Paying the right price for care

The right price means paying a price set through fair and transparent procedures that is appropriate for the service or product provided. Two major reforms will help:

8. ***Through a private-public partnership structure, pool funds (e.g., Primary Health Networks, Medicare, other state and federal funding, PHI) to develop more innovative models of care, including by leveraging outcome-based payments for either (a) specific patient cohorts, or (b) specific episodes of care, to strengthen the incentive for case management and hospital avoidance activities.*** Partnering with the private sector to deliver discrete clinical services provides the opportunity to expand service delivery capacity, with risk shared between the public and private entity. These partnership structures allow governments to retain adequate control and ensure the private partner meets required standards of care.[8]

9. ***Ensure the price paid for services is appropriately benchmarked to the value they demonstrate.*** Services delivered on behalf of the government should be priced at a level which is appropriate to ensure value for money for Australian taxpayers. There are some world-leading examples in the Australian health care system in PBAC, MSAC and PLAC. Setting prices that reflect their clinical value creates incentives to fund both efficient and quality goods and services. Value-based approaches act to optimise current expenses whilst providing signals to encourage investment in areas of unmet need in a dynamic healthcare system.

Operating transparently and efficiently

An efficient system makes its payments without fraud or error and is transparent for consumers and payors. Ten reforms will improve transparency and efficiency:

10. ***Establish a National Centre for Healthcare Innovation and Improvement as a public-private partnership.***[9] A national centre, bringing together the best elements of the public and private sectors, would support system stewardship by testing and scaling up new models of care and payment systems, build capacity in the commissioning work of Primary Health Networks (PHNs), and spearhead national efforts to support the development of clinical and consumer skills in leadership, change management and improvement science.

11. ***Establish a standardised national approach to measuring patient-centred health outcomes for specific healthcare episodes and conditions.*** Standardising reporting on various patient outcomes nationally will substantially improve system transparency. Reporting of outcomes based on the national approach should cater for different audiences across the healthcare sector and include publication of outcomes and cost data, to support informed patient choice and continuous professional improvement. A stronger emphasis should be placed on social determinants of health and their role in driving health outcomes where appropriate and possible.

12. ***Require publication of average charges for consultations and common procedures, and mandate pre-service disclosure of out-of-pocket expenses and an auditable informed patient consent to these costs in non-emergency situations.*** Charges for speciality care in Australia are opaque and difficult for patients to understand, and patients may lack the confidence to request information from their specialists on costs. Medical specialists should be required to outline their average patient charges for outpatient consultations and common procedures; additionally, patients should agree in writing to fees payable prior to any health services being undertaken, and the right to choose a different provider with the same referral form should be more explicitly communicated to patients. Publication of average costs to patients will encourage price competition and improve patient access. Auditable pre-service records will further improve transparency and prevent price-gouging.

13. ***Require all health service providers to publicise information on complication and re-admission rates, and longitudinal health outcome data, with appropriate confidentiality protections.*** In addition to facilitating patient choice, public reporting of performance-related data, including complication rates, encourages quality improvement efforts, improves the quality of data reported, and is generally associated with better healthcare outcomes.[10] Publication of re-admission rates has the potential to reveal breakdowns in continuity of care between acute and community settings, encouraging service providers to strive for improved coordination. This may require new incentives or regulation to ensure all patients (including difficult cases) are able to access care, i.e., to avoid cherry picking.

14. ***Develop a primary health information strategy to standardise data collection nationally, with the aim of improving patient experience and preventive health efforts.*** A nation-wide primary health information strategy, comprised of a national minimum dataset and performance framework, would substantially improve transparency around patient experience and tackle the current fragmentation of data across the system.

Within the strategy, measurement and performance of patient experience in primary care would be mandated through PHNs and Local Hospital Networks (LHNs), with organisational funding linked to achievement to standards on patient engagement and experience. A national statement of intent on health data is also required.

15. ***Invest in implementing national digital health initiatives to effectively maximise their value.*** Additional investment in the implementation of national digital health initiatives would improve provider and consumer experience, trust and perception, and would allay safety and confidentiality concerns. An example is using digital health to better monitor conditions such as dementia in an in-home environment. This will maximise uptake rates and anticipated corresponding improvement in healthcare outcomes.

16. ***Require healthcare professionals to maintain technology and data standards as a condition of accessing Medicare funding.*** Existing privacy laws require healthcare providers to protect the security and privacy of healthcare information; however, healthcare service providers are among the top sectors reporting notifiable data breaches in Australia.[11] Linking technology and data standards compliance to Medicare funding would create a strong incentive for providers to improve their digital security over time, in turn protecting patient privacy and creating alignment to Australia's National Digital Health Strategy.[12]

17. ***Increase contestability for public health services, e.g., allowing private organisations to manage integrated health budgets or managing dental care programs.*** The Australian Government should explore options to pool funding (see reform option 8) and work with a range of organisations, both public and private, to deliver integrated healthcare services. This should include allowing more healthcare services to be privately run, with regulation generally undertaken by a third party. This has been shown to improve performance and operational efficiency, enhance contestability, and make services more patient-centric.[13]

18. ***Establish joint working models between public and private sector bodies to ensure compliance and reduce fraud.*** Private sector bodies – particularly health insurers – and the Commonwealth work in parallel to ensure payment integrity, both prospectively through use of advanced analytics and benchmarking, and retrospectively through audits and cost recovery. Joint working models would significantly strengthen compliance-related activities in Australia via a number of mechanisms, such as more cost-effective investment in capabilities required to detect fraud, and improved analysis quality secondary to data-sharing.

19. ***Develop a long-term national health workforce reform strategy that incorporates the impact of automation and the role of precision medicine in changing workforce requirements.*** Over the last two decades in particular, Australia has benefited from coordinated national efforts to address workforce shortages in the face of increasing demand and changing disease burdens, utilising national data and linking the health and higher education sectors.[14] Now, a new strategy is necessary, recognising the significant potential of automation within healthcare roles (both for ancillary and clinical tasks) and the new skills and capabilities in the field of informatics that will be required as precision medicine evolves. Unlocking latent workforce capacity by extending the roles of qualified health professionals, such as nurses and allied health workers, to work at the top of their scope of practice to provide greater access and affordability of care should also be considered, along with the inclusion of digital courses in their training and continuing professional development.

As shown in Appendix A, these reforms would go a long way to achieving the overall system objectives described in section 1.1 'Context and Objectives'.

All of these reforms have been proposed through a pragmatic lens, drawing on context, experience, international best practice, and acceptability in the Australian context. Many of these reforms are not new; other research, including that of the Productivity Commission, have identified these opportunities before. However, healthcare inflation is increasing at an unsustainable pace and action is needed – now. We recommend that all recommendations are acted upon within the next 12-18 months, and fully implemented within four years.

2 THE FUTURE OF HEALTH

2.1 WHERE WE ARE TODAY

Australia's healthcare system performs admirably well when compared to other countries; this is reflected in strong healthcare outcomes. The life expectancy of Australians at birth is 82.5 years, above the OECD average of 80.6, and the fifth highest in the OECD, although heavily influenced by social determinants. Australia also has the third-lowest mortality rate following heart attack in the OECD, and 70% of people diagnosed with colon cancer in the country survive.[15] Australians also have a better quality of life, living with less disability: between 2003 and 2011, the age-standardised rate of disability-adjusted life years lost fell by nearly 4%.[16]

Across the three performance dimensions of access, quality and cost, Australia has three priority areas in which to improve: out-of-pocket costs of care for patients, quality of care coordination, and containment of cost increases, respectively.

Access

Australia is one of 20 countries in the world with universal healthcare access, with many system features designed to prevent financial hardship resulting from, or blocking access to, health services – for example, the Medicare Safety Net. Indeed, approximately four in five primary health consultations are bulk-billed, meaning that patients incur no additional cost in attending their general practitioner (GP). However, out-of-pocket costs remain common, and when they are paid, they are significantly higher than in most comparable countries; only six countries in the OECD have higher out-of-pocket payments on a per capita basis than Australia.[17]

In 2015-16, Australians spent an estimated $29.4 billion on out-of-pocket healthcare costs, at an average rate of $1,195 per capita. This represented 16.5% of total healthcare expenditure; this figure has fallen slightly since 2006-07, when individual spend comprised 17.4% of total healthcare spend.[18] However, when expressed in constant price terms, individual expenditure totalled only $18.1 billion in 2006-07, representing an increase of more than 60% to the consumer. Currently, 50% of patients accessing Medicare nationally incur out-of-pocket payments, at a median rate of $142 per patient. Out-of-pocket expenditure has a detrimental impact on access to care, with 4.1% to 16.2% of adults reporting that they skip or delay medical consultations due to cost.[19] According to EY research, by 2040 health will consume up to 36% of household budgets, up from 17% in 2017.[20]

The Productivity Commission notes that consumer charges are currently employed in an "incoherent fashion", and that more research on their impact is required.[21] Co-payments may have a number of undesirable effects, including shifting of patients to higher-cost services due to delaying care, substitution of more expensive care options such as Emergency Department (ED) visits, and disproportionate financial hardship for people of lower socio-economic status.[22] **Looking forward to 2040, it is vital that the role of co-payments be better articulated, given the risks that they can present to equitable access.**

Physical access to healthcare services also remains challenging for certain subgroups in Australia. In 2014, the overall rate of employed medical practitioners was lower in remote areas than metropolitan regions, with 253 clinicians per 100,000 population in remote areas compared with 409 in major cities.[23] There is concern around future supply of rural, regional and remote GPs, with the an average age of 50 for a rural GP in 2014.[24] In 2013-14, people living in very remote areas experienced high rates of emergency hospital admissions involving surgery (22 per 1,000 population) – at nearly double the rate of people living in major cities (12 per 1,000);[25] this likely reflects higher health-related risks of living remotely, together with barriers to accessing care earlier. Additionally, although three-quarters of Aboriginal and Torres Strait Islanders live in major cities and regional areas with good access to mainstream services, there are several areas in Australia where the Indigenous population has very limited access to both Indigenous-specific services and GP services in general. For example, in 2016, 37 Level 2 Statistical Areas were identified as service-gap areas, with no Indigenous-specific primary healthcare services within one hour's drive, and poor access to mainstream GP services.[26]

Australia's healthcare system is also generally rated highly in terms of time taken to access services, but challenges persist. Nearly one in five (18%) adults feel that they wait longer than is acceptable to see a GP; although 63% of people can see a GP within four hours of making an appointment for urgent medical care, one in four people waited 24 hours or more.[27] Just over one in four adults felt they waited longer than acceptable to see a medical specialist in 2016–17.[28] Similarly, the experience of Australians varied in relation to elective surgery waiting times. The median waiting time from specialist assessment to treatment for cataract surgery, coronary bypass, hip replacement, knee replacement and prostatectomy in Australia are all below the OECD average. However, Australians waited more than double the number of days for knee replacement than New Zealand (195 vs 79 median days wait, respectively) and nearly double as long as Canadians for coronary bypass (13 vs 7 median days wait, respectively) indicating that room for improvement remains.[29] And these figures only reflect waiting time *after* a patient is seen by a specialist; the "hidden" waiting time taken for patients to see a specialist following referral from their GP is

often lengthy, and opaque. Availability of state-based data varies enormously, making analysis of data difficult; for states that do routinely publish data, wait times of over 100 days for a specialist appointment are frequently seen.[30]

Quality

In addition to its solid performance in relation to health outcomes, which are influenced by both quality of care and other factors like social determinants of health, Australia performs well on a number of process indicators which aim to measure service delivery quality. The Commonwealth Fund ranks Australia second in the world for "care process", comprised of prevention, safe care, coordination, and patient engagement. In particular, patient engagement in Australia is outstanding, with rankings of 80% or above for key measures relating to adequacy of time spent with patients, and treatment with courtesy and respect.[31] However, there is still room for improvement: Australia ranks fifth in prevention, with high rates of avoidable hospital admissions for diabetes, asthma and congestive heart failure relative to countries like Canada, the Netherlands, Switzerland and the United Kingdom. Similarly, care coordination is relatively poor when compared to other OECD countries, with very poor communication between hospitals and GPs (only 14% of GPs "always" notified when a patient is in ED or discharged from hospital) and home care providers and GPs (only 29% of practices "routinely" communicate with home care providers). [32]

A number of national indicators are also used in relation to safety and patient experience. In FY2016-17, 5.5% of hospital separations involved adverse events, which has largely remained steady since 2014. Thirty-eight thousand falls resulting in patient harm were recorded per 1,000 hospital separations in 2016-17, up from approximately 33,500 falls in 2014-15; however, 1.1 million separations recorded a hospital-acquired diagnosis, down from 1.4 million in 2014-15. The recently created HACS indicator, which records the rate of hospital-acquired complications, has remained relatively stagnant since reporting commenced in 2014 at around one in 50 separations.[33]

Significant efforts have been made to increase visibility around complication rates and hospital-acquired diagnoses. In Victoria, for example, 122 sentinel and other catastrophic events were notified in FY2017-18, representing a 56% increase on the previous year – this was noted to reflect significantly improved notification, rather than a decrease in safety and quality of service provision.[34] The use of these data is also being strengthened, with root cause analysis reports improving in their recommendation quantity and quality – nearly one-third of reports contained a strong recommendation, following a quality assurance review.[35]

Cost/efficiency

Australia spends less per capita on health than many countries, but generally achieves better outcomes in life expectancy. Among the 17 wealthiest OECD countries (based on GDP per capita), Australia had the third highest ranking in terms of life expectancy achieved based on healthcare expenditure, with Australians' actual life expectancy exceeding modelled estimates by 0.5 years.[36] The Commonwealth Fund also ranks Australia as the top country in the world for administrative efficiency.[37]

Nevertheless, costs continue to rise. From FY2006-07 to 2016-17, Australia's total healthcare expenditure grew at an average of 4.6% per annum in real terms, to $180.7 billion, representing 10.3% of GDP. [38] It is necessary to note that increasing healthcare spend is, in and of itself, not necessarily cause for alarm; indeed, Australians view access to quality health care, and Medicare in particular, as a central part of our culture. However, the rate at which healthcare expenditure has been increasing significantly outstrips inflation, and over time will create pressures to find new sources of funding, or curtail spend.

Some factors driving rising cost are a challenge to control. As Australia's population ages, the burden of chronic disease increases, with most adults who will be reaching old age in the next 20 years having long ago made lifestyle choices that will determine their health status in the years to come. The average age of a GP together with the move to more part-time or reduced hours, especially in rural and remote areas, and the large requirement for locum GPs are also driving up costs.

However, other factors are more squarely within our control. For instance, care has increasingly shifted to expensive inpatient settings, where more doctors are available and more treatments are offered. Hospital spend, as a proportion of total spend, has continued to gradually edge up over the last decade, from 39.3% to 41.1%; during that time, an almost directly proportionate decrease in funding for primary health care has been seen.[39] Similarly, more investigations of presenting symptoms due to the availability of more diagnostic tools, many of which are overused. Indeed, there are many indications that Australia's healthcare expenditure efficiency could be improved. For example, there is significant cost variation within and between hospitals for similar activities and procedures, and various studies have demonstrated that patients frequently receive duplicative diagnostic tests, with 15% of Australians reporting unnecessary repeat imaging.[40]

Australia's healthcare system is largely funded through fee-for-service and activity-based funding models that have been recognised by the World Health Organization as incentivising over-servicing.[41] In particular, patients with chronic conditions are often least well served by activity-based funding.[42] Initiatives such as Health Care Homes are designed to improve care coordination whilst creating the right incentives to reduce over-servicing. However, more activity is needed to improve price transparency for services and procedures, in order to create competition (noting that, due to market failures, the effect of this will necessarily be limited).

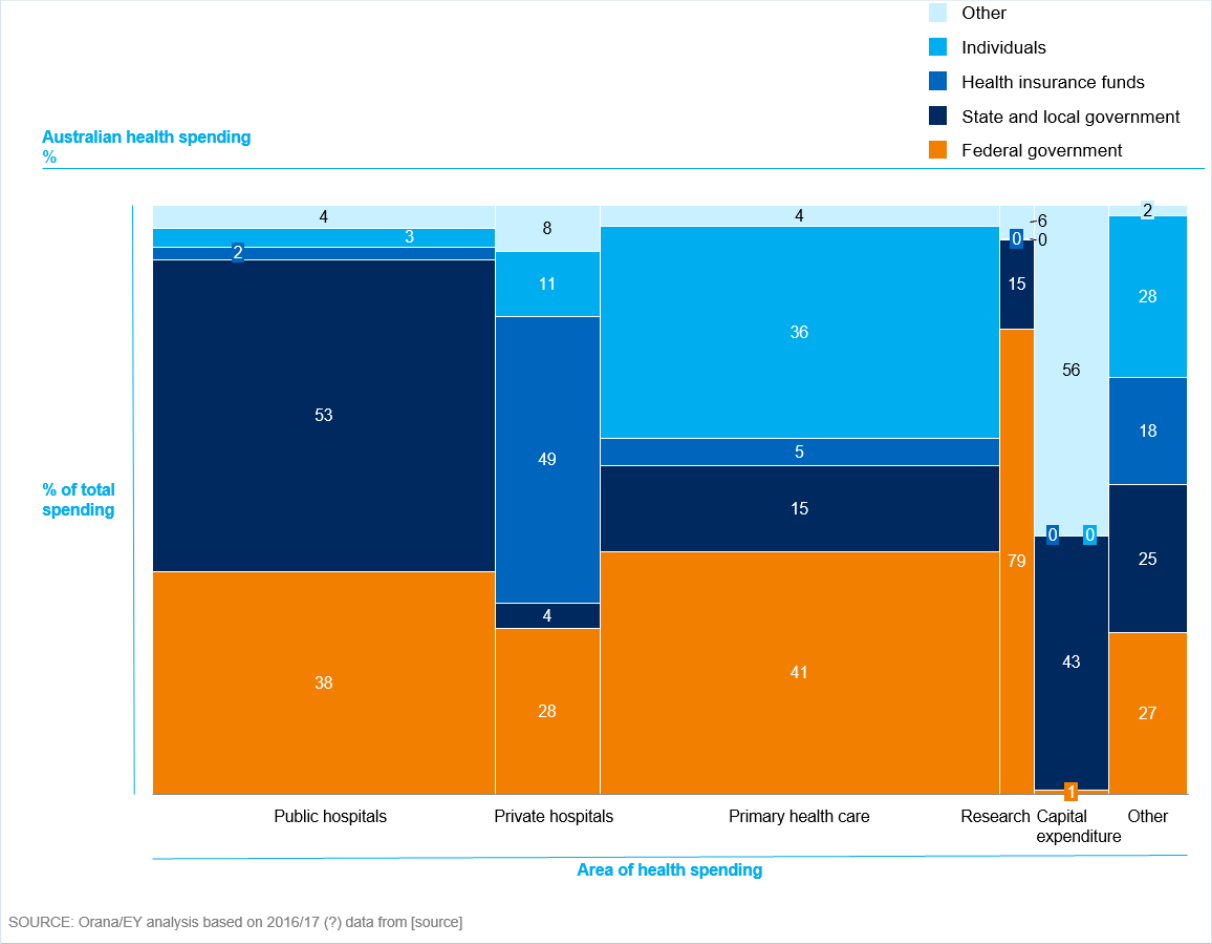
2.2 THE ECONOMICS OF HEALTH

Health care is a major employer and driver of economic activity in Australia. As noted above, not only does it account for 10.3% of GDP[43], but it also accounts for 13% of employment[44] – a figure that is rising rapidly.

There are also significant indirect economic benefits of investment in health care, including increased labour productivity, higher educational attainment, and reduced long-term healthcare and social security costs.[45] For example, healthy workers are more productive and spend less time on sick leave – Gallup found that in the US, overweight or obese workers and those with chronic health conditions missed an estimated 450m additional days of work a year compared with healthy workers, costing more than US$153 billion annually in lost productivity.[46]

EY and Osana[47] identified ~$40 billion per annum of allocative efficiencies in the Australian healthcare system, driven primarily by hospital avoidance and prevention through more integrated care. Around $24.9 billion per annum in technical efficiencies could be achieved primarily through reduction of waste and increased quality in hospitals, and reforms to the MBS and the Pharmaceutical Benefits Scheme (PBS). However, the benefits of investment in health care can take time to reap, and the division of responsibilities between federal and state governments means that the government which invests may not necessarily receive *all* the benefits of the investment. To capture the opportunity, it is critical for federal and state governments to cooperate and engage in long-term planning.

Exhibit 2: Breakdown of health spending in Australia



SOURCE: Orana/EY analysis based on 2016/17 (?) data from [source]

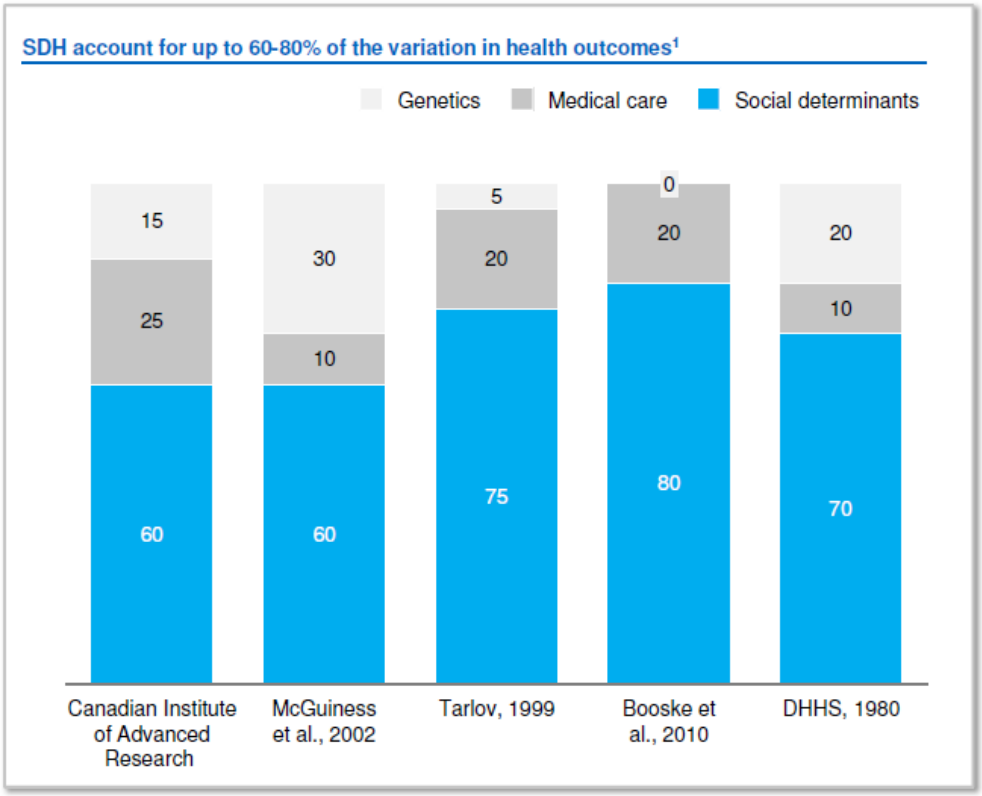
2.3 MAJOR HEALTH TRENDS

Six major trends will influence the development of Australia's healthcare system through to 2040.

Trend 1: Role of social determinants of health

The importance of factors such as income, education, employment, social support, access to health services, and health behaviours has long been recognised in determining an individual's healthcare status, including in key documents such as the National Health Performance Framework. The links between income, employment and health have been clearly recognised; those in the lowest socio-economic quintile are 1.6 times as likely as the highest quintile to have at least two chronic health conditions.[48] Multiple studies suggest that any individual's health status is determined by genetic factors (~30%), social behaviours (~20%), quality of the health care they receive (~10%), and social determinants (~40%)[49]. Yet this last category, and its impact on health outcomes, are rarely accounted for (see Exhibit 3).

Exhibit 3. Social determinants of health, McKinsey 2018[50]



Newer factors are increasingly recognised as undermining achievement of the highest attainable standard of health, such as social exclusion, loneliness, and childhood experiences. In the United States, research has demonstrated a significant positive association between loneliness and clinician visits,[51] and in the United Kingdom, social isolation is associated with increased mortality, separate to other demographic characteristics and health problems.[52] The UK has appointed a Minister for Loneliness, as part of its first loneliness strategy released in late 2018; the strategy permits GPs to refer patients to community activities and voluntary services by 2023, a practice known as "social prescribing".[53]

The social determinants of health are important contextual factors for mental illness. They can contribute to the aetiology of mental illness and have impact on an individual experiencing mental illness. In particular, an individual's ability to recover from their illness and live a contributing life in their community is highly contingent on social determinants, such as access to safe and affordable housing, education, employment and community connectedness.

With increasing access to, and ability to integrate, datasets across government, there is a unique opportunity for Australia to invest in leading global thinking in addressing all of the broader contributors to health outcomes, e.g., examining social stress scores and investigating the impact of social determinants on the number of medical claims.

Trend 2: Growing role of technology and data

Healthcare technology and data are becoming increasingly democratised and, going forward, will play an increasingly important role in the patient experience, for example:

- Third party providers are empowering consumers by improving transparency regarding clinician performance;
- National digital health records, when fully implemented, will allow patients unprecedented access to, and control of, their healthcare information;
- Smartphone applications are increasingly being used by patients to monitor their health, diet and exercise habits; coordinate care of family members living alone or in facilities; and share disease-related information and experiences with support groups;
- Technology is driving more personalised 'precision medicine', for example through genomics and health monitoring/coaching using wearable devices;

- New technologies such as artificial intelligence (AI), machine learning, virtual reality, robotics and 3D printing are changing the way medicine is delivered and could significantly enhance the quality of medicine whilst fundamentally changing the role of the medical workforce.

From a provider perspective, there is a long way to go. In Australia, much inter-facility communication still occurs via facsimile.[54] Looking towards 2040, it is clear from experiences in countries such as the US that the "winners" amongst providers will be those that collect patient data and use it to improve value delivered to patients.[55] The Productivity Commission notes that use of telehealth for 10% of GP consultations would save patients $300 million annually in travel and waiting times.[56]

Trend 3: Consumer engagement and empowerment

There has been a strong push over the last decade towards delivering healthcare services in a patient-centred way, emphasising shared decision-making, and clinicians treating their patients from a holistic perspective, emphasising aspects such as social and emotional health together with clinical health.[57] Patient-centred healthcare delivery has been associated with a number of positive outcomes, including improved recovery, better emotional health, and less use of diagnostic tests and referrals.[58] However, this has occurred slowly in Australia. In 2015, the Productivity Commission recommended that all Australian governments should reconfigure the healthcare system around the principles of patient-centred care.[59] Healthcare services should aim to improve engagement at every level: from individual experience of care, through to organisational and environmental levels, where patients and their families can provide input into a myriad of decisions, such as policy creation and facilities design.[60]

The GAP Taskforce supported recommendations of the white paper by the Consumer Health Forum of Australia *"Shifting Gears: Consumer Transforming Health',* based on years of public consultation.[61] More informed people are better able to manage their own health when well and navigate Australia's complex, fragmented system when ill. Better health literacy would encourage healthy lifestyles, and support preventive measures which have been repeatedly shown to be amongst the most cost-effective healthcare spend.[62]

Trend 4: Reduced reliance on high-cost inpatient facilities

A significant trend towards community-based care has already been seen in high-performing healthcare systems worldwide. The number of hospital beds per capita has decreased over the past decade in most OECD countries, falling on average

from 5.6 per 1,000 population in 2000 to 4.7 in 2015.[63] However, as noted above, in Australia only 1.34% of health spending is on prevention – at $89 per capita, this is lower than most similar OECD countries.[64]

Trend 5: Demographic shifts

By 2040, Australia's population is anticipated to reach between around 32 to 35.6 million people.[65] The Australian Bureau of Statistics (ABS) anticipates that Australia's population will continue to age, with the number of people 65 and over doubling by 2040, to represent 20% of the total population. The number of people over the age of 85 in 2040 is projected to almost double.[66]

Trend 6: The changing face of work

Industries worldwide are being disrupted by technology, and health care is no exception. Novel fields such as advanced analytics, machine learning and AI offer powerful new tools to healthcare professionals to utilise for their clinical tasks, in addition to non-clinical tasks such as quality improvement and patient flow management. Over time, low-value work activities will be increasingly performed using information technology, with potential for whole jobs to be replaced in the post-2040 world. For example, use of deep learning algorithms in radiology for image recognition have shown significant promise[67] – these may soon be routinely used by radiologists as a diagnostic adjunct.

3 IMPACT ON STAKEHOLDERS

3.1 A VISION FOR 2040

These trends will fundamentally transform the Australian health system. If the right reforms are put in place now, consumers could experience the healthcare system very differently by 2040.

Exhibit 4: A Vision for 2040

From	To
▪ Inconsistent diagnosis and conflicting information from various sources	▪ Data-driven tools increasing first-touch diagnostic accuracy
▪ Acute interventions which take place when symptoms are well-developed and focus on treatment	▪ Variety of self-service & AI driven ways to predict health risks, focus on prevention and wellness, and diagnose conditions early
▪ Often rushed, transactional interactions with medical professionals	▪ High quality human care focused on wellness and preventative guidance, freed by automation of administrative tasks
▪ One-size-fits-all treatments which can be based on trial and error	▪ More accurate, personalised interventions based on individual biology and genetics
▪ Third parties usually pay for health care, leading to a focus on maximum quality at the expense of value	▪ Consumers have more control of their own health budget and are informed to make decisions about quality and value
▪ Providers are rewarded based on inputs (e.g. the number of interventions)	▪ Providers are rewarded for outcomes

3.2 IMPACT OF TRENDS AND A POTENTIAL FUTURE REALITY FOR STAKEHOLDERS

Consumers, clinicians, governments and industry will be impacted by the changes described.

Exhibit 5: Impact on stakeholders

	From	To
Consumers	▪ Majority of care provided in face-to-face acute settings ▪ One-size-fits-all treatments delivered by physicians	▪ Greater ownership of own wellness and focus on prevention ▪ Personalised, more accurate treatments delivered by self-service, AI
Clinicians	▪ Incentive to maximise volume of face-to-face time with consumers ▪ Lots of time spent on non-clinical administrative work or automatable decisions ▪ Clinical decisions based on knowledge and experience	▪ Incentive to deliver outcomes including through prevention ▪ Automation has freed time for value-added interactions e.g. coaching consumers on wellness and prevention ▪ Decision assistance tools bring latest data-driven insights
Governments	▪ Data is siloed and not widely used to drive population health interventions ▪ Funding not linked to outcomes	▪ Use of all available data to maximise quality and value of interventions, including the social determinants of health ▪ Funding levers have ability to drive outcomes which will need to be clearly defined and prioritised
Industry	▪ Data is not used effectively to drive interventions ▪ Quality of workforce is a core driver of value ▪ Inputs-based funding drives certainty	▪ Data is a significant source of value ▪ Automation of low-value work activities, shrinking workforce size ▪ Outcomes-based funding means greater risk

4 CHALLENGES AND BLOCKAGES

4.1 COMMON GLOBAL REFORM CHALLENGES

Most large-scale change efforts to health systems around the world face at least some of the following common challenges.

- **Limited political capital and delayed benefits.** The benefits of health reform are often not realised within relatively short political terms. As public and media scrutiny increases, governments and leaders face increasingly shorter terms in office. Large-scale health reforms often take decades to realise benefits, and any change is highly sensitive in the short term.
- **Vested interests.** Players who stand to lose hold a great deal of political power. Most big reforms shift funding or services from one group to another. Health care is an emotive topic, and stakeholders – whether patients, clinicians, trade unions or businesses – have the ability to shape the public debate in a powerful way. Reforms that may be in the collective good often do not match individual preferences.
- **Complexity of the value chain.** The complex web of stakeholders in the healthcare value chain can make trade-offs between quality and value particularly challenging. Consumers tend to focus more on quality than value, which is exacerbated by a third party (e.g., government) paying for delivery of the service
- **Low levels of health literacy among consumers**. The Australian Commission on Safety and Quality in Healthcare found that health literacy is a safety and quality issue, with only 40% of adults having the literacy needed to follow health advice and make good health choices. This problem is more acute among older people, those with low levels of education and those with chronic illness.[68]
- **Cultural barriers.** There is a strong sentimental attachment to the patient-doctor relationship, including to face-to-face interactions, which has limited the use of technology. Other issues such as loneliness are contributing to poor health outcomes.
- **No catalyst for change.** The best time for reform is often before there is a burning need to overhaul the system. Familiarity and a fear of change, coupled with the fact that few people have ever experienced a different or better health system, can be barriers to large-scale reform.

4.2 COMMON AUSTRALIAN HEALTH REFORM CHALLENGES

In addition to the challenges identified above, there are a number of additional factors specific to Australia which have blocked previous reform efforts.

- **Fragmented funding/Federated structure.** The division of funding and delivery responsibilities between federal and state governments in Australia has led to cost and blame-shifting.
- **Perception of a high-performing system.** It is regularly stated at the political level that Australia has one of the best healthcare systems in the world. This can hold back any reform which is not bipartisan, with arguments for the status quo often winning out.
- **Short political cycles.** Australia has had seven different prime ministers in the last ten years, and five different health ministers. This constant change-over can make long-term thinking difficult and can lead to a focus on levels of input funding rather than long-term outcomes.
- **Data privacy concerns.** Australia has faced significant challenges in implementing an electronic health record due to concerns raised by privacy advocates. Addressing consumer concerns around privacy will continue to be a challenge to reform in a digital age.

4.3 INCREASING THE LIKELIHOOD OF SUCCESS IN REFORMS

McKinsey Centre for Government research found that five factors tripled the success rate of government transformations:

1. **Committed leadership** – successful transformations are driven by extraordinary leaders who make deep personal commitments to achieving the targeted outcomes and lead by example in creating the culture they want to see.
2. **Clear purpose and priorities** – a handful of clear priorities translated into a few critical, measurable outcomes ensures focus.
3. **Cadence and coordination in delivery** – this requires a participative approach, sharp accountability and performance-tracking, and frequent course correction through rapid problem-solving and escalations.
4. **Compelling communication** – successful transformations invest in continuous, two-way communication centred on compelling 'change stories' and celebration of achievements. They are visibly led by ministers, mayors, or senior leaders who commit publicly to the transformation objectives and who listen as much as they speak.

5. **Capability for change** – the research found that public sector organisations contain highly educated people with deep policy expertise, but they often lack the technical and change-management skills and experience needed to lead and sustain transformations. The example was cited of the initial failure of the US *HealthCare.gov* insurance exchange website in 2013. President Barack Obama's single most important domestic reform was put at risk in part because the right people with the requisite deep technical skills were not asked to help shape the strategy and monitor its implementation. While it took three years before a crisis exposed how badly things had gone wrong, it took only six weeks for a dedicated team of specialists, using classic agile methodology, to get the website working.

5 POTENTIAL REFORM OPTIONS

5.1 PROCESS TO IDENTIFY REFORM OPTIONS

To determine a set of potential reform options, the GAP Taskforce followed a three-step process:

- Step 1: Develop a comprehensive list of potential reforms in each of the three types of reforms – providing the right type of care, at the right price, in the most efficient way
- Step 2: Assess potential reforms based on feasibility, likely impact, and timeframe to implement
- Step 3: Subjectively prioritise a subset of potential reforms as "near-term" priorities

Following this process, the Taskforce has identified a list of 54 potential reform options, of which it has prioritised 19. The rest of this Chapter provides a more detailed assessment of each of the prioritised 19 potential reform options. Further detail on all 54 reform options is contained in Appendix B.

5.2 SUMMARY OF NEAR-TERM REFORM OPTIONS

Ensuring sustainability of our health system through to 2040 and beyond is only possible if our healthcare system:

- provides people with the right type, quality and timing of care;
- provides that care at the right price; and
- pays that price in the most efficient way.

We propose 19 reforms addressing each of these dimensions, to be implemented in the near term as a priority.

5.2.1 Providing consumers with the right type of care

Reform Option 1: Increase emphasis on prevention and chronic disease management services

Fifty percent of Australians now report having at least one chronic condition, with more than one in three potentially preventable hospitalisations attributed to chronic disease in 2013-14, and around seven in ten deaths.[69] Though not limited to the elderly, many have multiple chronic disease and can benefit significantly from holistic patient-centric care; about 87% of people aged over 65 have at least one chronic disease.[70]

Tackling this issue requires increased resources in two areas: preventive interventions, and management services. Chronic diseases are, in part, attributable to a number of modifiable risk factors including overweight/obesity, sedentary lifestyle, poor diet, and use of alcohol and tobacco. However, interventions designed to minimise the impact of these risks, and the development of disease, have been chronically underfunded in Australia. Preventive funding has been repeatedly shown to be amongst the most cost-effective healthcare spend, however, Australia currently spends only 1.34% of total health spend on preventive health, which is significantly less than comparable countries like Canada, the United Kingdom and New Zealand.[71]

Management of conditions must also improve, in order to be more patient-centric and cost-effective. International and Australian research both support the case for holistic care programs for individuals with chronic or complex diseases, allowing them to live more independently, and reducing the demand for hospital admissions. For example, a review of 53 international individual-controlled clinical trials showed an average 19% reduction in hospital admission rates through use of integrated care.[72]

Increased levels of health literacy and patient activation are critical to chronic disease prevention and management. This should include promoting greater communication between consumers and health professionals, reorganising healthcare delivery to be more patient-centred, and working with communities at the local level.[73] Particular attention should be paid to rural and remote prevention and special needs of Aboriginal and Torres Strait Islander communities.

Reform Option 2: Fund equitable access to a patient-centred delivery model in primary care

The Health Care Homes initiative was the central reform proposed by the PHCAG's review of chronic and complex medical care in 2015. The initiative, as originally outlined, was designed to create a more patient-centred and cost-effective way through which to manage chronic disease in the community. Those who elected to enrol in the Health Care Home would have enhanced access to team-based care, led by a preferred clinician nominated by the patient. The Health Care Homes system would involve bundled payments and block funding to support the approach, whilst preserving fee-for-service payments for episodic care.[74]

Roll-out of the trial, however, involved a number of changes to PHCAG's originally proposed model. A number of stakeholders, including the Royal Australian College of General Practitioners (RACGP), criticised the Phase 1 roll-out of Health Care Homes for deviating from the original model, noting the emphasis on capitated care.[75] Other stakeholders expressed concerns regarding inadequate funding allocation, and other changes to the model's design; in the end, 61 out of 200 shortlisted practices opted not to proceed with the trial.[76] As of December 2017, 190 practices were enrolled in the trial. Over $114 million has been allocated for the trial, comprised of $93 million in redirected MBS funding, and an additional $21.3 million for design and technology required to support the new system.[77] Evaluation is due to commence in 2019.

It is vital that Health Care Homes are rolled out as per the original proposal of PHCAG, funded at an adequate level to ensure successful implementation, so that this important introduction of new funding models into the Australian healthcare system is successful.

The MBS Review similarly recommended a shift to a patient-centred delivery model in primary care.

Reform Option 3: Implement all independent MBS Review recommendations as soon as possible, to remove low-value care and improve patient outcomes

Historically, many services have been added to the MBS without any formal cost-effectiveness review, with the majority having never been formally assessed by the Medical Services Advisory Committee (MSAC).[78] The Productivity Commission estimates that 10% of healthcare spending either has no effect, causes harm or is

not worth its cost, noting that "unjustified clinical variations, including the use of practices and medicines contraindicated by evidence remain excessive, an indicator of inadequate diffusion of best practice, insufficient accountability by practitioners, and a permissive funding system that pays for low-value services".[79] Several independent studies have come to the same conclusion.

The MBS Review Taskforce, established in April 2015 to deliver a 'Healthier Medicare', has already identified $409 million of savings through review of individual items to ensure alignment with contemporary clinical evidence and practice. The Review has no targets for savings, and is clinician-led, with over 700 clinicians, consumers and health system experts involved to date.[80] The Review has identified a number of low-value procedures that could be removed or partially defunded, such as:

- Arthroscopic surgery for knee osteoarthritis: A knee arthroscopy for degenerative knee disease is a very common orthopaedic operation, that has no proven efficacy in most instances.
- Hernia repair: Evidence suggests that about 80% of hernia repairs should be day surgery procedures, rather than the current <20% as was the case for one of the large private health funds.
- Same day upper and lower GI endoscopy: Simultaneous gastroscopies and colonoscopies are rarely indicated (e.g., for Crohn's disease) but commonly occur.

Reform Option 4: Leverage the existing clinical committee infrastructure from the MBS Review to create an ongoing review process to identify low-value care opportunities

Australia's current Health Technology Assessment (HTA) system is highly regarded worldwide; Australia was one of the first adopters of HTA, and since its introduction all applications for new MBS items have been referred to MSAC for assessment. However, disinvestment – removal of low-value items of care – has not been routinely done in parallel to addition of new funded services. The Productivity Commission has noted that fewer than ten reviews were conducted over a five-year period under the Comprehensive Management Framework.[81]

The recent success of the MBS Review offers an opportunity to harness the Review's existing infrastructure and create an ongoing process through which low-value care can be continuously scanned for and removed, reducing the overall burden on the healthcare system. Assessing value can also leverage increasingly available data and evaluation techniques to inform policy making and health funding.

The GAP Taskforce noted that refining MBS to remove low-value care items on an ongoing basis is necessary but not sufficient, as this will not necessarily eliminate the large amount of low-value care that is contextual in nature.

The Taskforce therefore suggested that the measures to eliminate low-value care could include:

- providing independent and trusted information to patients and their advisers (e.g., GPs) regarding the probability of proposed procedures enhancing the patient's quality of life;
- stronger assessment of procedures against best-practice guidelines both before and after the event; and
- improved reporting capturing key metrics such as length of stay, adverse events, readmissions/rework, and patient-reported outcome measures; these measures must be identifiable back to the clinicians and facilities involved.

Reform Option 5: Invest in utilisation of technology in primary care, e.g., telehealth, consumer emails and out-of-hours communication, and online self-help resources

GPs have historically been early adopters of digital health records but have been slow in adopting technology to interface with patients, both in Australia and abroad.[82] There are a number of drivers of this slow uptake, including perceived lack of availability of technology, and lack of operator experience. However, other problems are more structural: in one survey, nearly 70% of GPs noted that they cannot find evidence-based guidelines for use of these technologies, and lack of data security also presented a concern for over 60% of surveyed GPs.[83] The Australian Government can facilitate adoption of technology in primary care both directly, through investment in digital tools for GPs to use, and indirectly, through creation of the conditions and regulatory environment needed to support GPs in their adoption of these tools.

Investment in such technology in primary health is a key pillar of other comparable countries' strategies, such as the National Health Service's (NHS) Long Term Plan, which incorporates a digital NHS "front door" through which patients can access telephone and video consultations. Soon, every patient in England will have the right to contact their regular GP, or a new "digital GP provider" for a quick telephone or online consultation. The NHS is also adjusting payment formulae to ensure fair funding is received by all GPs adopting these new practices, and creating frameworks through which private providers can offer their products to primary

care networks.[84] Introduction of these options also creates a more patient-centric healthcare offering: research in the UK has demonstrated that patients are extremely willing to use video consultations in particular, with more than 50% of adult respondents in all age groups indicating that they would use a video GP consultation for a minor ailment, and 60% of 25-44-year-olds willing to use the service for ongoing care.[85]

Aside from improving equity in access to health care for rural and remote Australian residents, comprehensive funding of telehealth and other technologies has significant potential to improve quality of life and productivity for metropolitan residents. The Productivity Commission has estimated that waiting times in doctors' offices cumulatively cost Australians $1 billion dollars annually, and that use of telehealth for just 10% of consultations would save over $300 million annually in travel and waiting times for patients and their families.[86] A basic function of current health practitioner desktop ICT systems is the ability to pull out waiting times per health professional and compare them. Addressing waiting times would not only create more efficient ways to practice but also have a significant social and economic benefit for patients.

Reform Option 6: Provide effective cover for dentistry services, particularly for children, the elderly and people in lower socio-economic groups, including Indigenous Australians

In Australia, dental care is generally paid for out-of-pocket by patients, with subsidised access to public dental services largely restricted to holders of concession cards, and waiting lists often exceeding two to five years.[87] About 58% of dental costs are met directly from patients' pockets[88], compared to 11% for medical primary care, and 12% for prescriptions. As a result of these large out-of-pocket costs, two million Australians each year [89]defer visits to a dentist or miss out on dental care.

Factors associated with poor dental health in Australia include low income, remote/rural/regional location, and Indigenous status.[90] Poor dental health is also associated with other health conditions such as poor nutrition, cardiovascular disease, stroke, and diabetes.[91]

Various community groups, government commissions and research bodies have recommended that Medicare be expanded to include dental care, including the National Health and Hospitals Reform Commission, which proposed the creation of "Denticare" in 2009;[92] the National Advisory Council on Dental Health, which proposed various funding options to the Australian Government in 2012; the

Consumer Health Forum of Australia, which has petitioned for dental coverage for many years;[93] and Grattan Institute, which advocates for the introduction of a Medicare-style universal insurance scheme for dental care that would cost $5.6 billion a year and should be phased in over ten years. [94]

Coverage for dentistry services will significantly improve quality of life for many Australians and will go a long way towards addressing the current inequity that results from limited funding for these services. However, differentiation between clinically necessary and cosmetic procedures would have to be maintained and strictly monitored to prevent cost blow-outs.

Reform Option 7: Support the utilisation of mental health services, including digital services, to improve access to services and the delivery of treatment services that are consistent with best-practice care

The cost of mental illnesses in Australia is estimated to account for 6% of GDP (3.5% excluding opioid dependence).[95] The 2014 study by the University of New South Wales and Black Dog Institute put the annual economic cost of mental ill health at $11 billion, due to absenteeism and lost productivity. [96]

One in five adults and one in seven children and adolescents in Australia currently experience an episode of mental illness in any given year, with some evidence that suggests that the prevalence is rising. The suicide rate has been rising over the past twelve years, with a slight decrease in 2016, but a rise again in 2017 when 3,128 Australians died by suicide. Many who seek treatment experience a delay in receiving an appropriate diagnosis or treatment, and some do not receive even minimally adequate treatment whilst in care. In 2014, 54% of Australians with a mental illness did not access any treatment for that illness. Stigma and discrimination also play a significant role in people with mental illness seeking help and receiving effective treatment and care.[97]

The National Mental Health Commission's 2014 Review of mental health programmes and services found the mental health system to be complex, fragmented, inefficient and difficult for mental health consumers to navigate.

The social and economic cost of not effectively treating people with mental illness is very substantial; conversely, there is potential for substantial social and economic gain if mental illness is effectively treated. The Productivity Commission is to conduct an inquiry into mental health and report in 2019.

Adverse childhood experiences (ACEs) have a dose-response relationship with numerous health, social and behavioural problems, including significant mental health and substance misuse issues. Preventing ACEs and engaging in early identification of people who have experienced them could have a significant impact on a range of critical health problems.

In its 2012 E-Mental Health Strategy, the Australian Government identified the importance of digital mental health services in expanding access to underserved parts of the Australian community, noting that outcomes for online therapies are "broadly comparable" to face-to-face services, and that online service delivery is cost-effective and would help ameliorate the workforce issues faced in the sector.[98] The Strategy acknowledged that these services would be of use to both metropolitan and rural/remote residents of Australia, providing a more convenient option for treatment for those concerned about the stigma associated with accessing treatment.

Since 2012, a number of web-based resources have been introduced by the Government, such as *Head to Health* and *MindSpot Clinic*, providing citizens with access to additional resources around mental health, and group classes in techniques such as cognitive behavioural therapy. However, there is potential to take this further. The Government has already created a quality framework for telephone counselling and internet-based support services,[99] and in 2017, the *Better Access* initiative was expanded to include psychological therapy via video conference for patients with a Mental Health Treatment Plan located in a rural and remote area.[100] Increased uptake of these services should be supported through adequate funding, guardrails around safety and cyber security, and direct investment in appropriate platforms.

5.2.2 Paying the right price for care

Reform Option 8: Through a private-public partnership structure, pool funds (e.g., PHNs, Medicare, other state and federal funding, PHI) to develop more innovative models of care, including by leveraging outcome-based payments for either (a) specific patient cohorts, or (b) specific episodes of care, to strengthen the incentive for case management and hospital avoidance activities.

Presently, Australia's healthcare system operates predominately on a fee-for-service basis, which can incentivise over-servicing, and generally results in suboptimal care being provided to the most complex patients in society, as no single provider bears responsibility for achieving good health outcomes. To overcome this challenge, public-private partnerships could be created to pool funds and provide a service to specific cohorts of patients with the most complex and chronic diseases (or for particular episodes of care).

Such arrangements normally function through the private provider financing or co-financing any capital cost of setup, and then operating and delivering a service to the specified cohort. Government then pays the private provider, contingent upon the private provider meeting required performance standards, and with provision for sharing of savings, or bonuses, if care targets are exceeded.[101] These care models stimulate competition; incentivise providers to lower care costs; and, minimise Government capital expenditure.[102] Success within this model, however, depends heavily upon identifying and maintaining appropriate clinical standards.

Reform Option 9: Ensure the price paid for services is appropriately benchmarked to the value they demonstrate.

Establishing the appropriate level of funding for health products and services relies upon understanding the context for their use. It is necessary to understand how each product and service fits within the overall health system and leverage available data to measure its relevant value. In moving towards funding that is linked to outcomes, having these measures is important. By understanding the demonstrated value of products and services across health, funding can be structured to incentivise appropriate uptake of high-value interventions and limit the use of low-value or obsolete practice.

Australia has a long history in pricing services based upon their value. The Pharmaceuticals Benefits Advisory Committee (PBAC) was an early adopter of using cost-effectiveness analyses for pharmaceuticals in assessing their merit for reimbursement. The conceptual approach determines whether additional costs incurred are worth the benefit a novel product can demonstrate.

Refencing input costs from other jurisdictions provides some insight into areas warranting further investigation. However, such approaches tend towards procurement processes as they only take account of static comparisons. Such approaches limit the ability for quality measurements to be included in the pricing and fees for goods and services. They are also limited in their ability to control for differences in products and services available in different healthcare systems, differences in purchasing arrangements and market segmentation, and differences in relative market size, supply chain logistics and relative wealth. As such, these approaches should be used to complement value-based arrangements through highlighting areas for investigation.

More recently, the MSAC review has identified changes to best-practice procedures or improvements in technology. Clinical areas reviewed by MSAC demonstrate that gains can be accrued by ensuring that fees are set to reflect clinical practice: incorporating new goods and techniques, whilst removing obsolete practices. The majority of items under the MBS had not been reviewed by MSAC for cost and clinical effectiveness – which highlights opportunities to improve the efficiency of the system.

Value-based approaches act to optimise current expenses whilst providing signals to encourage investment in areas of unmet need in a dynamic healthcare system. Context-specific measures can be best assessed by balancing value by ensuring that agencies are sufficiently resourced, and that positive lists can be updated – both by inclusion and exclusion of products and services – in a timely fashion to reflect contemporary clinical practices.

5.2.3 Operating transparently and efficiently

Reform Option 10: Establish a National Centre for Healthcare Innovation and Improvement as a public-private partnership [103]

Ensuring sufficient funding to encourage innovation within the healthcare system has historically been a challenge in Australia. The Productivity Commission has made a number of recommendations to government to try to foster healthcare innovation, such as the suggested allocation of funding pools to PHNs/LHNs to

commission activities to improve population health and service quality.[104] The Commission also notes that there is no formal established vehicle for diffusion of innovations in commissioning health care, leading to inconsistent clinical practice nationwide.[105]

Creation of a National Centre for Healthcare Innovation and Improvement would address this gap in the market, focusing improvement efforts through a single channel, and improving visibility and consequent attraction of funding. In the Australian setting, creating a public-private partnership would leverage the unique skills and capabilities of both parts of the healthcare sector, and provide access to a greater range of funding modalities for both initial research and scaling activities. Academic research has confirmed the potential of this kind of model in achieving public health goals – in particular, noting the benefits of design thinking and access to private funding that the private sector would contribute.[106]

There is precedent for innovation centres, both locally and internationally. In Australia, similar centres exist at the state level (e.g., the NSW Agency for Clinical Innovation) and nationally for specialised areas (e.g., the Australian Commission on Safety and Quality in Healthcare). Examples of public initiatives also exist internationally: for example, the NHS has supported various iterations of a national innovation centre over time, including its former National Innovation Centre, and its current NHS Innovation Accelerator, which supports uptake of high-impact innovations for patient, population and staff benefit.[107]

Reform Option 11: Establish a standardised national approach to measuring patient-centred health outcomes for specific healthcare episodes and conditions

Information technology has lowered the cost of collecting and using healthcare data significantly over the past few decades, but we do not yet use this data as effectively as we could. Despite Australia's many healthcare bodies and established methods of data collection, the current healthcare data landscape in Australia is challenging to navigate. The Productivity Commission notes that Australian Governments' current approach to healthcare information data is "messy, partial and duplicated", with access to data currently limited by poor systems and processes.[108]

Harmonising reporting nationally will reduce the complexity in this area, making our existing data more usable and informative choice in the Australian healthcare system – for everyone from policy makers, through to consumers. However, agreement on

how to report this data will also dramatically improve transparency. It is vital that data are presented in a way that is tailored to different audiences, however.
A national standardised approach should incorporate requirements reporting on both healthcare outcomes for agreed episodes and conditions, as well as cost data. Initially, this information could be aggregated to a hospital or clinic level – over time, clinician-level data should be made available, to further inform patient choice.

A stronger emphasis should be placed on social determinants of health and their role in driving health outcomes, where appropriate.

Reform Option 12: Require publication of average charges for consultations and common procedures, and mandate pre-service disclosure of out-of-pocket expenses and an auditable informed patient consent to these costs in non-emergency situations

A lack of transparency around out-of-pocket costs of health care is a major challenge for Australian consumers. At the primary care level, this is mainly an issue in rural and remote areas, with metropolitan patients able to quickly determine whether a "gap" is charged by GPs in their area, and choose a practice accordingly; at the specialty level, though, all types of patients often rely on their GP's recommendation, with specific discussion of pricing remaining infrequent.[109] Indeed, GPs are often unaware of average charges for specialist consultations and common procedures and, in order to obtain some form of patient financial consent for a referral, may advise the patient to check fees with specialty clinics before proceeding with an appointment (in lieu of providing specific pricing information).

The same situation occurs in relation to elective hospital procedures, where only 13% of anaesthetic services and 47% of operating services are charged at the schedule fee. Patients are often unaware of the total cost of their procedure, and may or may not receive contributory funding from their private health insurer.[110]

Relatively low levels of competition amongst specialists, and pervasive information asymmetries in the industry, mean that this problem will not be solved in the near-term without policy intervention. For this reason, specialists should be legally required to publish average charges for consultations and common procedures through channels which patients and GPs are readily able to access. In addition to this, patients should have the opportunity to agree in writing to fees payable prior to service provision (in non-emergency circumstances). These financial consents must be made available for audit. Patients should also be informed of their rights to choose a different provider with the same referral form, should the fee arrangement proposed by the provider prove unacceptable.

Reform Option 13: Require all health service providers to publicise information on complication and re-admission rates, and longitudinal health outcome data, with appropriate confidentiality protections

Between 2012 and 2015, one in nine hospital admissions resulted in a complication in Australia; this number rose to one in four patients experiencing a complication for hospital admissions involving overnight stays. Comparisons between hospitals suggest that, if all hospitals were as safe as the top-performing 10% of hospitals, complication rates could be reduced by about one quarter.[111]

When complications rates between hospitals are adjusted for demographic factors and morbidity levels, it becomes clear that hospital performance explains 8-10% of the variation seen in patient outcomes.[112] These data can be used to drive improvements in safe care in hospitals, if made readily available. However, it is currently very difficult for many stakeholders – including both healthcare workers and consumers – to access information on the performance of their hospital of interest. Making this data available would encourage clinicians to engage in more continuous improvement activity, whilst empowering patients to make informed choices regarding their health care.

This already occurs at a state level: for example, in New South Wales, clinicians are given access to data through NSW Health's Activity Based Management Portal, so that they can better understand their own performance. Similarly, at the national level, the *MyHospitals* website has recently begun publishing details of healthcare-associated *Staphylococcus Aureus* bloodstream infections and hand hygiene moments rates, comparing individual hospitals' performance with their peer set. Other useful data are also available, including data on time spent in emergency departments and cancer surgery waiting times.[113] These represent welcome initiatives to improve transparency.

Building on these existing efforts, healthcare service providers should expand their efforts in this area, and be formally required to report publicly on all complications, not a subset. This reporting should extend to re-admission rates for agreed procedures in consultation with relevant specialty bodies.

Reform Option 14: Develop a primary health information strategy to standardise data collection nationally, with the aim of improving patient experience and preventive health efforts

Although general practice has been one of the areas to adopt technology most quickly within the healthcare sector, with 96% of GPs using computers for clinical purposes, this has not translated into effective gathering and use of data at the PHN or national level. There is a wealth of valuable primary healthcare data that we could potentially be utilising, but currently cannot due to substandard integration; the OECD notes Australia is relatively poor in its capacity to collect and link data.[114]

Australia's first National Primary Health Care Strategy was released in 2010; one of its building blocks was Financing and System Performance, referencing the importance of performance information. It noted the need for nationally consistent and independent performance monitoring at the local level to increase accountability and drive improved patient outcomes. Since then, the National Primary Health Care Strategic Framework has also been formulated, representing an agreed approach to creating a more robust primary healthcare system in Australia. The Framework recognised the importance of translating available data into evidence-based planning and service delivery.

Australia is now at a watershed point where investments in digitisation can be fully utilised to improve both patient experience and investment in preventive health initiatives. However, at the heart of so many issues in health is the lack of a standardised, joined-up health information system which results from the fragmentation of the health system – across primary, secondary, in-hospital and allied health care, as well as residential and assisted aged care. This state of affairs does not only compromise patient care, but also severely impacts the cost and effectiveness of health and medical research. The Digital Health CRC's two *Flying Blind* reports[115] make strong recommendations in this regard.

The first step is to create a national statement of intent on health data and agree on a national minimum dataset to be collected, to inform improvement efforts. Data collection and aggregation in primary care would be mandated through PHNs, Local Health Districts and LHNs, with evaluation of improvement initiatives occurring at the regional level. To strengthen improvement efforts, organisational funding could be linked to achievement of standards on patient engagement and experience.

Reform Option 15: Invest in implementing national digital health initiatives to effectively maximise their value

The benefits of a national electronic health record have been long recognised, from a productivity, clinical outcomes and patient experience perspective. In 2015, the Productivity Commission noted that *My Health Record*'s opt-in nature, together with concerns about privacy, contributed to slow uptake.[116] It recommended that the system be made opt-out; this decision has subsequently been implemented by the Australian Government.

However, consumer concerns regarding privacy continue to impact upon on the roll-out of *My Health Record*, with opt-out periods extended to 2019 in the wake of lobbying from bodies such as RACGP to improve privacy protections within the scheme.[117] Although an improved legislative framework is now in place which outlines when information can be collected, used and disclosed, and creates penalties for unauthorised access to records,[118] citizens remain concerned about the possibility of cyber attack and data breaches – this situation recently occurred in Singapore, when SingHealth's records were compromised by an attack which resulted in disclosure of 1.5 million people's personal information.[119]

Given the substantial investment that has already been made in implementing a digital health record, and the potential benefits that can be reaped through widespread uptake, it is important that these issues be resolved as quickly as possible through additional investment in public education to allay privacy concerns. Evaluation of the Participation Trials for *My Health Record* confirmed that, when focus group participants were given information regarding the purpose and benefits of the *My Health Record* system, the "almost universal" view of participants was that the benefits outweighed the privacy risks involved.[120]

These should be implemented immediately, together with investment in initiatives to strengthen data security measures at the practice level, such as creation of incentives for medical practices to improve their own security systems (see Reform Option 16).

Reform Option 16: Require healthcare professionals to maintain technology and data standards as a condition of accessing Medicare funding

Although there is already a framework of privacy laws in place which requires healthcare providers to protect the security and privacy of healthcare information, and imposing penalties for failure to adhere to these legislative standards, privacy and security of information remain a significant community concern in Australia.

This concern is not without foundation in fact. Healthcare service providers are among the top sectors reporting notifiable data breaches in Australia.[121] Although more of these breaches are due to human error than cyber attacks – for example, where results are sent to the wrong individual – real risks remain. These are even more pronounced amongst healthcare practices that do not have the benefit of centrally administered information technology systems with dedicated personnel responsible for consistent updating of software to protect against ever-evolving cyber security threats.

Given that the existing framework does not appear to have a sufficient enough effect on provider behaviour, additional financial incentives should be considered to compel providers to improve their clinics' data security levels. Linkage of technology and data standards to Medicare funding would create a strong incentive for providers to improve their digital security, in turn protecting patient privacy and creating alignment to Australia's National Digital Health Strategy. [122] Naturally, these measures would need to be rolled out over time, to reflect the level of investment required on the part of practitioners to improve their security. However, this reform should be enacted in the near term through linkage to a feasible number of standards, so that providers are immediately incentivised to being implementing necessary improvements.

Reform Option 17: Increase contestability for public health services, e.g., allowing private organisations to manage integrated health budgets or managing dental care programs

Consistent with reform option 8 where funds are pooled to deliver integrated healthcare services, the Australian Government should allow more health services to be privately run. There are a number of demonstrated benefits that flow from increased contestability in public services. Contestability allows for the introduction of competition and its attendant benefits without the government incurring the risks that are associated with outsourcing of an entire service or operation, such as operations disruptions and discontinuity. It allows commissioners of contestable

services to retain ultimate system planning control, whilst compelling private providers to deliver select services to an agreed standard.[123]

Introducing increased competition into healthcare markets has the potential to significantly enhance patients' ability to make choices regarding their own health care; indeed, increased contestability is more likely to result in better outcomes for clients than reductions in government expenditure.[124] For example, giving patients the ability to choose their own dentist using a voucher system, rather than waiting for a public clinic appointment, could improve attendance whilst facilitating choice.

However, it is vitally important that contestability is introduced thoughtfully, to avoid pitfalls associated with poorly planned and monitored privatisation. In particular, significant market concentration amongst private providers can undermine the potential benefits of introducing contestability: this has occurred or prevented introduction of competitive measures in areas such as linen and pathology service outsourcing.[125] Additionally, careful regulation to impose quality standards, and installation third-party monitoring bodies can increase public confidence in privately run healthcare operations.

Reform Option 18: Establish joint working models between public and private sector bodies to ensure compliance and reduce fraud

Presently, public and private sector entities are rapidly investing in new capabilities in data analytics and behavioural science to better detect error and fraud in payment systems, and design effective interventions to reduce the rates and cost of such instances of non-compliance, both prospective and retrospective. This is a necessary step forward, but these investments are occurring almost entirely in parallel.

Improved cooperation and collaboration between government and insurers, private providers and others could increase the rate of uptake of such capabilities throughout the healthcare sector, whilst also reducing the upfront cost of investment. Additionally, sharing of data between these bodies has the potential to improve detection rates of non-compliance significantly, as success of many of the most innovative approaches to fraud detection, such as deep neural networks, rely on both quantity and quality of data available. Strengthened payment compliance has the potential to save up to $45 million annually in healthcare costs, assuming that 2% of Australia's current $2.2 billion spent on medical and diagnostic costs could be prevented or recovered.

The 2018-19 Budget announced steps to improve Medicare compliance, including by sharing data between private health funds and the Department of Health. Relevant legislation should be enacted as a matter of priority to facilitate introduction of improved compliance activities throughout the industry.

Reform Option 19: Develop a long-term national health workforce reform strategy that incorporates the impact of automation and the role of precision medicine in changing workforce requirements

Over the last two decades in particular, Australia has benefited from coordinated national efforts to address workforce shortages in the face of increasing demand and changing disease burdens, utilising national data and linking the health and higher education sectors. This was necessary and overdue; in 2005, in its review of Australia's health workforce, the Productivity Commission noted that the number of entities involved in workforce planning and the division of responsibilities between them frequently resulted in conflicting objectives, inefficiencies and blame shifting.[126] Around the same time, the National Health Workforce Strategic Framework was created to address these issues, which centred attention around an agreed vision and guiding principles, and focused efforts on a nationally consistent response to this evolving problem. Since that time, a number of initiatives have been successfully introduced to tackle Australia's worker supply/demand mismatch. Examples of these include significant increases in medical student training numbers; and, introduction of a consolidated national healthcare worker accreditation scheme and registration agency.

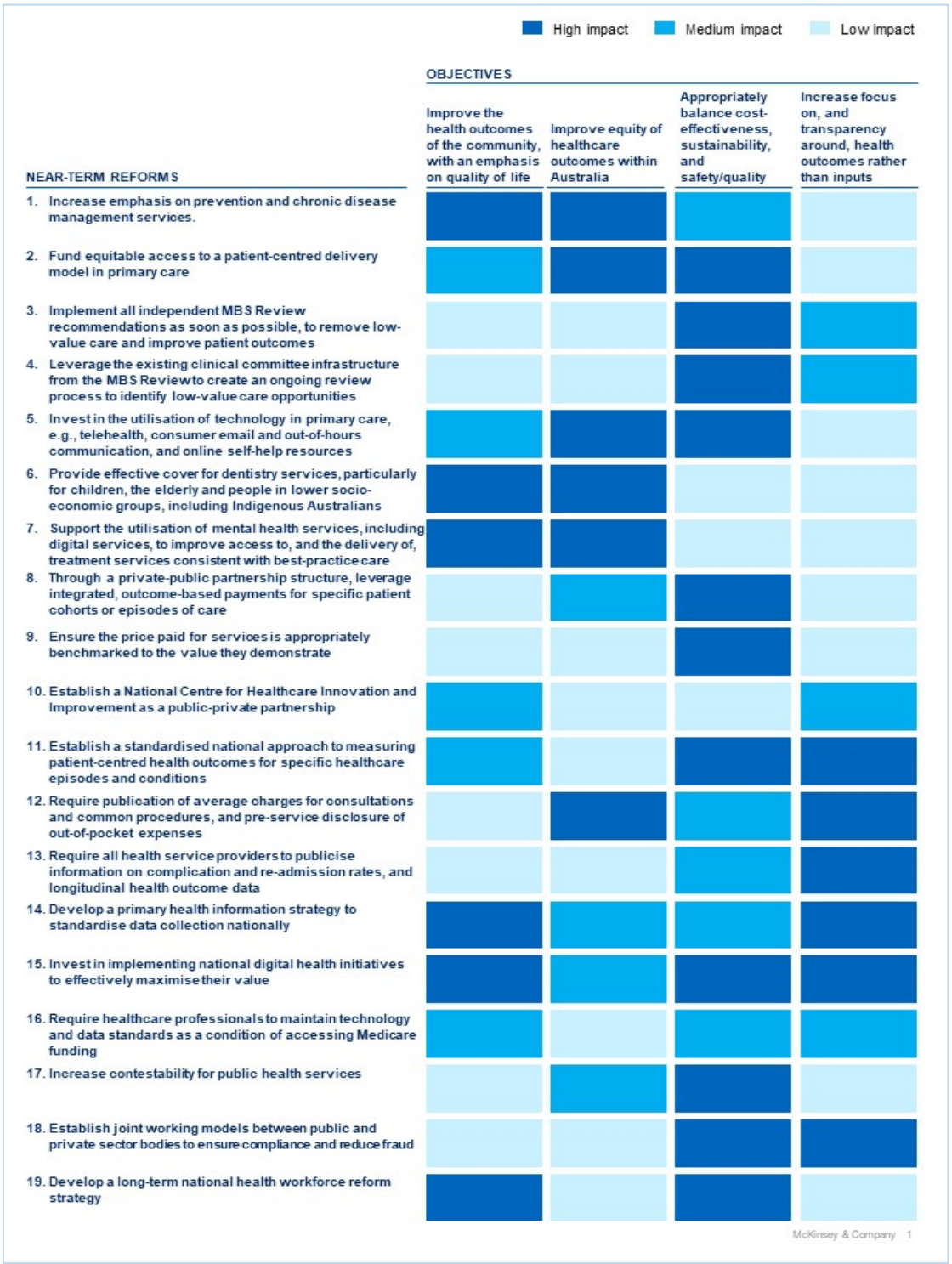
Now, a new strategy is necessary, recognising the potential of automation to reduce the burden of rising costs within the healthcare workforce, and the new skills and capabilities in the field of informatics that will be required as precision medicine evolves. Workforce strategies have been adopted by various local and state healthcare bodies, such as Queensland Health,[127] but these frequently feature a strong emphasis on traditional clinical education, and quality and safety improvements, without directly referencing the emerging opportunity for manual task removal and tailored medicine.

A national strategy is necessary to achieve the coordinated change at the federal level which is required, both in order to contain federal healthcare expenditure through productivity increases mediated by technology, and to introduce the reforms and regulations that will be required in response to the dramatic changes that will be seen in the coming decades in the healthcare industry with the arrival of personalised medicine.

6 APPENDICES

APPENDIX A: IMPACT OF NEAR-TERM REFORMS

Impact of proposed neat-term reforms by objective



APPENDIX B: DETAILED REFORM OPTIONS

1. RIGHT TYPE OF CARE			Assessment (1=low,5=high)			
Reform	#	Potential Action	Feasibility	Impact	Timeliness	Timeframe
1.1 Remove low-value care	1.1.1	Implement all independent MBS Review recommendations as soon as possible, to remove low-value care and improve patient outcomes	4	5	5	Near-term priority
	1.1.2	Substitute inpatient care with lower-cost out-of-hospital care where the same or better outcomes are available (e.g., rehabilitation, chemotherapy)	2	2	2	
	1.1.3	Leverage the existing clinical committee infrastructure from the MBS Review to create an ongoing review process to identify low-value care opportunities	5	3	5	Near-term priority
1.2 Integrate social determinants of health into all assessments	1.2.1	Incentivise the consideration of social determinants of health, including supporting education and data integration, in all clinical assessments and reviews	3	5	2	
	1.2.2	Require a stronger emphasis be placed on social determinants and their role in driving health outcomes into professional clinical training at higher education level	2	5	1	
1.3 Unlock value-add from new medical technology and research	1.3.1	Fund the provision and use of wearable devices and provide incentives for healthy activity (e.g., physical activity levels), for both privately insured and non-privately insured consumers	3	2	3	
	1.3.2	Invest in utilisation of technology in primary care, e.g., telehealth, consumer emails out of hours	3	4	4	Near-term priority
	1.3.3	Improve the value-add from medical research through co-location of research with clinical activities (in line with the 2013 McKeon Review)	2	2	2	

1.4 Invest in greater prevention and chronic disease activities	1.4.1	Provide comprehensive cover for dentistry services, particularly for children	4	5	2	Near-term priority
	1.4.2	Increase the funding of prevention and chronic disease management services	3	4	4	Near-term priority
	1.4.3	Implement a major demonstration project to empower consumers with chronic diseases to plan and manage their health by providing them with flexible individual funding packages with personalised budgets, where they have choice of services and providers (similar to disability and aged care reforms) [128]	4	3	2	
	1.4.4	Promote place-based approaches to planning and implementing mental health preventative and psychosocial supports that link health and social care agencies, allowing departure from a consistent, standardised approach	2	3	2	
	1.4.5	Support the utilisation of digital mental health services to improve access to services and the delivery of treatment services that are consistent with best-practice care	4	5	3	Near-term priority
	1.4.6	Increase investment in the wellbeing of the most vulnerable Australians (namely, Indigenous, the elderly, and those from lower socio-economic backgrounds)	3	5	3	
1.5 Empower consumers and build health literacy	1.5.1	Create patient health communities that focus on activation and mentoring	1	3	2	
	1.5.2	Improve consumer health literacy by introducing health literacy as a mandatory component of the primary/secondary school curriculum [129]	2	4	1	
	1.5.3	Empower consumers by funding a Consumer Enablement Portal to bring together and better promote access to a broad range of high-quality consumer tools	3	4	3	

2. RIGHT PRICE OF CARE			Assessment (1=low,5=high)			
Reform	#	Potential Action	Feasibility	Impact	Timeliness	Timeframe
2.1 Develop more integrated funding models	2.1.1	Strengthen Medicare through the development of regional budgets (e.g., at a PHN level) for primary, community and hospital care to strengthen the incentive to invest in prevention and screening and reduce inefficiencies in existing Commonwealth and State/Territory health funding arrangements	2	5	2	
	2.1.2	Shift to sole Commonwealth funding for medical specialist outpatient services for mental health, obstetrics, cancer and specific chronic diseases, with funds pooled with private health insurers and GPs paid to refer to specialists with regard to price and quality	2	3	3	
2.2 Transition to more outcome-based funding models and reduce reliance on fee-for-service provision	2.2.1	Through a private-public partnership structure, leverage integrated, outcome-based payments for either (a) specific patient cohorts or (b) specific episodes of care, to strengthen the incentive for case management and hospital avoidance activities	3	5	3	Near-term priority
	2.2.2	Fund equitable access to a revised model of Health Care Homes, based on the original PHCAG recommendations, with participation remaining voluntary for both consumers and practices and a significant shift away from largely fee-for-service payment models[130]	3	4	4	Near-term priority
2.3 Strengthen the funding base for health care	2.3.1	Undertake structural tax reform to broaden the base of more efficient, non-discriminatory taxes (e.g., new ageing Medicare levy, increase of GST) to build funding for expected future costs of an ageing population	1	5	2	

	2.3.2	Guarantee long-term funding for aged care capital works to entice more capital inflow to the sector	2	3	3	
	2.3.3	Increase focus on exporting health sector expertise to Asia	2	3	3	
3. IN AN EFFICIENT SYSTEM			Assessment (1=low,5=high)			
Reform	#	Potential Action	Feasibility	Impact	Timeliness	Timeframe
3.1 Strengthen system governance and decision-making	3.1.1	Establish systems to allow PHNs and LHNs to conduct regional needs assessments, set priorities and leverage pooled funding at a regional level, which will enable coordinated and integrated approaches to reduce preventable hospitalisations, address consumer needs, address wider social determinants of health, and remove administrative barriers between the Commonwealth and the States/Territories	2	5	2	
	3.1.2	Establish an independent national health authority, distinct from Commonwealth and State/Territory health departments and reporting to the COAG Health Council, to assume responsibility for (a) primary and dental care (b) functions of IHPA, AIHW, Australian Digital Health Agency, and the Australian Commission on Safety & Quality in Healthcare (c) national health data collection	2	4	2	
	3.1.3	Establish a National Centre for Healthcare Innovation and Improvement as a public-private partnership	3	3	3	Near-term priority
	3.1.4	Establish an independent Health Reform Commission, to inform and lead public discussion, and advise on, health reform options	4	2	3	
3.2 Improve performance reporting	3.2.1	Establish a standardised national approach to measuring patient-centred health outcomes for specific healthcare episodes and conditions	3	5	4	Near-term priority
	3.2.2	Integrate the national safety and quality standards with clinical accreditation under a single	2	3	3	

		organisation, and shift from a compliance approach to an assessment of exemplary performance, with rewards and transparency on findings				
	3.2.3	Require publication of average charges for consultations and common procedures, and mandate pre-service disclosure of out-of-pocket expenses and an auditable informed patient consent to these costs in non-emergency situations	3	3	3	Near-term priority
	3.2.4	Require health service providers to publicise information on complication and re-admission rates, and longitudinal health outcome data, with appropriate confidentiality protections	3	4	3	Near-term priority
	3.2.5	Develop a primary health information strategy to standardise data collection nationally, with the aim of improving patient experience	3	5	3	Near-term priority
	3.2.6	Invest in implementing a national digital health record effectively to maximise its value *Note one dissent which was to allow private sector competition to this	4	5	4	Near-term priority
3.3 Eliminate inefficiencies across the system	3.3.1	Establish national bodies to oversee the elimination of unnecessary over-payments in areas with high economic rents (e.g., prostheses pricing)	2	3	2	
	3.3.2	Seek to challenge the "civil conscription" clause in Section 51 of the Constitution of Australia to enable the training and direction of the medical and dental workforce	1	2	1	
3.4 Strengthen health data management	3.4.1	Enhance data and cyber security to minimise risk of infiltration and theft of information, and ultimately maximise the value of linked datasets from areas such as social determinants of health	2	3	2	

	3.4.2	Invest in data collection and adverse childhood experiences (ACEs) and in programs, policies and strategies to address ACEs, including efforts focusing on reducing inter-generational transmission of ACEs	4	2	2	
	3.4.3	Require healthcare professionals to maintain technology and data standards as a condition of accessing Medicare funding	3	4	3	Near-term priority
	3.4.4	Invest in more effective data integration and record-sharing between public hospitals, private hospitals, and health professionals	2	4	2	
3.5 Strengthen private sector to support public sector	3.5.1	Increase contestability for public health services, e.g., allowing private organisations to manage integrated health budgets or managing dental care programs	2	4	4	Near-term priority
	3.5.2	Create an independent clearing house to handle clearance certificates to allow consumers to exit one fund and join another, to reduce consumer confusion and avoid double payments	3	2	3	
	3.5.3	Enable Standard Information Statement (SIS) details to be used, via a standardised format, to assist the consumer in making a switch decision for their health insurance, reducing consumer confusion and building trust between the health insurer and consumer	3	2	3	
	3.5.4	Drive greater take-up for private health insurance amongst young people (e.g., through Fringe Benefits Tax relief for private health insurance policies delivered as an employee benefit to those aged under 40, with no means testing)	2	3	2	
	3.5.5	Maintain (or increase) incentives to drive participation in private health insurance, and hence relieve pressure on public waiting lists	2	3	2	

	3.5.6	Restrict the second-tier safety net to smaller hospitals	3	3	3	
	3.5.7	Limit funding of private patients in public hospitals to elective procedures only	2	3	3	
	3.5.8	Establish joint working models between public and private sector bodies to ensure compliance and reduce fraud	4	5	4	Near-term priority
3.6 Develop long-term workforce reforms	3.6.1	Develop a long-term national health workforce reform strategy that incorporates the impact of automation and the role of precision medicine in changing workforce requirements	4	4	3	Near-term priority
	3.6.2	Recognise the importance of team-based care by promoting joined-up models of care delivery, such as supporting non-prescribing pharmacists in general practice, establishing GP liaison officers, promoting hospital-based specialists to provide liaison and advice, significantly expand access to care coordinators and system navigators, increase the numbers of Culturally and Linguistically Diverse people at all levels of the workforce, and promote the development of a peer workforce	2	4	3	

APPENDIX C: TASKFORCE MEMBERS

- Leon Berkovich, Commercial Banking, Westpac
- Jim Birch AM, Health Consultant
- Olga Bodrova, Chief Operations Officer & Director of Research, GAP
- Martin Bowles AO PSM *(Chair)*, National Chief Executive Officer, Calvary Health Care
- Lucy Brogden AM, Chair, National Mental Health Commission
- Dr Peggy Brown AO, Consultant Psychiatrist
- Damien Bruce, Partner, Healthcare Practice Leader, McKinsey & Company
- Alicia Caruso, Project Manager, GAP
- Dr Brandon Carp, Executive Chairman and Founder, UHG
- Dr Kevin Cheng, Founder, Osana
- Blair Comley PSM, Director, Port Jackson Partners
- Dr Bill Coote, Medical Policy Advisor, Ramsay Health Care
- Jim Crompton, Senior Manager, Policy Development, Johnson & Johnson Australia
- Robert Crompton, Director, Optias
- Dr Rachel David, CEO, Private Healthcare Australia
- Craig Drummond, CEO, Medibank Private
- Peter Fritz AM, Group Managing Director, TCG, Chairman, GAP
- Catherine Fritz-Kalish, Co-Founder & Managing Director, GAP
- Peter Harris AO, Chairman, Productivity Commission
- David Jonas, CEO, Digital Health CRC
- Dr Shane Kelly, Group CEO, St John of God Health Care
- Megan Kennedy, Private Health Consultant
- Elizabeth Koff, Secretary, NSW Department of Health
- Robyn Kruk AM, Former Director General, NSW Department of Health, Inaugural CEO & Commissioner, National Mental Health Commission
- Tony Lawson, Chair, Consumers Health Forum of Australia
- Israel Makov, Chairman, Sun Pharmaceuticals Industries, Israel
- Louise McCann, National Head of Healthcare, Westpac
- Dr Chris McGowan, Chief Executive, Department of Health and Wellbeing, South Australia
- Dr Bennie Ng, General Manager, Partnerships & Strategy, Healthscope
- Dr Paul Nicolarakis, CEO, Lorica Health
- Frank Quinlan, CEO, Mental Health Australia
- Annette Schmiede, Executive Leader, BUPA Health Foundation
- Dr Tony Sherbon, Oceania Lead, Public Sector Health Advisory, EY
- Dr Ian Smart, Executive Director, Optias
- Dr Linc Thurecht, Senior Research Leader, Australian Healthcare & Hospitals Association
- Alison Verhoeven, CEO, Australian Healthcare & Hospitals Association
- Ian Yates AM, Chief Executive, COTA Australia
- Christopher Zinn, CEO, Private Health Insurance Intermediaries Association

APPENDIX D: ENDNOTES AND REFERENCES

All weblinks listed below were correct and live at the time of publication.

1 OECD, "Health at a glance 2017: OECD Indicators" (2017) https://www.oecd.org/australia/Health-at-a-Glance-2017-Key-Findings-AUSTRALIA.pdf

2 Second Reading Speech of the Health Insurance Bill 1973 delivered by the Hon. Bill Hayden on 29 November 1973. Medicare, "Medicare – Background Brief" (2004) Parliament of Australia. https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/Publications_Archive/archive/medicare

3 Hannah Jackson and Alan Shiell, "Preventive health: How much does Australia spend and is it enough?" (2017) Prevention First/LaTrobe University. http://fare.org.au/wp-content/uploads/Preventive-health-How-much-does-Australia-spend-and-is-it-enough_FINAL.pdf

4 Richard Kidd, "Health Care Homes – are they off track?" (2018) Australian Medical Association. https://ama.com.au/ausmed/health-care-homes-%E2%80%93-are-they-track

5 Commonwealth of Australia (2017), Mid-Year Economic and Fiscal Outlook 2017-18; https://www.budget.gov.au/2017-18/content/myefo/download/MYEFO_2017-18.pdf

6 Parliament of Australia, "Overview of Commonwealth involvement in funding dental care" (2008) Research Paper no. 1 2008–09. https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp0809/09rp01#_ftn1

7 Department of Health and Ageing, "E-Mental Health Strategy for Australia" (2012). http://www.health.gov.au/internet/main/publishing.nsf/Content/7C7B0BFEB985D0EBCA257BF0001BB0A6/$File/emstrat.pdf

8 UCSF/PWC, "PPPs in healthcare: Models, lessons and trends for the future" (2018). https://globalhealthsciences.ucsf.edu/sites/globalhealthsciences.ucsf.edu/files/pub/ppp-report-series-business-model.pdf

9 Consumer Health Forum of Australia: The George Institute for Global Health (2018), "Snakes and Ladders: The Journey to primary care integration"; https://chf.org.au/sites/default/files/sal_phci_report_j130918.pdf

10 KPMG, "Through the looking glass: A practical path to improving healthcare through transparency" (2017). https://assets.kpmg/content/dam/kpmg/campaigns/health-transparency-map/pdf/KPMG_Global_Health_System_Transparency_Index.pdf

11 See e.g., OAIC, "Notifiable Data Breaches Quarterly Statistics Report: 1 July – 30 September 2018" (2018). https://www.oaic.gov.au/privacy-law/privacy-act/notifiable-data-breaches-scheme/quarterly-statistics-reports/notifiable-data-breaches-quarterly-statistics-report-1-july-30-september-2018

12 Australian Digital Health Agency (2017), Safe, seamless and secure: evolving health and care to meet the needs of modern Australia: Australia's National Digital Health Strategy; https://conversation.digitalhealth.gov.au/sites/default/files/adha-strategy-doc-2ndaug_0_1.pdf

13 Department of Health and Aged Care, "Reforming the Australian Health Care System: The Role of Government" (1999). https://www.health.gov.au/internet/main/publishing.nsf/Content/4FC61B6C2C9937CDCA257BF0001D3BA7/$File/ocpanew1.pdf

14 See e.g., Maureen McCarthy and Bethany French, "Towards best practice in national health workforce planning" (2012) *JA Open* 1 Supp 3: 10-13. https://www.mja.com.au/system/files/issues/001_03_230712/mcc10309_fm.pdf

15 AIHW, "International health data comparisons" (2018). https://www.aihw.gov.au/reports/international-comparisons/international-health-data-comparisons-2018/contents/overview-international-health-data-comparisons-2018

16 Productivity Commission, "Why a better health system matters" (2015) https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review-supporting4.pdf

17 OECD, "Health spending" (2017). https://data.oecd.org/healthres/health-spending.htm

18 AIHW, "Health expenditure Australia 2016-17" (2018). https://www.aihw.gov.au/getmedia/e8d37b7d-2b52-4662-a85f-01eb176f6844/aihw-hwe-74.pdf.aspx?inline=true

19 AIHW, "Australia's health 2018: in brief" (2018) https://www.aihw.gov.au/reports/australias-health/australias-health-2018-in-brief/contents/how-do-we-use-health-care; OECD, "Health at a glance 2017: OECD Indicators" (2017) https://www.oecd.org/australia/Health-at-a-Glance-2017-Key-Findings-AUSTRALIA.pdf

20 EY analysis; AIHW; ABS

21 Productivity Commission, "Supporting Paper No. 5: Integrated Care" (2017). https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review-supporting5.pdf

22 Ibid.

23 AIHW, "Rural & remote health" (2017). https://www.aihw.gov.au/reports/rural-health/rural-remote-health/contents/access-to-health-services

24 Rural Health Workforce Australia 2015. Medical practice in rural and remote Australia: combined Rural Workforce Agencies National Minimum Data Set report as at 30th November 2014. Melbourne: RHWA

25 Ibid.

26 AIHW, "Australia's health 2016: Indigenous Australians' access to health services" (2016). https://www.aihw.gov.au/getmedia/01d88043-31ba-424a-a682-98673783072e/ah16-6-6-indigenous-australians-access-health-services.pdf.aspx

27 AIHW, "Australia's health 2018: in brief" (2018); https://www.aihw.gov.au/reports/australias-health/australias-health-2018-in-brief/contents/how-do-we-use-health-care

28 Ibid.

29 AIHW, "International health data comparisons" (2018); https://www.aihw.gov.au/reports/international-comparisons/international-health-data-comparisons-2018/contents/overview-international-health-data-comparisons-2018

30 Stephen Duckett, "Getting an initial specialists' appointment is the hidden waitlist" (2018) *The Conversation.* https://theconversation.com/getting-an-initial-specialists-appointment-is-the-hidden-waitlist-99507

31 The Commonwealth Fund, "Mirror, Mirror 2017: International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care" (2017). https://interactives.commonwealthfund.org/2017/july/mirror-mirror/

32 Ibid.

33 AIHW, "Admitted patient care 2016-17: Australian hospital statistics" (2017); https://www.aihw.gov.au/getmedia/acee86da-d98e-4286-85a4-52840836706f/aihw-hse-

201.pdf.aspx?inline=true; AIHW, "Admitted patient care 2014-15" (2015). https://www.aihw.gov.au/getmedia/d08bcf84-874e-44a5-bab9-834af9d5d4d0/apc2014-15-chapter-8.xls.aspx

34 Safer Care Victoria, "Supporting patient safety: 2017-18 Sentinel events annual report" (2019); https://bettersafercare.vic.gov.au/sites/default/files/2019-01/Sentinel%20events%20annual%20report%202017-18_WEB_0.pdf

35 Ibid.

36 Productivity Commission, "Why a better health system matters" (2015) https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review-supporting4.pdf

37 The Commonwealth Fund, "Mirror, Mirror 2017: International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care" (2017). https://interactives.commonwealthfund.org/2017/july/mirror-mirror/

38 AIHW, "Health Expenditure Australia 2016-17" (2018). https://www.aihw.gov.au/getmedia/e8d37b7d-2b52-4662-a85f-01eb176f6844/aihw-hwe-74.pdf.aspx?inline=true

39 Ibid

40 Productivity Commission, "Efficiency in Health: Productivity Commission Research Paper" (2015). https://www.pc.gov.au/research/completed/efficiency-health/efficiency-health.pdf

41 Ibid.

42 PwC, "Funding for value" (2018). https://www.pwc.com.au/publications/pdf/funding-thought-leadership-18apr18.pdf

43 AIHW, "Health Expenditure Australia 2016-17" (2018). https://www.aihw.gov.au/getmedia/e8d37b7d-2b52-4662-a85f-01eb176f6844/aihw-hwe-74.pdf.aspx?inline=true

44 Department of Jobs and Small Business (2018); Australian Jobs 2018, https://docs.jobs.gov.au/system/files/doc/other/australianjobs2018.pdf

45 World Health Organisation (2018); http://www.euro.who.int/en/health-topics/health-determinants/social-determinants/policy/entry-points-for-addressing-socially-determined-health-inequities/economic-argument-for-tackling-socially-determined-health-inequities/economic-benefits-of-investments-for-improved-health-equity

46 Economist Intelligence Unit (2018); http://globalhealth.eiu.com/briefing-paper/section-1-public-health-and-its-social-and-economic-impact/

47 EY / Janchor research synthesising the evidence on technical and allocative efficiencies in the Australian healthcare system – see a powerpoint presentation 'Australian Healthcare Opportunities 2018' by Janchor

48 AIHW, "Australia's Health 2016: Chapter 4 Determinants of health" (2017) https://www.aihw.gov.au/reports/australias-health/australias-health-2016/contents/determinants

49 Determinants of Health and Their Contribution to Premature Death. Adapted from McGinnis et al. Copyright 2007 Massachusetts Medical Society.

50 McKinsey & Co presentation to the *Australia's Health 2040* Taskforce on 24 May 2018, source of data - *http://apps.who.int/iris/bitstream/10665/43943/1/9789241563703_eng.pdf; https://www.cdc.gov/nchhstp/socialdeterminants/faq.html*

51 See e.g., Kerstin Gerst-Emerson and Jayani Jayawardhana, "Loneliness as a Public Health Issue: The Impact of Loneliness on Health Care Utilization Among Older Adults" (2015) *Am J Public Health* 105(5): 1013-1019. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4386514/

[52] Andrew Steptoe et. al., "Social isolation, loneliness, and all-cause mortality in older men and women" (2013) *PNAS* 110(15): 5797-5801. https://www.pnas.org/content/pnas/110/15/5797.full.pdf

[53] UK Government, "PM launches Government's first loneliness strategy" (2018). https://www.gov.uk/government/news/pm-launches-governments-first-loneliness-strategy

[54] Royal Australian College of General Practitioners, 2018, https://www1.racgp.org.au/newsgp/professional/why-is-it-so-hard-to-wean-healthcare-off-the-fax-m

[55] PwC, "Funding for value" (2018). https://www.pwc.com.au/publications/pdf/funding-thought-leadership-18apr18.pdf

[56] Productivity Commission, "Shifting the dial: 5 year productivity review" (2017) https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review.pdf

[57] NEJM Catalyst, "What is Patient-Centered Care?" (2017). https://catalyst.nejm.org/what-is-patient-centered-care/

[58] Moira Stewart et. al., "The Impact of Patient-Centered Care on Outcomes" (2000) *The Journal of Family Practice* 49(9):

[59] Productivity Commission, "Shifting the dial: 5 year productivity review" (2017). https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review.pdf

[60] Australian Commission on Safety and Quality in Healthcare, "Patient-Centred Care: Improving Quality and Safety By Focusing Care on Patients and Consumers" (2010). https://www.safetyandquality.gov.au/wp-content/uploads/2012/01/PCCC-DiscussPaper.pdf

[61] Consumer Health Forum of Australia (2018), *"Shifting Gears: Consumer Transforming Health';* https://chf.org.au/sites/default/files/181125_shifting_gears_-_consumers_transforming_health.pdf

[62] Hannah Jackson and Alan Shiell, "Preventive health: How much does Australia spend and is it enough?" (2017). http://fare.org.au/wp-content/uploads/Preventive-health-How-much-does-Australia-spend-and-is-it-enough_FINAL.pdf

[63] OECD, Health at a glance 2017, https://www.oecd-ilibrary.org/docserver/health_glance-2017-62-en.pdf?expires=1550778244&id=id&accname=guest&checksum=EB6BCD2EFB44D7358AC6E7601D2962D5

[64] Hannah Jackson and Alan Shiell, "Preventive health: How much does Australia spend and is it enough?" (2017) Prevention First/LaTrobe University. http://fare.org.au/wp-content/uploads/Preventive-health-How-much-does-Australia-spend-and-is-it-enough_FINAL.pdf

[65] ABS, "Population projections, Australia, 2017 (base) – 2066" (2018). http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/5A9C0859C5F50C30CA25718C0015182F?opendocument

[66] ABS (2018), Population aged over 85 to double in the next 25 years, media release; ABS 3222.0 - Population Projections, Australia, 2017 (base) - 2066

[67] See e.g., A Hosny et. al., "Artificial Intelligence in Radiology" (2018) *Nat Rev Cancer* 18(8): 500-510. https://www.ncbi.nlm.nih.gov/pubmed/29777175

[68] Paasche-Orlow, M.K., Schlillinger, D., Greene, S.M. & Wagner, E.H. (2006) How health care systems can begin to address the challenge of limited literacy. *Journal of General Internal Medicine, 21,* 884 – 887

[69] AIHW, "Chronic Disease" (2018). https://www.aihw.gov.au/reports-data/health-conditions-disability-deaths/chronic-disease/overview

[70] Ibid.

71 Hannah Jackson and Alan Shiell, "Preventive health: How much does Australia spend and is it enough?" (2017). http://fare.org.au/wp-content/uploads/Preventive-health-How-much-does-Australia-spend-and-is-it-enough_FINAL.pdf

72 Grail Dorling et. al., "The Evidence for Integrated Care" (2015) McKinsey & Company Healthcare Practice.

73 Paasche-Orlow et al (2006)

74 Primary Health Care Advisory Group, "Better Outcomes for People with Chronic and Complex Health Conditions" (2015). http://www.health.gov.au/internet/main/publishing.nsf/Content/76B2BDC12AE54540CA257F72001102B9/$File/Primary-Health-Care-Advisory-Group_Final-Report.pdf

75 Amanda Lyons, "Doubts remain over funding for Health Care Homes trial" (2017) *newsGP*. https://www1.racgp.org.au/newsgp/racgp/doubts-remain-about-funding-for-health-care-homes

76 Parliament of Australia, "Health care homes: an update" (2018). https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/FlagPost/2018/May/Health_care_homes

77 Department of Health, "FAQ: Health Care Homes" (2016). http://www.health.gov.au/internet/main/publishing.nsf/Content/health-care-homes-faq#eight

78 Productivity Commission, "Efficiency in Health: Productivity Commission Research Paper" (2015). https://www.pc.gov.au/research/completed/efficiency-health/efficiency-health.pdf

79 Productivity Commission, "Shifting the dial: 5 year productivity review" (2017). https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review.pdf

80 Department of Health, "Medicare Benefits Schedule Review" (2018). http://www.health.gov.au/internet/main/publishing.nsf/content/mbsreviewtaskforce

81 Productivity Commission, "Efficiency in Health: Productivity Commission Research Paper" (2015). https://www.pc.gov.au/research/completed/efficiency-health/efficiency-health.pdf

82 Deloitte, "Connected health: How digital technology is transforming health and social care" (2015). https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/life-sciences-health-care/deloitte-uk-connected-health.pdf

83 The Medical Futurist, "How Could Digital Technology Make An Impact On Primary Care?" (2018). https://medicalfuturist.com/digital-technology-make-an-impact-on-primary-care

84 NHS, "The NHS Long Term Plan" (2019). https://www.longtermplan.nhs.uk/wp-content/uploads/2019/01/nhs-long-term-plan.pdf

85 S Castle-Clarke, "What will new technology mean for the NHS and its patients? Four big technological trends." (2018) The Health Foundation, the Institute for Fiscal Studies, The King's Fund and the Nuffield Trust.

86 Productivity Commission, "Efficiency in Health: Productivity Commission Research Paper" (2015). https://www.pc.gov.au/research/completed/efficiency-health/efficiency-health.pdf

87 APH House Committee, "Dental Services in Australia" (XXXX). www.aphref.aph.gov.au_house_committee_haa_dental_report_chapter2.pdf

88 AIHW, 2018; https://www.aihw.gov.au/reports/health-welfare-expenditure/health-expenditure-australia-2016-17/contents/data-visualisation

89 ABS 4839.0 - Patient Experiences in Australia: Summary of Findings, 2017-18; http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4839.0%7E2017-18%7EMain%20Features%7EDental%20professionals%7E4

90 Ibid.

91 Parliament of Australia, "Overview of Commonwealth involvement in funding dental care" (2008) Research Paper no. 1 2008–09; https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp0809/09rp01#_ftn1

92 NHHRC, "A Healthier Future For All Australians – Final Report" (2009)

93 See e.g., "Putting money where the mouth is: solutions for Australia's dental crisis" (2012) *Health Voices* Issue 10. https://chf.org.au/sites/default/files/health-voices-may12_web.pdf

94 Duckett S., et al. (2019), Filling the gap: A universal dental care scheme for Australia; https://grattan.edu.au/home/health/

95 Royal Australian and New Zealand College of Psychiatrists (2016); The economic cost of serious mental illness and comorbidities in Australia and New Zealand; https://www.ranzcp.org/files/publications/ranzcp-serious-mental-illness.aspx

96 https://www.blackdoginstitute.org.au/news/news-detail/2018/05/10/job-strain-linked-to-onset-of-common-mental-illness

97 National Mental Health Commission

98 Department of Health and Ageing, "E-Mental Health Strategy for Australia" (2012). http://www.health.gov.au/internet/main/publishing.nsf/Content/7C7B0BFEB985D0EBCA257BF0001BB0A6/$File/emstrat.pdf

99 The Department of Health, "Quality framework for telephone counselling and internet-based support services" (2008). http://www.health.gov.au/internet/main/publishing.nsf/Content/mental-pubs-q-quatel

100 The Department of Health, "Better Access Telehealth Services for people in rural and remote areas" (2017). http://www.health.gov.au/internet/main/publishing.nsf/Content/mental-ba-telehealth

101 UCSF/PwC, "PPPs in healthcare: Models, lessons and trends for the future" (2018). https://globalhealthsciences.ucsf.edu/sites/globalhealthsciences.ucsf.edu/files/pub/ppp-report-series-business-model.pdf

102 Ibid.

103 Consumer Health Forum of Australia: The George Institute for Global Health (2018), "Snakes and Ladders: The Journey to primary care integration"; https://chf.org.au/sites/default/files/sal_phci_report_j130918.pdf

104 Productivity Commission, "Shifting the dial: 5 year productivity review" (2017) https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review.pdf

105 Ibid.

106 Cameron Lister et. al., "The Public Health Innovation Model: Merging Private Sector Processes with Public Health Strengths" (2017) *Frontiers in Public Health*, 5: 192; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5545580/

107 See e.g., NHS, "NHS Innovation Accelerator" (2019); https://www.england.nhs.uk/ourwork/innovation/nia/

108 Productivity Commission, "Shifting the dial: 5 year productivity review" (2017); https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review.pdf

109 Peter Sivey, "How much?! Seeing private specialists often costs more than you bargained for" (2016) *The Conversation.* https://theconversation.com/how-much-seeing-private-specialists-often-costs-more-than-you-bargained-for-53445

110 Ibid.

111 Grattan Institute, "All complications should count: Using our data to make hospitals safer" (2018). https://grattan.edu.au/wp-content/uploads/2018/02/897-All-complications-should-count.pdf

112 Ibid.

113 Australian Institute of Health and Welfare, "MyHospitals" (2019). https://www.myhospitals.gov.au/

114 Ibid.

115 Flying Blind: Reports by the Digital Health CRC; https://flyingblind.cmcrc.com/

116 Productivity Commission, "Efficiency in Health: Productivity Commission Research Paper" (2015). https://www.pc.gov.au/research/completed/efficiency-health/efficiency-health.pdf

117 Matt Woodley, "My Health Record: Experts move to ease concerns as opt-out period ends" (2019). https://www1.racgp.org.au/newsgp/professional/my-health-record-experts-move-to-ease-concerns-as

118 Office of the Australian Information Commissioner, "My Health Records" (2019). https://www.oaic.gov.au/privacy-law/other-legislation/my-health-records

119 Straits Times, "Personal info of 1.5m SingHealth patients, including PM Lee, stolen in Singapore's worst cyber attack" (2018). https://www.straitstimes.com/singapore/personal-info-of-15m-singhealth-patients-including-pm-lee-stolen-in-singapores-most

120 Siggins Miller, "Evaluation of the Participation Trials for the My Health Record" (2016). https://www.health.gov.au/internet/main/publishing.nsf/Content/A892B3781E14E1B3CA25810C000BF7C6/$File/Evaluation-of-the-My-Health-Record-Participation-Trials-Report.pdf

121 See e.g., OAIC, "Notifiable Data Breaches Quarterly Statistics Report: 1 July – 30 September 2018" (2018). https://www.oaic.gov.au/privacy-law/privacy-act/notifiable-data-breaches-scheme/quarterly-statistics-reports/notifiable-data-breaches-quarterly-statistics-report-1-july-30-september-2018

122 Australian Digital Health Agency (2017), Safe, seamless and secure: evolving health and care to meet the needs of modern Australia: Australia's National Digital Health Strategy; https://conversation.digitalhealth.gov.au/sites/default/files/adha-strategy-doc-2ndaug_0_1.pdf

123 Gary Sturgess, "Contestability in Public Services: An Alternative to Outsourcing" (2015). http://www.apcc.gov.au/ALLAPCC/150_Sturgess-Contestability-in-Public-Services.pdf

124 Productivity Commission, "Shifting the dial: 5 year productivity review" (2017)' https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review.pdf

125 Gary Sturgess, "Contestability in Public Services: An Alternative to Outsourcing" (2015); http://www.apcc.gov.au/ALLAPCC/150_Sturgess-Contestability-in-Public-Services.pdf

126 Productivity Commission, "Australia's Health Workforce" (2005); https://www.pc.gov.au/inquiries/completed/health-workforce/report/healthworkforce.pdf

127 See Queensland Government, "Advancing health service delivery through workforce: A strategy for Queensland, 2017-2026" (2017); https://www.health.qld.gov.au/system-governance/strategic-direction/plans/health-workforce-strategy

128 Consumer Health Forum of Australia: The George Institute for Global Health (2018), "Snakes and Ladders: The Journey to primary care integration"; https://chf.org.au/sites/default/files/sal_phci_report_j130918.pdf

129 Ibid.

130 Ibid.