

# 9

## Health and Aged Care in the Intergenerational Report

Diane Gibson, John Goss and Jane Hall

### Key points

- The five successive intergenerational report (IGR) projections for Commonwealth health and aged-care expenditure have varied substantially and over relatively short timeframes (10–20 years) have not been accurate.
- Projections can be improved if there is a more detailed understanding of the past drivers of health expenditure. This requires decomposition into the different drivers of ageing, population growth, disease rate changes, health inflation and extra volume of services delivered per case of disease.
- Changing patterns of disease have major implications for expenditure relating to both health and aged-care services. The dramatic reduction in circulatory disease from the 1970s has had consequences for life expectancy and health expenditure that were not even imagined in the 1950s; more accurate forecasts for diseases such as dementia, diabetes and kidney disease, mental illness and cardiovascular disease are needed for the future.
- Population growth and the volume of health services delivered per case of disease were major drivers of health expenditure in the last decade.

- Ageing is a driver of health expenditure growth, but accounted for only 0.9 per cent out of an annual real growth of 3.6 per cent per year in admitted patient and out-of-hospital medical services. Yet this factor gets excessive attention in public debate.
- Two years after our aged-care system was described as ‘cruel and harmful’ by the Royal Commission, the IGR has produced only the most basic of projections for the future of aged-care expenditure in Australia, taking little account of the expenditure that would be necessary to implement the Royal Commission’s recommendations.
- The higher increases in National Disability Insurance Scheme (NDIS) expenditure estimated in the October 2022–23 budget illustrates the benefits scenario analysis would have provided in areas such as aged and disability services where existing policy is volatile and the impact uncertain.
- The focus of the IGR on expenditure inevitably emphasises costs without acknowledging the benefits provided by those expenditures. This is particularly relevant for expenditure on health, aged-care and disability services.
- The IGR takes a very narrow focus by considering Commonwealth expenditure only. The other main sources of financing, state/territory governments and individuals, need to be considered as some state governments and the Productivity Commission have done, at least in part.

## Introduction

To the extent that Australians have followed the ‘story’ in the intergenerational reports (IGRs), they see the future of health care as becoming increasingly costly due to population ageing. Yet that story is overstated, partly due to the increase in participation among older workers noted by Peter McDonald in Chapter 4, and partly because of a failure to analyse the actual drivers of health expenditure. Factors such as the higher volumes of services being used per case of disease and population growth are more important considerations in driving growth in health expenditure, and, looking forward, potential changes in patterns of disease are also an important consideration.

The chapter begins with a brief review of the policy background of health, aged-care and disability services delivery systems in Australia. This is followed by a critical analysis of the health expenditure projections presented in the 2021 IGR (Commonwealth of Australia 2021a), including

a decomposition analysis that demonstrates the importance of a more disaggregated understanding of the drivers of health expenditure. The next sections critically examine the IGR projections on aged-care expenditure and the National Disability Insurance Scheme (NDIS). The chapter then examines the implications of the IGR's heavy reliance on population growth, age structure changes and historical service trends, and argues that a more nuanced analysis would incorporate several important factors such as changing disease patterns and increasing volume of services, relying less on historical trends and more on how recent and emerging trends are likely to affect morbidity, service use, patterns of care and prices in the future. We conclude that population ageing has been overstated as a driver of increasing expenditure.

In this chapter, we focus on the health and aged-care components of the 2021 IGR. Health and aged care were identified in the first IGR as imposing the greatest demand for increasing government spending; and this has continued in the 2021 projections. The validity of these projections are, therefore, key to the IGR conclusions. Healthcare projections are based on an analysis of recent trends in growth within various components of the health sector and key assumptions about the drivers of future growth, disaggregated into demographic and non-demographic factors. Non-demographic factors, in particular the prevalence of chronic conditions but also rising incomes and technological advances, account for over half the increase in projected real per capita health spending. Aged-care expenditure projections are much less disaggregated, with growth simply described as due to demographic and non-demographic factors.

The headline figures are presented as a percentage of GDP. While this gives a sense of the size of the Commonwealth government-financed health sector, it does rely on a number of assumptions about the size and composition of the population and improvements in productivity in general, as well as the projections of health and aged-care service use and expenditure.

The impact of COVID-19 on the health system has been, and continues to be, immense. Not least of this is a new level of uncertainty. The IGR projections show a small but discernible increase in Commonwealth health expenditure in 2020 and 2021, then a return to the pre-existing trajectory. For aged care, the Royal Commission report has highlighted wide-ranging, longstanding systemic failures. The IGR projects an increase in aged-care expenditure over two to three years then a plateauing of expenditure

(as a percentage of GDP) until 2040–41. Both these system shocks warrant careful analysis of the ongoing impact. In the following sections, we look at the comprehensiveness of the analysis provided, and the robustness of the assumptions underpinning it.

The first IGR to include projections on the NDIS based on full operation of the scheme was the 2021 report. Growth projections are modest, although higher than the initial 2015 IGR analysis (Commonwealth of Australia 2015). Little underlying information is available; and this sector remains subject to high levels of uncertainty. In estimates released by Treasury in October as part of the 2022–23 budget, there was already a major increase in the projected NDIS spend over the medium (2022–23 to 2032–33) term (Commonwealth of Australia 2022).

## Background

The first IGR was published in 2002 with the aim of planning to meet the challenges of an ageing population (Commonwealth of Australia 2002). This was not the first attempt to assess the implications of population ageing. The International Year of Older Persons in 1999 had served to focus attention on a range of issues including the combined effects of increasing life expectancy, the ageing of the baby boom population and reducing fertility, which meant shrinking tax revenues to support the more generous social support programs (Productivity Commission and Melbourne Institute of Applied Economic and Social Research 1999). Even earlier, the Economic Planning and Advisory Council had produced a paper addressing similar issues (Clare and Tulpelé 1994). The first IGR, produced in the early years of the new century, was a clear message not to expect increasing generosity in public benefits, with a strong emphasis on the need to live within our means and to keep government spending in check.

The focus on the problem of ageing for government health expenditure was encouraged by concerns from the United States, with a similar ageing profile to Australia. In 2000, the 65 and over age group in the United States was projected to grow from 12.5 per cent of the total population to 16.6 per cent by 2020, with the comparable figures for Australia being 12.1 per cent and 16.8 per cent (Anderson and Hussey 2000). However, the United States had not achieved universal coverage for health insurance and as a large population cohort turned 65 years, they were newly eligible for Medicare. This was clearly a looming problem for the United States

(Weiner and Tilly 2002). However, universal coverage had been achieved in Australia in 1984, so there would be no new cohort eligible for government health benefits. Many European nations had much older populations and had not been crippled by health or aged-care expenditures. It is worth noting here that ‘government’ for the purposes of the first and successive IGRs is the Commonwealth government; expenditure by state and territory governments is excluded from consideration. This gives a very partial and misleading view of health, aged care and disability services expenditure as state and territory governments are, or have been, major funders of such services.

Structural and policy changes have led to the Commonwealth share of government funding for health falling from 65.5 per cent in 2001–02 to 60.5 per cent in 2020–21 (AIHW n.d.). When calculated as a proportion of total health expenditure, Commonwealth funding has fallen from 44.0 per cent in 2001–02 to 42.7 per cent in 2020–21. State funding has increased from 23.2 per cent to 27.9 per cent, while the private share of funding has decreased from 32.8 per cent to 29.4 per cent. So funding share changes are one of the biggest drivers of Commonwealth health expenditure, yet this redistribution is obscured by excluding state funding (and private funding) from the analysis.

This partial analysis focused attention on the Commonwealth support for Medicare and its sustainability in terms of the federal budget rather than the national economy. The first IGR was produced by the Howard Liberal-National government, which, in 2002, had held power for six years, after 13 years of a Labor government which had re-established universal tax-financed health coverage (Hall et al. 2020). The Liberal Party for most of its time in opposition had maintained opposition to Medicare. This changed in 1996, with a commitment to ‘maintain Medicare in its entirety’, although also with more support for private insurance (Hall and Savage 2005; Hall and Maynard 2005). Focusing on only Commonwealth expenditure meant the changes to private health insurance and Commonwealth/state funding arrangements were not explicit.

Meanwhile, aged care in Australia has been under almost continuous reform since the 1980s, with successive waves of major policy shifts toward expanding the community care sector (a joint Commonwealth- and state-funded suite of programs) and reducing reliance on residential care (a Commonwealth responsibility). The *Aged Care Act 1997* (Cth) and later the *Aged Care (Living Longer Living Better) Act 2013* (Cth) also modified

means-testing arrangements to increase the proportion of overall costs paid by service users and reduce that paid by the government. By 2011 agreement was reached to transfer financial and administrative responsibility for the jointly Commonwealth- and state-funded Home and Community Care program to the Australian government, a change that once fully implemented in 2018 meant the Australian government was, for the first time, responsible for planning, funding and administering all aged-care services. Over time, then, the balance of aged-care funding between public and private expenditure and between state and territory governments and the Australian government has been subject to change.

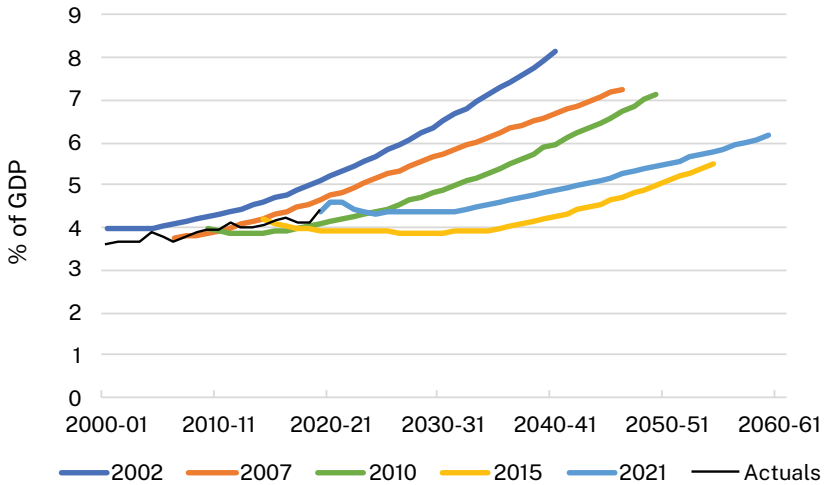
This is the first IGR to include analysis of the NDIS which is jointly governed and funded by the Commonwealth and state and territory governments. Prior to the progressive implementation of the NDIS from 2016, states and territories were responsible for specialist disability services under the Commonwealth/state National Disability Agreement. The implementation of the NDIS was a major change to the model of disability services in Australia, enhancing access for people with disability via a non-means tested, demand-driven system.

## Health projections

Australian government spending on health is projected in the 2021 IGR to grow from 4.1 per cent of GDP in 2018–19 to 4.7 per cent in 2021–22 (mostly because of COVID-19) and then to decline to 4.4 per cent in 2022–23. It is then projected to remain largely stable until 2032–33 and then to rise steadily to reach 6.2 per cent by 2060–61. These estimates are substantially lower than the estimates of previous IGRs at all times, with two notable exceptions.

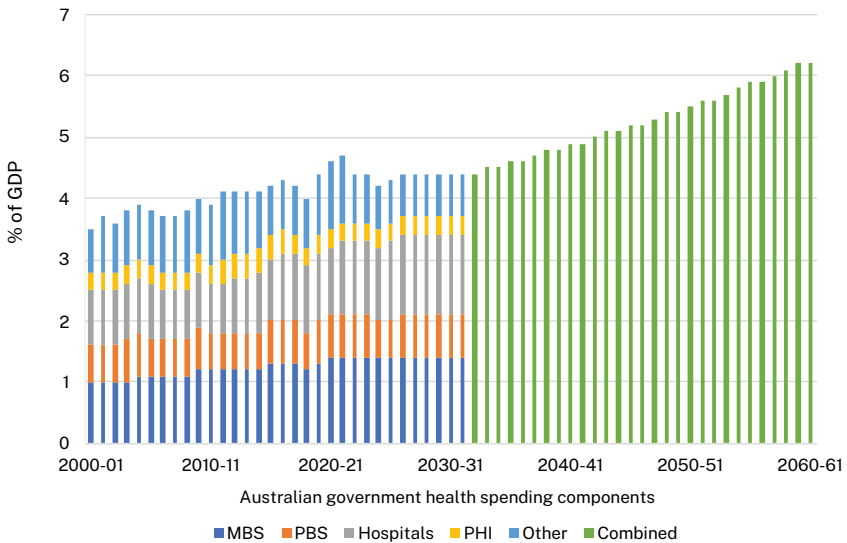
First, the 2015 IGR showed a flattening or decline of expenditure growth from 2014–15 until 2036–37 (Commonwealth of Australia 2015). Second, the 2021 IGR includes an expenditure spike in 2020–21 and 2021–22 due to the COVID-19 pandemic (discussed further below). Even over relatively short timeframes (10–20 years), the projections have not been accurate. Of course, the aim of the IGR is not to provide necessarily accurate forecasts but to demonstrate the effect into the future of existing policy settings. But this does make it important to understand the past experience that is the basis for the projections, and to understand when it is likely that the future will be different to the past.

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**Figure 9.1: Australian government health expenditure as a percentage of GDP: Successive IGR projections.**

Source: Commonwealth of Australia (2021b:Chart 7.1.3.).



**Figure 9.2: Australian government health expenditure actuals (2000–01 to 2020–21) and projections (2021–22 to 2060–61).**

Source: Commonwealth of Australia (2021b:Chart 7.1.6).

Commonwealth health expenditure in the 2021 IGR is divided into MBS (Medicare Benefits Schedule), PBS (Pharmaceutical Benefits Schedule), public hospitals and private health insurance support, all by age, and 'other'. Projections are made for each component separately until 2032–33, and thereafter the projections are made for health as a whole. That the total share of GDP looks constant over the coming decade is due to health expenditure growing at the same rate as GDP. After that point, Australian government expenditure rises as a per cent of GDP at a steady rate. This shows how important it is to understand what lies behind the estimates.

Drivers of growth are divided into demographic and non-demographic factors (Commonwealth of Australia 2021b:Chart 7.1.5). Out of projected real health expenditure growth of 3.3 per cent per year in the period 2019–20 to 2060–61, the demographic factors account for 1.4 per cent per year of the growth, and the non-demographic factors account for 1.9 per cent of the growth. But there is no further decomposition of the drivers of growth. The IGR should have divided the demographic factor into ageing and overall population growth factors, and it should have divided non-demographic factors at least into volume of services per person and excess health inflation (non-demographic factors should ideally be divided into the three factors of growth in expenditure: per prevalent case of disease, excess health inflation and disability/disease rate changes). There should also be analyses of the impact of income growth and technological changes on health expenditure growth (the technology impact likely to affect both expenditure per prevalent case of disease and disability/disease rate changes).

## **Decomposition analysis of health expenditure projections**

The decomposition analysis presented below demonstrates the importance of a more disaggregated understanding of the drivers of health expenditure. The analysis undertaken for the period 2011–12 to 2018–19 shows more detail as to the drivers of growth in health expenditure in the last decade. As indicated in Table 9.1, the overall total real (gross national expenditure, or GNE, deflated) expenditure on admitted patient services and out-of-hospital medical services in this period grew at 3.63 per cent per year. This is quite similar to the IGR's projected real Commonwealth health expenditure growth of 3.3 per cent per year for the period 2019–20 to 2060–61.



**Table 9.1: Decomposition of total real health expenditure growth, 2011–12 to 2018–19, annual average growth rates.**

		Admitted and out-of-hospital medical services	Admitted patient services	Out-of-hospital medical services
<b>Total real expenditure growth</b>		3.6%	3.7%	2.7%
<b>Demographic</b>	<b>Total demographic</b>	2.4%	2.3%	2.3%
	Population growth	1.5%	1.4%	1.6%
	Ageing	0.9%	0.9%	0.7%
<b>Non-demographic</b>	<b>Total non-demographic</b>	1.2%	1.4%	0.4%
	Disease rate changes	0.1%	0.1%	0.1%
	Excess health price inflation	0.4%	0.7%	-0.5%
	Volume of services per case of disease growth	0.7%	0.6%	0.7%

Source: Original analysis undertaken by Goss using data from Australian Institute of Health and Welfare (AIHW) health and disease expenditure databases, and burden of disease databases for disease rate changes (AIHW n.d.). Expenditure is deflated by the gross national expenditure (GNE) deflator.

The demographic component for total expenditure on admitted patient services and out-of-hospital medical services grew by 2.42 per cent per year in this period and the non-demographic component grew by 1.18 per cent per year.

In this analysis, the demographic growth is split further into the population growth component of 1.53 per cent per year and the ageing component of 0.88 per cent per year. This split is important, as it shows that in Australia the population growth factor—which is largely driven by net immigration—is more important than the ageing factor. This is in contrast to most European countries where the ageing factor is more important than the population growth factor.

The non-demographic growth rate of 1.18 per cent per year can be split into an increase in expenditure because of disease rate changes of 0.01 per cent per year, an increase because of excess health price inflation of 0.4 per cent per year, and an increase in the volume of services delivered per case of disease of 0.67 per cent per year.

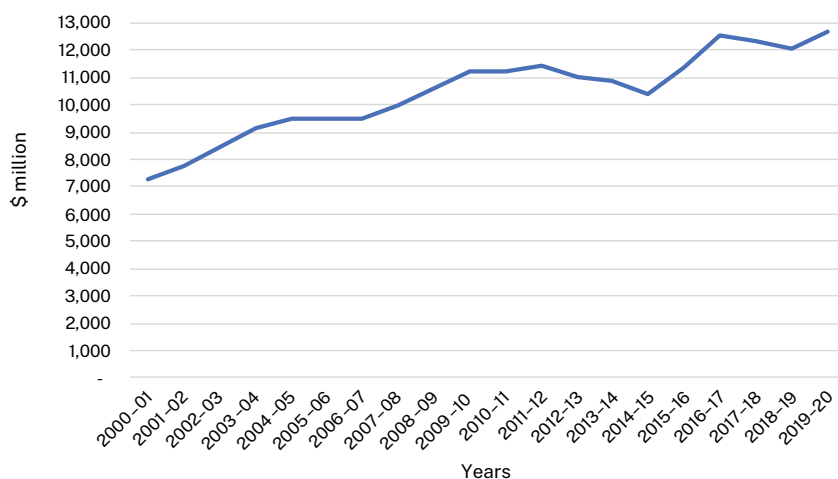
The disease rate changes of 0.01 per cent per year reflect the net effect of disease prevalence rate changes. Some diseases such as diabetes, kidney disease, musculoskeletal and injuries have added to expenditure because of their increases in prevalence in this period, whereas diseases such as cardiovascular disease, respiratory and gastrointestinal diseases have reduced expenditure because their prevalence decreased. Overall, in the period 2011–12 to 2018–19, disease rate changes led to a slight increase in health expenditure, whereas in the period 1994 to 2003 (Goss 2008) and 2000–01 to 2011–12 (Goss 2022), disease rate changes led to a slight decrease in health expenditure.

Excess health inflation showed a growth rate of 0.4 per cent per year as the excess health inflation for admitted patient services of 0.69 per cent per year was moderated by the negative excess health inflation for medical services of –0.5 per cent per year. The negative excess health inflation for medical services is most unusual and reflects government constraints on growth in Medicare medical benefits. It is not expected that the government will be able to continue to exercise the same extent of control on growth in Medicare benefits over coming decades. The volume of services per case of disease factor grew by 0.7 per cent per year in this period. This split is informative, as it shows the very small role played by the net disease prevalence rate changes over this period in contrast to the more significant role played by excess health inflation and volume of services per case of disease. In this period, while specific disease prevalence rates changed, the net effect is small, as increases in some disease groups were offset by decreases in others.

## Pharmaceutical expenditure

The growth in pharmaceutical expenditure varied significantly in the period 2000–01 to 2019–20. In the period 2000–01 to 2004–05, the average growth in real expenditure was 6.9 per cent per year, but in the period 2009–10 to 2014–15 there was an average fall in real expenditure of 1.6 per cent per year. Overall in the 2000–01 to 2019–20 period, the average growth was 2.9 per cent per year. The fluctuations were due to different factors at different times. In the early period, a number of high-cost pharmaceuticals were added to the PBS. A major factor in the decline from 2009–10 to 2014–15 was drugs, such as the statins, going off patent, so the price of these drugs reduced significantly. The increase in pharmaceutical expenditure of 20 per cent from 2015–16 to 2017–18 was almost entirely due to increases in volume associated with the listing on the PBS of new Hepatitis C treatment drugs (see Figure 9.3).

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**Figure 9.3: Real pharmaceutical expenditure 2000–01 to 2019–20, 2018–19 prices.**

Note: Expenditure is total expenditure on benefit paid pharmaceuticals deflated by the GNE deflator.

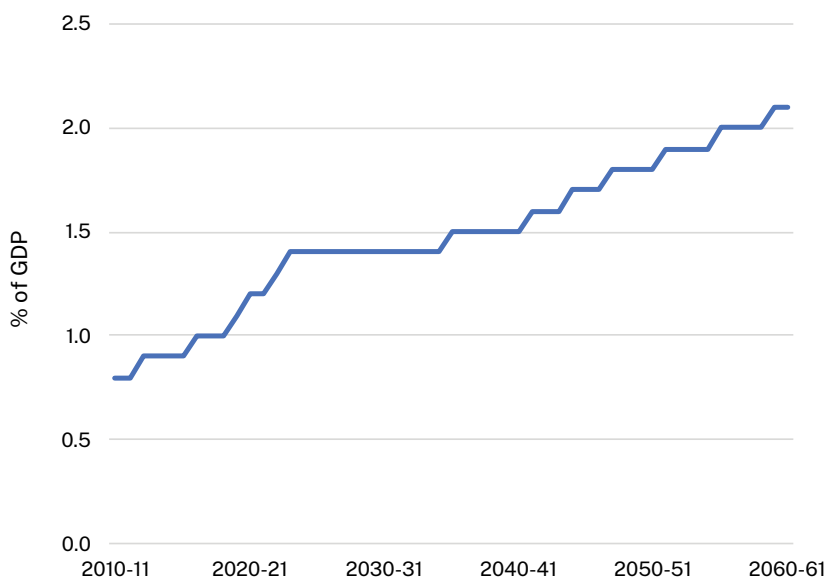
Source: AIHW (n.d.: analysis of data on pharmaceutical benefits).

When there are such major fluctuations in the growth of expenditure due to policy or circumstance or other factors, as has been the case with pharmaceutical expenditure, using past growth as a guide to expenditure growth in the future will produce unreliable projection numbers. This is not a reason to avoid making expenditure projections, but it does show the importance of sensitivity analyses to allow for the intrinsic uncertainty of projections based on what has happened in the past.

## Aged-care projections

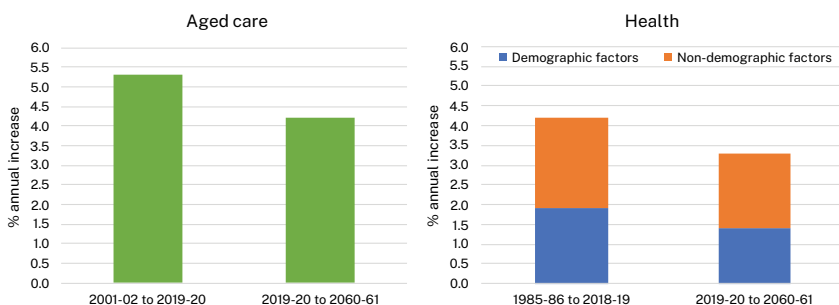
In the 2021 IGR, Australian government spending on aged care is projected to grow from 1.2 per cent of GDP in 2020–21 to 2.1 per cent of GDP in 2060–61 (equivalent to \$113 billion in 2020–21 dollars). This is an input-based projection based on historic patterns of expenditure and demographic drivers, with the inclusion of an additional \$4.5 billion in annual expenditure by 2023–24 in line with projected budget changes announced by the federal government in response to the Royal Commission into Aged Care Quality and Safety in 2021 (see Figure 9.4). The 2021 IGR notes that this is on average 0.2 percentage points higher than the 2015 IGR projections, but no further comparisons are provided.

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**Figure 9.4: Australian government aged-care expenditure actuals (2000–01 to 2020–21) and IGR 2021 projections (2021–22 to 2060–61).**

Source: Commonwealth of Australia (2021b:Chart 7.2.1).



**Figure 9.5: Australian government percentage annual increase in expenditure, historical trends (aged care 2001–02 to 2019–20; health 1985–86 to 2018–19) and IGR 2021 projections (2019–20 to 2060–61).**

Source: For health expenditure: Commonwealth of Australia (2021b:Chart 7.1.5). For aged-care expenditure: author's calculations from Table 8 in Commonwealth of Australia (2002); Commonwealth of Australia (2007:Table A1); Commonwealth of Australia (2010:Table A3); Commonwealth of Australia (2015:Table A3); Commonwealth of Australia (2021b:Chart 7.2.1).

As Figure 9.4 shows, the \$17.7 billion funding boost in response to the Royal Commission pushes the 2021 projections up in the short term, as projected spending increases by 0.1 percentage point per year from 1.1 per cent in 2019–20 until it reaches 1.4 per cent of GDP in 2023–24. It then remains relatively flat until 2034–35, dropping the projection series below all previous IGRs except for the 2015 report, before continuing to increase at a trajectory similar to the other series and reaching 2.1 per cent of GDP by 2060–61. By way of historical context, the data show Commonwealth government expenditure increasing at 5.3 per cent per year for the period 2001–02 to 2019–20, and by 4.2 per cent per year from 2019–20 to 2060–61 (see Figure 9.5).

The Royal Commission into Aged Care Quality and Safety provided extensive evidence that Australia's aged-care system was failing older Australians and their families. Based on an international comparison prepared for the Royal Commission, Australia spends markedly less on long-term care as a proportion of GDP (1.2 per cent of GDP) than countries such as the Netherlands, Japan, Denmark and Sweden (between 3 and 5 per cent of GDP) (Dyer et al. 2019). The cost of implementing the royal commission's recommendations has been estimated at \$15.5 billion per annum, while the reforms recommended by the Grattan Institute in the wake of the royal commission would cost an estimated additional \$7 billion per annum over current expenditure. Yet two years after our aged-care system was described as 'cruel and harmful' by the Royal Commission (RCACQS 2019), the 2021 IGR has produced only the most basic of projections for the future of aged care in Australia, and it almost certainly underestimates the expenditure that will be necessary to implement the Royal Commission's recommendations. While the IGR notes uncertainties in relation to future developments in labour productivity and wages, demand, consumer preferences and technological advances, the focus of this discussion is on the capacity to deliver downward pressures on government spending rather than on the risk that a status quo projection will underestimate future spending while simultaneously failing to address critical problems in the sector.

In the 2021 IGR projections for aged care, there is no separation of separate programs (residential care, home care packages and the Commonwealth Home Support Program). There is no attempt to separate demographic and non-demographic factors, and no publication of data separating demographic change into ageing and population growth. The text of the IGR indicates the potential importance of non-demographic factors as population growth in the over 70s age group slows but, as there is no decomposition of the

growth into the demographic and non-demographic components, the point is rather lost. As is the case for health care, non-demographic factors need to be identified, including excess aged-care inflation, disease rate and disability prevalence, technological changes, shifts in models of care and the role of informal care.

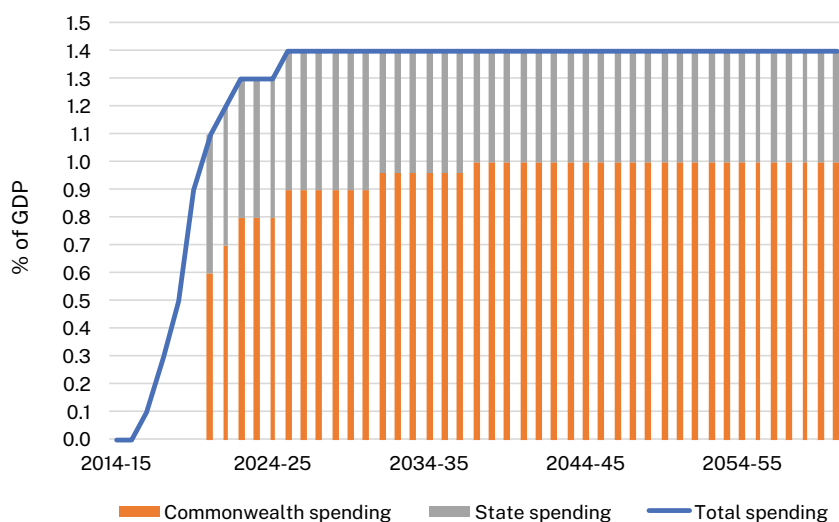
Nor does the IGR projection include continuing shifts in policy away from residential aged care to community care, changing patterns of disability and disease, the impact of industry restructuring, the role of technology, labour force shortages or current shortfalls in the quantity and quality of services. These are the kinds of factors that the Deloitte Access Economics (2020) model explored in the projections undertaken for the Royal Commission, and the kind of modelling needed to understand the future policy directions for aged care. The baseline model prepared by Deloitte Access Economics incorporates (among other factors) continued reduction in age-specific disability rates, strong growth in home-based care, somewhat lower growth in residential aged care and a 5.5 per cent per year increase in wages for skilled staff in the sector, leading to projected expenditure under existing policy of just under 1.4 per cent of GDP in 2050. Their modelling of three alternative scenarios allowed for exploration of the progressive implementation of higher levels of staffing in residential care, equivalent to the 3-, 4- and 5-star ratings discussed in the Royal Commission report. With these increased staffing levels taken into account, expenditure was projected to reach 1.7 per cent, 1.9 per cent and 2.2 per cent of GDP for 3-, 4- and 5-star quality residential aged care respectively.

There are in-text references to some of these factors in the IGR, but even in the textual analysis there is insufficient detail and an over-reliance on generalisations. For example, in terms of need for care the report states: 'A key driver of aged care spending is the number of people over the age of 70' (Commonwealth of Australia 2021a:103). This perspective ignores reductions in age-related disability, the changing age structure of the 70+ population and the continuing policy drive to shift from residential to home-based care. The problem with this perspective can be illustrated by history—between 1981 and 2021 the number of people aged 70 and over more than tripled while the number of residential care beds barely doubled, and occupancy rates went down.

It is important to have better predictors of need for care, and hence better projections of the associated pattern of government spending. National modelling of future aged care must avoid the situation that arose in March 2019 when 129,000 older Australians were on a waiting list for an approved aged-care package. Projections based on a business-as-usual approach are wholly inappropriate for a sector that has demonstrably failed the Australian community over the past decade.

## NDIS projections

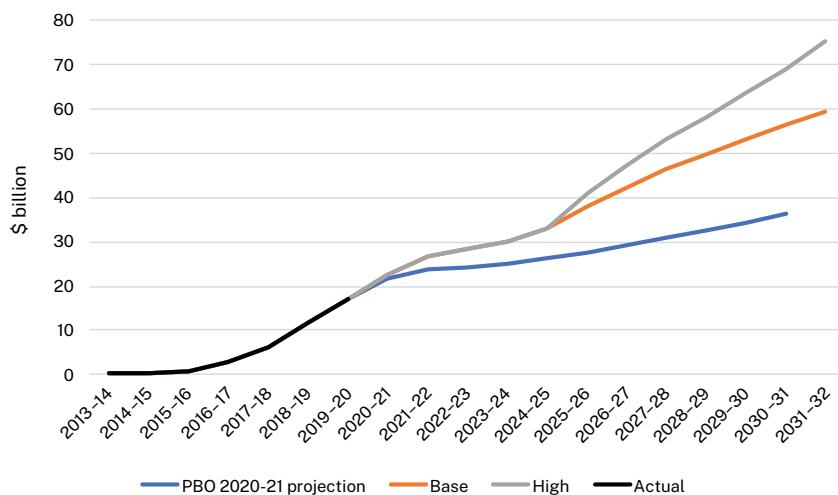
The NDIS is jointly funded by the Commonwealth and state/territory governments and in this instance the 2021 IGR projections include expenditure by both levels of government. Total spending is projected to grow from 1.2 per cent of GDP in 2020–21 to 1.5 per cent, then level out at 1.4 per cent over the latter years of the projection period. Commonwealth spending on the NDIS is projected to go from 0.7 per cent of GDP in 2021–02 to 1.0 per cent by 2031–32, remaining at that level for the latter part of the projection. The projection assumes that state contributions will fall as a percentage of total costs of the scheme (see Figure 9.6).



**Figure 9.6: Total government NDIS expenditure (Australian government and state/territory contribution) actuals (2013–14 to 2019–20) and IGR 2021 projections (2020–21 to 2060–61).**

Source: Commonwealth of Australia (2021b:Chart 7.3.1).

The NDIS began the transition to national coverage in 2016, and has only recently completed full national rollout. As is noted in the text of the 2021 IGR, there is consequently a degree of uncertainty around the full costs of the scheme, with unexpectedly high rates of growth in participant numbers and in average participant costs to date. As the rollout of the scheme matures, subsequent years of expenditure data will naturally provide a more robust basis for projections. Even when the scheme has stabilised, additional real growth could be expected associated with new technologies and new areas of demand. The uncertainties inherent in projection of NDIS future costs suggest that there would be significant benefits associated with undertaking sensitivity analyses or scenario forecasts of the kind undertaken by the Parliamentary Budget Office (PBO 2021). The PBO base scenario assumes a slowing of growth in participant numbers to match population growth by 2027–28, while the high scenario (see Figure 9.7) assumes growth at 4 percentage points above population growth per year. The high scenario includes higher rates of growth in per participant expenditure than the base scenario. This presentation of a range of future NDIS payment projections is arguably more suitable to a recent program such as the NDIS than a single line projection. The need for scenario-based projections is further underlined by the recent numbers released in the October 2022–23 budget forecasting a substantial increase over the medium term.



**Figure 9.7: Total government NDIS expenditure (Australian government and state/territory contribution) actuals (2013–14 to 2019–20) and PBO projections (2020–21 to 2031–32).**

Source: PBO (2021).



## The key drivers of growth of health, aged care and NDIS expenditure

As outlined in previous sections, a number of drivers are in play when looking to the future expenditure on health, aged care and NDIS services. While the IGR relies largely on population growth, age structure changes and historical service trends, we have argued that a more nuanced analysis would draw attention to several important factors that are worthy of further attention in the future. An alternative approach would rely not just on historical trends but consider how recent and emerging trends are likely to affect morbidity, service use, patterns of care and prices in the future.

In this section, we focus on volume of services, changing disease patterns, expected excess health price inflation and the ageing of the population. There is also, of course, the role of population growth—more people means more expenditure on health services. In the period from 2011–12 to 2018–19, the decomposition analysis showed population growth to be the single largest driver (at 1.5 per cent per year) of increased health expenditure. Changes in non-demographic factors, discussed in terms of their specific components below, accounted for 1.2 per cent per year, and population ageing for 0.9 per cent per year.

But there are other factors worthy of attention, as set out in Table 9.2. The age-specific rates of disability (declining over time at older ages), the role of technology, shifts in models of care (increased primary care in the health sector, increased home-based care in the aged-care sector), the role of informal care and of labour supply, and the contribution of state/territory and private payments are all important factors as we look to the future.

**Table 9.2: What is in the IGR and what could be in the IGR.**

	Health system	Aged-care system
Demographic drivers		
Population growth		
Population ageing		
Non-demographic drivers	Best fit (for each of hospital, medical, PBS and private health insurance to 2031)	Best fit 'aggregate' non demographic drivers (expenditure per person)
Prevalence of disease		
Prevalence of disability		
Volume of services		

	Health system	Aged-care system
Excess health or aged-care inflation		
Technology		
Impact of income growth		
Models of care		
Informal care		
Labour force supply		
State payment share		
Private payment share		

Legend: green = what is in the IGR; blue = what could be.

Source: Authors' summary.

## Growth in volume of services per case of disease

Volume of services delivered per case of disease has been a major driver of health expenditure in recent decades, though it is notable that the growth of this factor has moderated substantially in the most recent decade to 0.67 per cent per year (Table 9.1) compared to previous decades (Goss 2008, 2022). It is to be expected that, as income increases, more services will be delivered per case of disease. This is shown, for example, in the provision of more orthopaedic procedures to those with private health insurance (who have higher income/wealth). But this also illustrates the problem with understanding the drivers of increased service provision and the extent to which the increase leads to better health outcomes.

The 0.67 per cent annual growth rate in the period 2011–12 to 2018–19 represents a 7 per cent growth rate in services per case of disease when extrapolated over 10 years. The focus on the growth in services per case of disease does not address the extent to which there were gains in patient outcome: that is, whether the increase also delivered higher value. The availability of new technology is the major driver of increases in volume of services, and many new technologies are used in addition to the existing treatments but with better outcomes. New technologies often are more expensive replacements for older treatments. If new treatments and technologies deliver better patient outcomes, then there is the potential for improvements in productivity and participation.

From the perspective of a wellbeing framework, improvements in human capital associated with increased health and health-related expenditure could enhance social and economic sustainability rather than detract from it. From the perspective of the individual, a well-healed broken limb, a replaced disintegrating hip joint or the successful management of a chronic disease means not only enhanced quality of life, but the ability to continue to contribute to their families and their community.

Both the MBS and the PBS have established health technology assessment processes to establish value for money before new technologies are accepted for public funding. These focus on the technology in its recommended application; once listed, however, there is generally little constraint on the volume. In hospitals, technology assessments are not widely applied. The introduction of Activity Based Funding has constrained the cost growth per admission (casemix adjusted). But this is not an incentive to reduce low-value admissions. This may help to explain why the volume of services per case of disease growth is higher for admitted patient services than for the MBS. As a constraint on overall growth, the Commonwealth has also introduced a 6.5 per cent cap on the increase in its contribution to public hospital expenditure from 2017–18.

## **Expected changes in future expenditure for selected diseases**

Changing patterns of disease have major implications for future service use and life expectancy, and hence for expenditure relating to both health and aged-care services. Looking back, for example, the dramatic reduction in circulatory disease from the 1970s has had dramatic consequences for life expectancy and health expenditure that were not even imagined in the 1950s (Gibson and Goss 2020). The COVID-19 pandemic provides a more recent example of how unexpected changes in disease can have significant consequences for the health system. By their nature, future disease trends are difficult to predict with any certainty—but there are indicators of future changes that may be taken into account. Box 9.1 sets out some of the possible futures relating to dementia, diabetes and kidney disease, mental illness and cardiovascular disease, and provides a valuable illustration of the case for sensitivity analyses or scenario modelling in undertaking projections in the health and aged-care sectors.

### **Box 9.1: Trends in disease patterns and implications for future expenditure.**

#### **Dementia**

Dementia will continue to have a major impact on health and aged-care expenditure growth because of the ageing of the population and population growth. But it is expected that the age standardised rate of dementia will at least be stable and may well decline if the decline in the age-standardised incidence rate of dementia that has occurred in parts of the Western world in the last two decades continues (Wolters et al. 2020). If this happens, this will reduce pressure on health and aged-care expenditure growth. At the same time, there is good evidence from the Royal Commission that the quality of care being provided to people with dementia in aged care is well below community expectations (RCACQS 2021). If the recommendations of the Royal Commission are actioned, there is reason to expect increased growth in the volume of services per person devoted to dementia.

#### **Diabetes and kidney disease**

There has been an increase in the prevalence rates of diabetes and kidney disease in recent decades due to the increase in obesity and this increase is expected to continue (AIHW 2021a). This will lead to a need for extra expenditure for diabetes and kidney disease. And if more untreated diabetes is treated, this will increase the volume of services delivered per case of disease.

#### **Mental illness**

There is no evidence the age-standardised rate of mental illness is either decreasing or increasing. And because mental illness is concentrated in the young and middle-aged, the ageing factor does not increase future expenditure on mental illness. The main factor to watch with regard to mental illness is the growth in volume of services delivered per case of disease. This may be an area where, like dementia, the volume of services currently delivered per case of disease is below community expectations. Therefore governments may decide to increase services that improve mental health. However, this may not lead to extra health expenditure, because, as the Productivity Commission has shown, increasing expenditure on programs directed at social determinants of mental illness like early childhood experiences and education, poverty and unemployment may be more cost-effective for the society than increasing expenditure on hospital interventions to reduce mental illness (Productivity Commission 2020: Tables I1 and I2).

#### **Cardiovascular disease**

The age-standardised burden of cardiovascular disease has dropped by 41 per cent from 2003 to 2018. What might happen from 2021 to 2061 with the burden of cardiovascular disease and what might be the consequent impact on cardiovascular expenditure growth? Based on the trend in the last two decades, it is likely that cardiovascular disease burden rates will continue to decline quite significantly, but at a somewhat lower rate than the 2.9 per cent per year decline seen from 2011 to 2018 (AIHW 2021b).

## Expected excess health price inflation

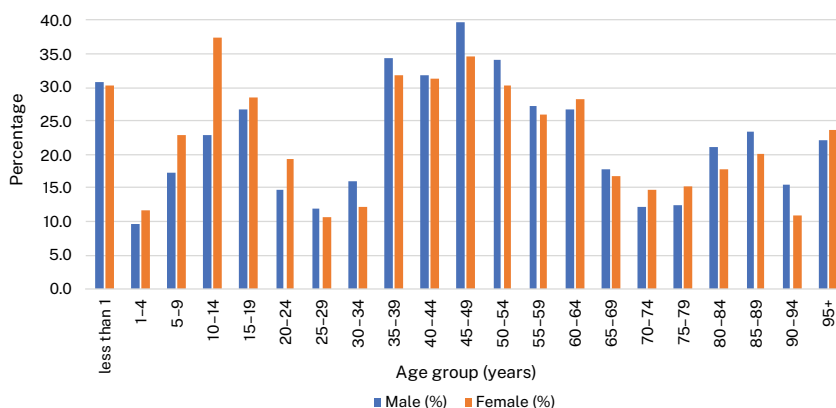
Over the past decade, the negative growth rate of excess health price inflation for medical services (−0.5 per cent per year) has partially offset the excess health price inflation for admitted patient services (0.7 per cent per year). This excess health price inflation for admitted patient services is expected to continue in the future as the healthcare services sector is labour intensive. It is notable that the excess health price inflation for medical services in the period 2011–12 to 2018–19 was negative. The prices for Medicare medical services increased by only 8.8 per cent in the seven years to 2018–19 (1.2 per cent per year) in comparison to the increase in the GNE deflator of 12.6 per cent (1.7 per cent per year). This artificial holding down of medical prices due to government policy cannot be expected to continue for much longer (and has almost certainly contributed to increased private expenditure), so excess medical price inflation is likely to increase once more. The impact on government expenditure may be constrained if more costs are shifted to out-of-pocket expenses. The question of what might be involved in excess price inflation for aged care is yet to be scrutinised in the economic literature.

## Ageing

Ageing is not the major driver of health expenditure growth. As shown in Table 9.1, it has been 0.9 per cent per year in the last decade for admitted patient and medical services. The fine print of the IGR always points out that the non-demographic growth rate (expected by the IGR to be 1.9 per cent per year in the next 40 years) is the larger driver of health expenditure growth, with demographic change accounting for 1.4 per cent per year. Of that 1.4 per cent, population growth rather than population ageing accounts for the larger share. Yet whenever the results are presented by politicians and reported on by journalists, there is always an emphasis on ageing being a major driver of health expenditure growth, and that ageing is a major challenge.

It is also frequently assumed that not only does the change in the age structure (that is, ageing) have a large impact on health expenditure growth, but also that a large amount of the increase in expenditure comes about because of a higher percentage increase in expenditure for the older age groups as compared to the young and middle-aged. Historically, however, this has not been the case. For the time period 2004–05 to 2012–13, admitted patient expenditure per person grew by 32 per cent for the age group 35 to 64 years, and by 17 per cent for the age group 65 years and over (see Figure 9.8).

MORE THAN FISCAL



**Figure 9.8: Growth in average total hospital admitted patient expenditure per person by age and sex, 2004-05 to 2012-13.**

Source: AIHW (2017).

If the 32 per cent growth rate for the 35–64-year-old age group is not constrained in the future, this age group will become the predominant source of pressure on hospital admitted patient expenditure growth.

The impact of the growth in the aged population will be largely dependent on the health status of those older age groups; whether those longer lifespans will mean a longer period of poor health and disability or a healthier old age with a delay in the onset of disease and frailty. The impact of a change in these assumptions has quite a substantial effect, as shown in the New South Wales IGR (Cheung et al. 2021) (see Table 9.3).

**Table 9.3: Sensitivity of total annual health expenditure growth to alternative morbidity scenarios calculated for the 2021 New South Wales IGR.**

Expense category	Compression of morbidity		Expansion of morbidity	
	Percentage point change from baseline			
	Male	Female	Male	Female
Hospital	-0.17	-0.12	+0.25	+0.20
Outpatients	-0.19	-0.09	+0.20	+0.10
Community	-0.19	-0.13	+0.33	+0.25

Source: Cheung et al. (2021).

## Impact of COVID-19

COVID-19 was an unexpected shock to the health system and indeed to the wider economy in 2019–20. We confine our comments to the health system, leaving others to comment on the broader economy-wide implications. The 2021 IGR shows a sudden large increase in healthcare expenditure for the years 2019–20 and 2020–21, then projects a return to pre-existing growth. There are several reasons why this assumption may not hold.

First, there may be a one-off but sustained increase in the cost of delivering health care. The need for increased testing and personal protective equipment can be expected to continue, even as case numbers decrease. The need to furlough infectious and potentially infected health staff will increase wage costs.

Second, there is already evidence of delayed diagnoses and initiation of treatment due to COVID-19. This can be expected to result in increased cases (the catch-up) and increased costs per case (more severe cases due to delays in diagnosis). In addition, the effects on the health workforce and other aspects of capacity will continue to stress the system.

Third, the current pandemic is not over, and there is every expectation that new variants and new infectious diseases are likely to arise. The likelihood of a pandemic is related to the size of the global population, and the extent of interaction (travel) between geographic areas. As both have risen enormously, the expected period of time until the ‘next pandemic’ is now much less than it was before.

## Discussion

The genesis of the IGR is a concern with the implications of an ageing population. This concern has changed remarkably little over the two decades of producing IGRs; the projected growth in future expenditure is widely interpreted as due to ageing. For example, the former treasurer in his media release said one of the key insights of the IGR is that ‘our population is growing slower and ageing faster than expected’ (Frydenberg 2021). The ABC said, in its report on the 2021 IGR:

A look 40 years into Australia's future shows that thanks in part to the pandemic the population is not going to grow as quickly as previously thought, meaning *a smaller economy will be tasked with managing the burden of a rapidly ageing population*. (Hitch 2021, emphasis added).

Later in the same report, the ABC states 'a large and ageing population that will continue to put greater stress on welfare and health services'.

Yet the evidence presented in this chapter finds population ageing is a modest driver of increasing expenditure, accounting for 24 per cent of health expenditure growth (Table 9.1).

Moreover, in a global context, Australia is projected to be 'the youngest among the English-speaking countries and the countries of Western Europe. It will also be younger than many of the current advanced economies in Asia' (McDonald 2016). An ageing population, rather than being seen as a difficulty that needs to be overcome, could be seen as an achievement as more people have the opportunity to live longer fuller lives. An older population contributes to the economy directly as older workers remain in the workforce, and indirectly through unpaid child care supporting greater female participation. The contributions made by older people are often underestimated. Drawing on the most recent Australian Bureau of Statistics data available, there were over 1 million employed persons aged 60 or over. Around one in five older people are volunteer workers up until age 80, when the proportion begins to drop. At age 65–69, 26 per cent were employed, 23 per cent undertaking volunteer work, 16 per cent caring for a person with a disability and 22 per cent providing child care (Gibson 2021).

The focus of the IGR on expenditure inevitably emphasises cost to taxpayers without acknowledging the benefits provided by that expenditure. Health expenditure must be understood as both an investment and a cost. Health benefits are improved length and quality of life. Health-related quality of life is more complex to measure than longevity, and even a higher prevalence of chronic conditions may reflect earlier diagnosis and treatment and improved rather than poorer functional ability. On the other hand, more health services may not always deliver better health outcomes. The quality of care in the Australian aged-care sector has been held up as a matter of national shame, and more aged-care expenditure is needed to deliver improved outcomes. While complex, more investigation of these issues is required to understand the value of a higher expenditure level, particularly as ageing is not the dominant factor behind projected expenditure growth.



The IGR estimates are based on a continuation of the growth trajectories of the previous two decades. Projections are most useful and policy relevant if they are based on a detailed understanding of the drivers of expenditure in the past. Moreover, patterns of change are not uniform across population subgroups. For example, in contrast to the standard assumption of greatest cost increases being incurred at older ages, the data show that the greatest impact of increased service intensity has been seen in the 35–64-year age group, rather than the post 70s and 80s.

This chapter also argues that changing prevalence of disease is an important consideration, as different diseases have different and likely changing treatment and expenditure consequences. A more sophisticated approach would use disaggregated information about recent trends in disease prevalence and treatment, and a more considered basis for projections than simple aggregate historical trends.

One of the missed opportunities of the 2021 IGR is that the analysis of drivers of health, aged care and NDIS expenditure in the past is inadequate. A more sophisticated approach would investigate how recent and emerging factors are likely to impact future expenditure and would provide a series of sensitivity analyses to allow more consideration of the robustness of the results.

The Commonwealth IGR presents only point estimates with regard to the drivers of health, aged care and NDIS expenditure growth. Yet the results are clearly sensitive to a range of assumptions about these expenditure growth drivers. In contrast, as shown earlier, the New South Wales IGR estimates how much projections will change if there is compression or expansion of morbidity, and the impact of using dynamic age cost indices rather than static age cost indices. The lack of accuracy in previous IGR projections in predicting actual growth is an indication that a more nuanced approach such as that employed in the New South Wales IGR is needed.

The 40-year projection period adopted in the first IGR remains unchanged and unchallenged two decades later. This long projection period is not well suited to the changing patterns of disability, disease, need for assistance and types of interventions available described in this chapter. The PBO focused on projections to 2031, while the Deloitte Access Economics scenarios undertaken for the Royal Commission project out to 2050. While a 40-year timeframe may have benefits for superannuation and income support planning, it is hard to see what the benefits are in planning for disability,

health and aged-care services when the medium term of 10 to 20 years is so critical to current planning. Given the nature of compound growth, it is misleading to go beyond 20 years for projections, as small misestimations in parameters have major impacts 30 or 40 years into the future.

In the aged-care and disability systems, there is the additional problem that, because there have been such major policy upheavals in recent years, the historical trends, on which the IGR business-as-usual projections are based, are rendered almost obsolete. Scenario analyses—rather than just projections with sensitivity analysis—are needed to deal with this issue.

Finally, the 2021 IGR takes a very narrow focus by considering Commonwealth expenditure only. The other main sources of financing are state/territory governments and individuals (through out-of-pocket expenses and private health insurance). Other entities including state governments and the Productivity Commission have partially addressed this shortcoming. Despite these contributions, in the Australian government IGR we continue to have only a partial picture of the health, aged-care and disability sectors. What should matter to individuals—who are both taxpayers and service consumers—is the total amount they have to pay for adequate services, care and support.

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