

## Future costs of aged care

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### Summary

This is a submission to the Royal Commission into Aged Care Quality and Safety, made on behalf of consumers. It is intended to help the Commission make costings of proposals to improve aged care, and to assess long-term trends.

Our cost estimates are shown below, as percentages of GDP in 19-20 and 39-40. Basis B are our best estimates, and bases A and C are guides to the possible range of outcomes.

<b>Estimate</b>	<b>Year</b>	<b>Basis A % of GDP</b>	<b>Basis B % of GDP</b>	<b>Basis C % of GDP</b>
Residential care actual funding	19-20	0.69%	0.70%	0.70%
Home care actual funding	19-20	0.18%	0.18%	0.18%
CHSP actual funding	19-20	0.13%	0.14%	0.15%
<b>Total aged care actual funding</b>	<b>19-20</b>	<b>1.00%</b>	<b>1.01%</b>	<b>1.03%</b>
Increases to give quality expected by community	19-20	0.04%	0.12%	0.19%
Increases to give reasonable return on equity	19-20	0.00%	0.05%	0.12%
Savings from controlled financial reporting	19-20	-0.03%	-0.05%	-0.08%
Increases to clear home care waiting lists	19-20	0.13%	0.14%	0.15%
<b>Funding increases needed</b>	<b>19-20</b>	<b>0.14%</b>	<b>0.26%</b>	<b>0.38%</b>
<b>Total aged care funding needed</b>	<b>19-20</b>	<b>1.14%</b>	<b>1.27%</b>	<b>1.41%</b>
Residential care funding needed	39-40	0.91%	1.19%	1.73%
Home care funding needed	39-40	0.59%	0.81%	1.11%
CHSP funding needed	39-40	0.11%	0.15%	0.25%
<b>Total aged care funding needed</b>	<b>39-40</b>	<b>1.60%</b>	<b>2.15%</b>	<b>3.09%</b>

Commonwealth funding in 19-20 was about 1.0% of GDP, and might need to increase by about 0.26% of GDP to provide the quality of care expected by the community, resolve financial issues and clear home waiting lists. Total funding might need to increase to about 2.2% of GDP by 39-40 if funding growth per resident in excess of AWE continues.

The estimates of the cost of providing residential care of acceptable quality are based on the Royal Commission's research papers 1 and 9. Other estimates are ours, based on the latest available data.

## 1. Introduction

This submission is intended to help the Commission make costings of the present system, and of proposals for improvement. It is written in response to the Commission's consultation paper 2 [1], and its research papers 1 and 9 [2,3].

To allow our estimates to be readily updated as new data become available, the submission has been written as an Excel workbook.

## 2. Data

### 2.1 Published data used in this submission

Source	Subject	Period	Published
ABS	Population projections Australia	2017-2066	Nov-18
ABS	Consumer price index	Jun-20	Jul-20
ABS	Average weekly earnings	May-20	Aug-20
ABS	Labour force	Jul-20	Aug-20
ABS	Australian national accounts	Jun-20	Sep-20
ACFA	Funding and financing of aged care sector	18-19	Jul-20
AIHW	Aged care data snapshot 2019	18-19	Sep-19
DoH	The aged care workforce 2016	2016	2017
DoH	Report on the operation of the Aged Care Act 1997	18-19	Nov-19
DoH	Home care packages program	Mar-20	Jul-20
PC	Report on government services 2020	18-19	Feb-20

### 2.2 Unit record data

We have used AIHW data on individual ACFI assessments [4] to supplement the published data on the ages of persons in permanent residential care.

## 3. Assumptions

### 3.1 Allowance for uncertainties

There are considerable uncertainties in the assumptions underlying our estimates. To give some idea of the effects of these uncertainties, we have made estimates using three different sets of assumptions. Basis A assumptions are intended to give reasonably low estimates of aged care costs, basis B are our best estimates and basis C assumptions are intended to give reasonably high estimates.

### 3.2 Effects of COVID-19

We have tried to allow for the possible effects of COVID-19, although it is still too early to make reasonable estimates. In the short-term, numbers in residential care may drop slightly. GDP dropped 7% in the last quarter of 19-20, and may not increase in 20-21.

Until an effective vaccine is developed and widely used, it is likely that the numbers of tertiary

students from overseas will be low. Immigration will suffer in consequence. The numbers of persons needing aged care will not be much affected, but the numbers in the working population will be reduced.

### 3.3 Assumptions leading to estimates for present system in 19-20

Assumption	Period	Basis A	Basis B	Basis C
Resident number growth	18-19 to 19-20	0.8%	1.2%	1.6%
Real resident funding growth	18-19 to 19-20	0.5%	1.0%	1.5%
Real resident expenses growth	18-19 to 19-20	0.2%	2.2%	4.2%
Residential revenue growth	18-19 to 19-20	3.0%	6.0%	9.0%
Residential asset growth	18-19 to 19-20	7.0%	9.0%	11.0%
Residential profit as % revenue	19-20	5.0%	2.0%	-1.0%
Home care recipient numbers	last quarter 19-20	0%	5%	10%
CHSP recipient numbers	18-19 to 19-20	-3%	0%	3%
Real growth per CHSP recipient	18-19 to 19-20	-3%	0%	3%

Real funding per resident, and real expenses per resident, are measured relative to AWE. As actual data become available by the end of 2020, the resident and recipient number growth assumptions will not be needed.

### 3.4 Assumptions about equity and return on equity for residential care providers

Assumption	Source	Basis A	Basis B	Basis C
Target equity as a % of liabilities	4.2	20%	25%	30%
Target return pa on equity	4.3	8%	10%	12%

### 3.5 Assumptions about savings from controlled financial reporting

Assumption	Period	Source	Basis A	Basis B	Basis C
Reduction in reported expenses	19-20	4.8	2.5%	5.0%	7.5%

### 3.6 Uncertainties in estimates of effects of clearing home care queues

Assumption	Basis A	Basis B	Basis C
% of persons without interim package who would accept	90%	95%	100%
Uncertainty in savings for persons with interim packages	-20%	0%	20%

### 3.7 Assumptions about growth from 19-20 to 39-40

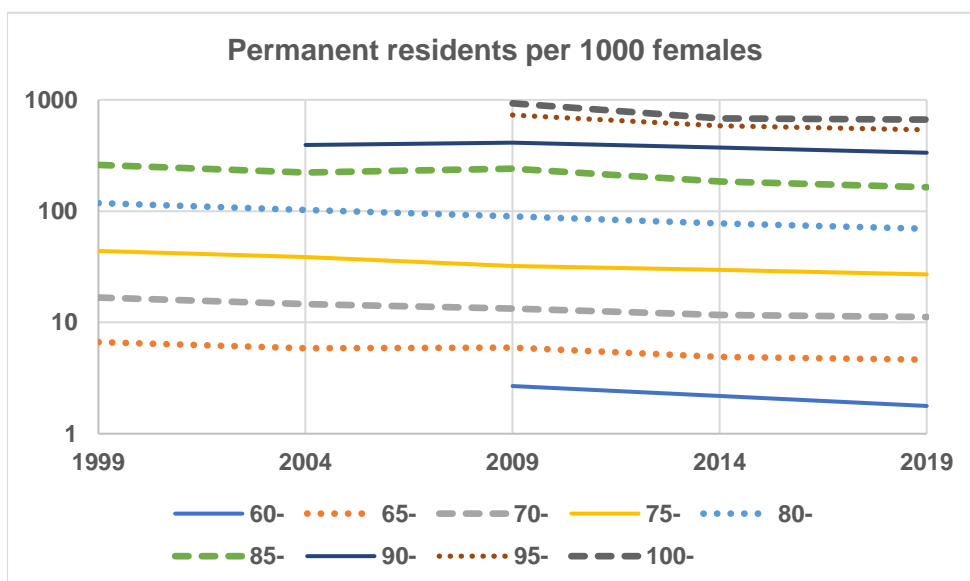
Assumption	Source	Basis A	Basis B	Basis C
Resident number growth pa	4.1	0.8%	1.2%	1.6%
Home care number growth pa		0.8%	1.2%	1.6%
Real resident funding growth pa	4.4	0.5%	1.0%	1.5%
Real home care funding growth pa		0.5%	1.0%	1.5%
CHSP recipients growth pa	6.1	-1.0%	0.0%	1.0%
Real growth pa per CHSP recipient	6.1	-1.0%	0.0%	1.0%
AWE growth pa	3.8	2.0%	2.5%	3.0%
GDP growth pa	3.8	2.0%	2.8%	3.0%

### 3.8 Sources for AWE and GDP growth assumptions

AWE growth rates over the 7 years to 19-20 averaged 2.5% pa, while GDP growth rates averaged 3.8% pa (see A11). We have assumed that long-term AWE growth will remain at 2.5% pa, while GDP growth drops to 2.8% pa. Treasury is likely to release updated assumptions by the end of 2020, as part of its "Mid-year economic and fiscal outlook".

## 4. Residential care

### 4.1 Estimates of growth rates in resident numbers from 18-19 to 39-40



The numbers of females in residential care in each age group, per 1000 females in the age group, have been dropping for 20 years. Similar trends have applied for males (see A5). Assuming these trends continue, and the numbers in each age group in series B of ABS's latest population projections, we have estimated the numbers of persons in residential care in 39-40.

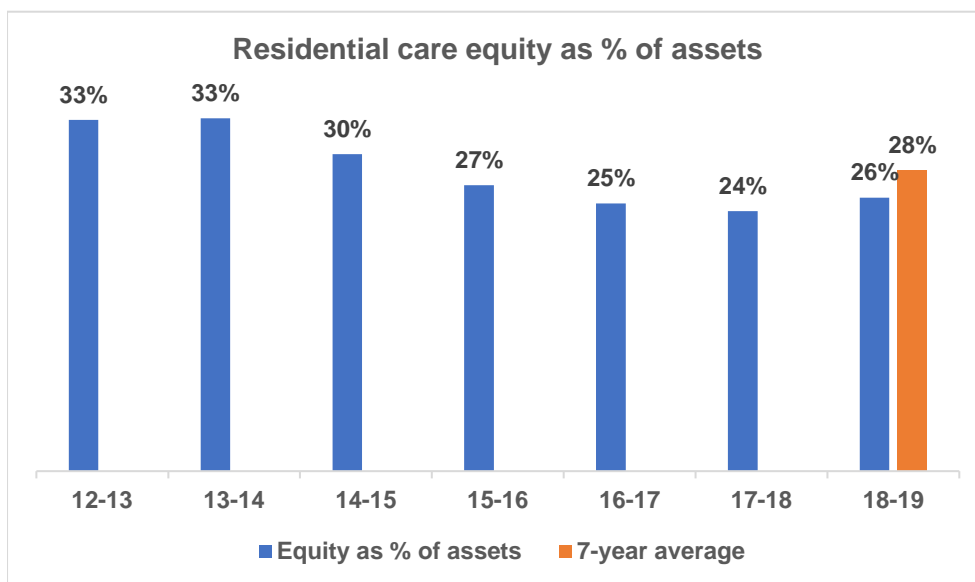
This gave the following growth rates in numbers of persons in permanent residential care

Assumption	Source	Number Jun-19	Number Jun-40	Growth pa
Age specific growth rates as in the 10 years to 2019	A7	182705	214773	0.77%
Age specific growth rates as in the 20 years to 2019	A9	182705	252088	1.54%

Based on these estimates, and on recent resident number growth, we chose the following resident number growth assumptions:

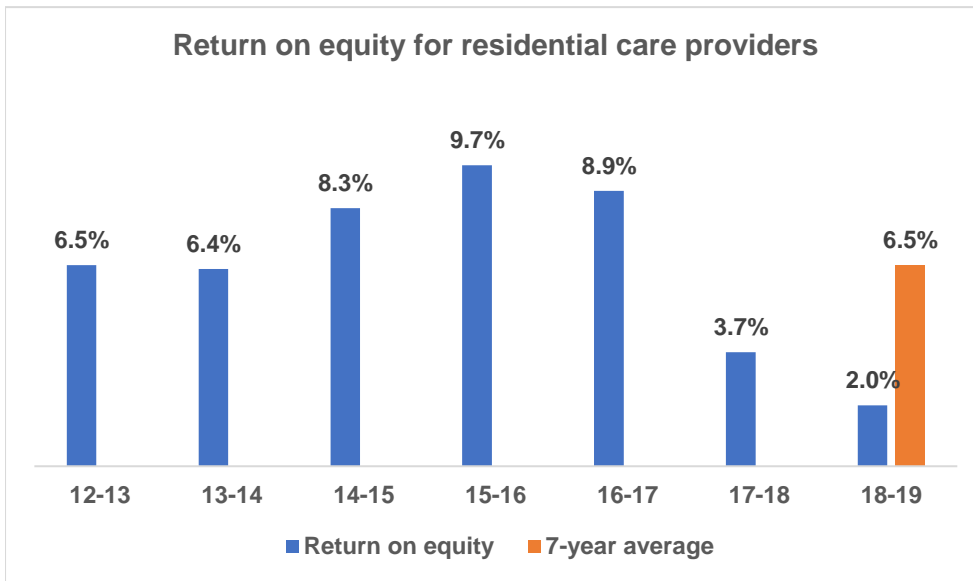
Assumption	Basis A	Basis B	Basis C
Growth from 18-19 to 19-20	0.8%	1.2%	1.6%
Growth pa from 19-20 to 39-40	0.8%	1.2%	1.6%

#### 4.2 Equity as a % of assets



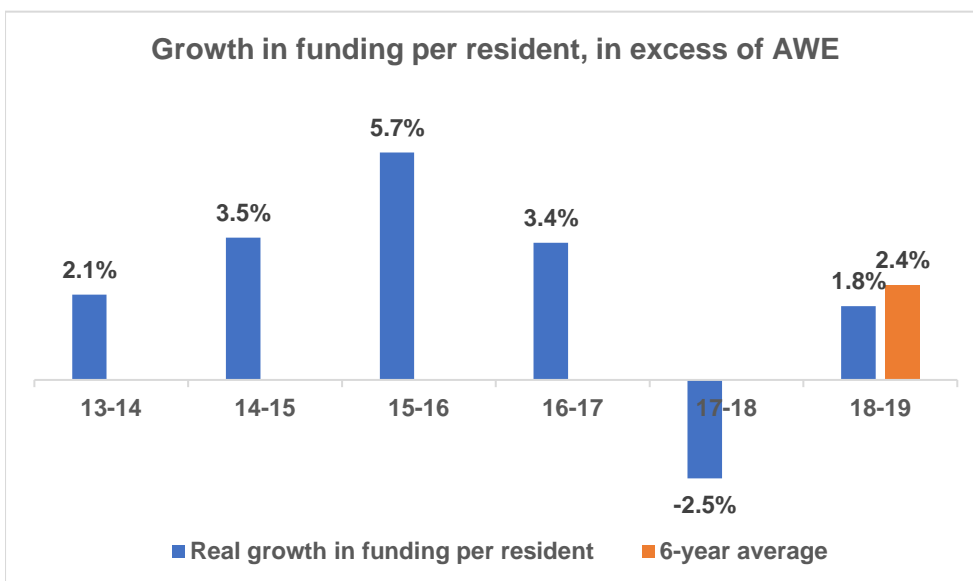
Source figures are in A15. The assumptions in 3.4, ranging from 20% to 30% are based on the levels discussed in industry consultations and in consultant reports to the Department of Health.

### 4.3 Return on equity



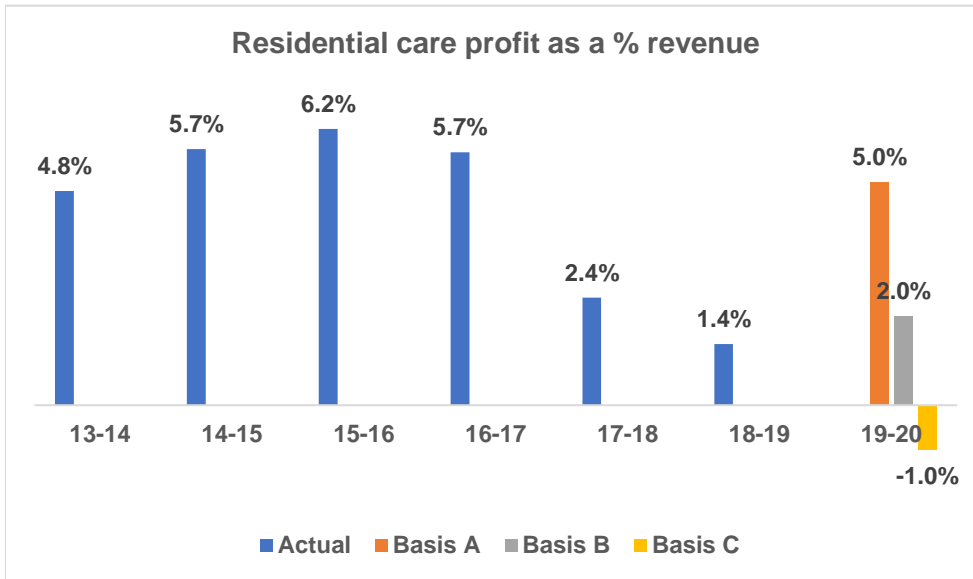
Source figures are in A15. The assumptions in 3.4, ranging from 8% to 12% are based on the actual rates of return achieved by deposit-taking institutions under the control of APRA.

### 4.4 Growth in Commonwealth funding per resident, in excess of AWE



Source figures are in A13. The assumptions in 3.3 and 3.7, ranging from 0.5% to 1.5% are based on the previous 6 years, but assume better control over funding per resident increases in excess of AWE.

#### 4.5 Reported profit as a % of revenue



Source figures are in A15 and 3.3. The assumptions are based on recent years.

#### 4.6 Funding increases needed to give quality acceptable to the community - paper 1

Research paper 1 estimated that the following increases in total care staffing would be required to achieve 3, 4 or 5 gold stars under the USA CMS system:

Gold stars	Increase in care staffing	Expense increase as % GDP
3	20.0%	0.101%
4	37.2%	0.195%
5	49.4%	0.273%

Increases in care staffing are from page 1 of paper 1. Estimated expense increases as a % of GDP are from A22.

#### 4.7 Funding increases needed to give quality acceptable to the community - paper 9

Research paper 9 used a wide range of quality indicators to group residential care facilities into three quality levels, with 1 being the highest level:

Number of beds	Bed-days Quality 1	Bed-days Quality 1	Bed-days Quality 3	Bed-days Total	% bed-days Quality 1	% bed-days Quality 1	% bed-days Quality 3
<30 beds	10823	785573	44534	840930	1.3%	93.4%	5.3%
30+beds	3665152	55181363	9116929	67963444	5.4%	81.2%	13.4%
Total	3675975	55966936	9161463	68804374	5.3%	81.3%	13.3%

The paper used a frontier cost approach to conclude that the average cost efficiency was around 88% during the study period of 14-15 to 18-19. An average efficiency of 75% has been

estimated for residential aged care internationally, and 82% for hospitals in Australia.

The paper used its efficient cost estimates to estimate that raising all the facilities to the highest quality levels for their size-range would increase total costs by 4%. This is a surprisingly low increase, given that the facilities assessed at quality level 1 only account for about 5% of all bed days. In A18 we estimate a 4% increase in total costs would be equal to about 0.041% of GDP. We used this as our basis A estimate, and the estimate in 4.6 as our basis C estimate. Our basis B estimate is halfway between basis A and C.

Paper 9 also estimated that raising all the facilities to the highest quality level, assuming the cost model for homes with less than 30 beds, would increase total costs by 20.6%. This appears to assume that all homes would be restricted to less than 30 beds, and does not seem plausible.

#### **4.8 Savings from controlled financial reporting**

Example A1.1 of a Department of Health discussion paper [5] involved two trustee companies, two unit trusts, a related party service company, a related party unit trust, and a family unit trust. Other complex examples are in the discussion paper, and in Ward [6]. The discussion paper commented:

*“There is limited transparency and disclosure of financial practices of providers who have trusts in their structure or those who operate their services through trusts. These structures are opaque in terms of what assets they hold, who the beneficiaries are and for what purposes the funds are used.”*

Complex structures, with or without trusts, can greatly increase the risks of provider failures, with assets held by related parties but not available to repay accommodation payments. Complex structures also make it impossible to judge the overall profitability of aged care, so that the government may increase subsidies even when true profitability is high.

We consider that controlled financial reporting should apply to residential care providers, similar to that applied by APRA to deposit-taking institutions. Acceptable financial structures, reporting standards and minimum prudential margins should be defined by regulation. Quarterly statistics should be published of key revenue account and balance sheets for each provider, including the extent of their compliance with prudential requirements.

On the scant evidence now available, it is very hard to estimate the savings potentially available from controlled financial reporting by residential care providers. Savings are more likely to come from for-profit providers, as they have tax incentives to overstate their expenses. We have assumed savings of between 2.5% and 7.5% of published expenses.



## 4.9 Summary of residential care estimates

Estimate	Year	Source	Basis A % of GDP	Basis B % of GDP	Basis C % of GDP
Actual funding	19-20	A14	0.690%	0.696%	0.702%
Increases to give quality expected	19-20	A23	0.041%	0.118%	0.195%
Increases to give reasonable return	19-20	A24	-0.005%	0.052%	0.117%
Savings from controlled reporting	19-20	A25	-0.025%	-0.052%	-0.079%
Funding increases needed	19-20		0.012%	0.118%	0.232%
Funding needed	19-20		0.701%	0.814%	0.934%
Funding needed	39-40	A26	0.909%	1.189%	1.728%

## 5. Home care

### 5.1 Estimation method

Following the introduction on 27 February 2017 of individual entitlements to home care, the numbers of persons in home care rose from 70,579 at 31 March 2017 to about 144000 at 30 June 2020 (see C4). About 29000 of these were receiving interim packages at levels below those they had been approved for (C11.1). In addition, there were about 80000 persons approved for home care but still waiting to be assigned a package (C10.1)

We have estimated future home care subsidies by assuming that all persons approved for home care receive a package at their approved level immediately, and that the numbers in home care then increase in line with the numbers in residential care.

### 5.2 Summary of home care estimates

Estimate	Year	Source	Basis A % of GDP	Basis B % of GDP	Basis C % of GDP
Actual funding	19-20	C9	0.18%	0.18%	0.18%
Increases to clear waiting lists	19-20	C11	0.13%	0.14%	0.15%
Total funding needed	19-20		0.31%	0.32%	0.33%
Total funding needed	39-40	C12	0.59%	0.81%	1.11%

## 6. Commonwealth Home Support Programme

### 6.1 Government policy

*"In the 2019-20 Budget, the Australian Government extended funding agreements with the CHSP providers by a further two years, after a similar two-year extension in the 2017-18 Budget. This means that the CHSP and Home Care Packages Program will continue to operate as separate programs until at least mid-2022." [6, p40]*

Taking into account the assumed clearance of the home care waiting lists, we have assumed zero long-term growth in the numbers of CHSP recipients, and in the real payments per CHSP recipient.

## 5.2 Summary of CHSP estimates

Estimate	Year	Source	Basis A % of GDP	Basis B % of GDP	Basis C % of GDP
Actual funding	19-20	D1	0.13%	0.14%	0.15%
Funding needed	39-40	D3	0.11%	0.15%	0.25%

## 7. Comparisons with other estimates

### 7.1 Estimated cost of clearing home care waiting lists

In evidence to the Commission on 22 March 2019, Fiona Buffinton estimated the cost of providing home care packages at the approved levels, with a 3-month wait, as of the order of \$2.0 to \$2.5 billion. This is similar to the \$2.5 to \$3.0 billion that we have estimated for 19-20 (see C11.6), assuming zero waits.

### 7.2 Estimates in consultation paper 2

The Commission's "Financing aged care - consultation paper 2 - June 20" said

*"Costings of specific proposals to improve aged care are in preparation, but to provide an estimate of the impact we are using a range of an additional 50% to 100% in the relevant expenditure base."*[1, p8]

For comparison, our estimates are

Estimate	Year	Basis A % of GDP	Basis B % of GDP	Basis C % of GDP
Total aged care actual funding	19-20	1.00%	1.01%	1.03%
Increases to give quality expected by community	19-20	0.04%	0.12%	0.19%
Increases to give reasonable return on equity	19-20	0.00%	0.05%	0.12%
Savings from controlled financial reporting	19-20	-0.03%	-0.05%	-0.08%
Increases to clear home care waiting lists	19-20	0.13%	0.14%	0.15%
Funding increases needed	19-20	0.14%	0.26%	0.38%
Increases needed, as % of actual		14%	25%	37%

Our estimates of the increases needed to give the residential care quality expected by the community have been strongly influenced by the low estimates in research paper 9, released on August 27 2020.

## 8. Discussion

### 8.1 Need for quarterly publications

In 2017 the Department of Health introduced quarterly publications giving data and comments on home care packages. There is a strong need for similar quarterly publications on residential aged care, CHSP and the finances of aged care providers. Lack of up-to-date data has created unnecessary uncertainties in our estimates for 19-20.

## **8.2 Lack of reliable quality measures**

The wide estimates of the costs of providing acceptable residential care quality in research papers 1 and 2 reflect the lack of quantitative measures of quality. Cumpston and Bail [8] have suggested that modern technology could make a wide range of quality measures feasible at low cost.

## **8.3 Long-term increases in aged care funding per resident, above AWE**

In the six years to 18-19, funding per resident increased at an average of 2.4% per annum above AWE (see 4.4). We suspect that these high increases reflect poorly controlled assessment procedures, rather than increases in resident care needs. Our estimates of residential care costs in 39-40 assume that increases above AWE can be better controlled.

## Abbreviations

ABS	Australian Bureau of Statistics
ACFA	Aged Care Financing Authority
ACFI	Aged Care Funding Instrument
AIHW	Australian Institute of Health and Welfare
APRA	Australian Prudential Regulatory Authority
AWE	Average weekly ordinary time earnings for full-time employees
CHSP	Commonwealth Home Support Programme
CPI	Consumer Price Index
DoH	Australian Department of Health
GDP	Gross Domestic Product
LCL	Lower confidence limit
PC	Productivity Commission
RAS	Regional Assessment Service
ROACA	Report on the Operation of the Aged Care Act 1997
SD	Standard deviation
UCL	Upper confidence limit

## References

- [1] Royal Commission into Aged Care Quality and Safety. *Financing aged care - consultation paper 2, June 2020*. Downloaded 4 August 2020 from <https://agedcare.royalcommission.gov.au/publications/consultation-paper-2-financing-aged-care>
- [2] Royal Commission into Aged Care Quality and Safety. *How Australian residential aged care staff compare with international and national benchmarks - research paper 1, October 2019*. Downloaded 31 August 2020 from <https://agedcare.royalcommission.gov.au/news-and-media/research-paper-1-how-australian-residential-aged-care-staffing-levels-compare-international-and-national-benchmarks>
- [3] Royal Commission into Aged Care Quality and Safety. *The cost of residential aged care - research paper 9, August 2020*. Downloaded 28 August 2020 from <https://agedcare.royalcommission.gov.au/publications/research-paper-9-cost-residential-aged-care>
- [4] AIHW. ACFI data supplied by in response to data request R1920\_3935.
- [5] Department of Health. *Managing prudential risk in residential aged care - discussion paper February 2019*. Downloaded 3 February 2019 from <https://consultations.health.gov.au/residential-and-flexi-aged-care-division/managing-prudential-risk-in-residential-aged-care/>
- [6] Ward J. *Tax avoidance by for-profit aged care companies: Profit shifting on public funds - report to Taxation Justice Network - Australia*. Downloaded 20 June 2018 from [http://anmf.org.au/documents/reports/ANMF\\_Tax\\_Avoidance\\_Full\\_Report.pdf](http://anmf.org.au/documents/reports/ANMF_Tax_Avoidance_Full_Report.pdf)
- [7] Aged Care Financing Authority. *Eighth report on the funding and financing of the aged care sector July 2020*. Available from <https://www.health.gov.au/resources/publications/eighth-report-on-the-funding-and-financing-of-the-aged-care-industry-july-2020>
- [8] Cumpston JR & Bail K. *Data on residential aged care quality*. Submission to the Royal Commission into Aged Care Quality and Safety on 11 February 2019. Available from <https://www.australianprojections.com.au/publications/data-on-residential-aged-care-quality>

## Appendix A: Residential care

### A1 Population estimates (000s)

Sex & age	1999	1999	2004	2009	2014	2019	2040
Females							
0-	619.3	619.3	614.3	637.6	751.3	786.3	1137.7
5-	649.0	649.0	647.7	653.2	725.9	790.8	1123.5
10-	642.7	642.7	675.6	681.2	688.4	758.5	1096.2
15-	650.0	650.0	668.4	689.0	717.2	732.7	1056.8
20-	666.4	666.4	678.3	723.5	806.3	859.7	1106.9
25-	736.3	736.3	672.6	696.5	864.0	954.7	1211.3
30-	707.9	707.9	765.2	748.1	853.4	960.0	1254.2
35-	754.9	754.9	735.2	766.9	785.2	898.6	1215.2
40-	711.6	711.6	774.1	771.6	843.7	803.6	1214.4
45-	663.4	663.4	721.2	754.1	779.8	854.1	1167.5
50-	592.6	592.6	664.7	684.9	789.8	784.5	1086.3
55-	450.9	450.9	596.3	635.9	722.5	788.5	974.8
60-	378.9	378.9	448.1	493.2	639.8	713.4	827.3
65-	346.2	346.2	378.0	395.3	563.9	629.7	830.2
70-	329.2	329.2	327.0	327.3	417.3	538.5	751.7
75-	282.3	282.3	302.1	299.9	322.0	382.4	696.4
80-	178.1	178.1	230.3	239.6	252.4	276.0	570.9
85-	166.8	105.7	128.0	139.0	180.1	183.0	388.4
90-		46.8	56.7	61.7	86.6	97.7	203.1
95-		12.0	14.5	15.1	21.0	29.4	54.9
100-		2.4	2.9	2.0	3.6	4.1	11.2
<b>Total</b>	<b>9526.5</b>	<b>9526.5</b>	<b>10101.0</b>	<b>10415.4</b>	<b>11814.1</b>	<b>12826.1</b>	<b>17978.7</b>
Males							
0-	653.2	653.2	647.0	672.4	792.3	830.3	1199.9
5-	683.5	683.5	682.3	687.1	766.3	832.4	1183.2
10-	674.4	674.4	711.9	718.9	723.7	800.8	1153.6
15-	684.2	684.2	702.0	726.2	756.3	771.0	1110.6
20-	694.5	694.5	714.0	748.3	840.0	900.4	1158.4
25-	743.2	743.2	683.7	707.5	885.2	964.5	1242.8
30-	704.5	704.5	755.6	741.7	862.4	938.2	1264.0
35-	752.2	752.2	726.3	757.9	782.2	888.3	1212.8
40-	708.7	708.7	768.6	761.0	829.9	795.4	1199.4
45-	665.2	665.2	712.4	739.4	766.6	826.1	1137.9
50-	612.4	612.4	658.0	677.4	773.1	750.3	1032.8
55-	466.6	466.6	606.5	635.6	704.7	758.0	928.5
60-	378.5	378.5	456.8	496.2	623.8	676.9	784.2
65-	331.8	331.8	368.4	386.1	554.5	595.9	768.1
70-	289.7	289.7	301.4	303.6	400.4	517.9	676.6
75-	213.2	213.2	247.6	252.7	288.7	350.0	622.7
80-	110.5	110.5	154.5	166.2	195.9	226.9	489.2
85-	74.2	52.1	65.7	75.4	114.4	127.8	309.9
90-		17.3	21.9	24.2	41.5	53.6	153.2
95-		3.7	4.6	4.3	7.2	12.0	38.1
100-		1.1	1.4	0.5	0.9	1.3	6.4
<b>Total</b>	<b>9440.5</b>	<b>9440.5</b>	<b>9990.5</b>	<b>10282.4</b>	<b>11710.0</b>	<b>12618.0</b>	<b>17672.3</b>

Population estimates are the middle series values from:

1999	<a href="https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3222.01999">https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3222.01999</a>
2004	<a href="https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3222.02004">https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3222.02004</a>
2009	<a href="https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3222.02006">https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3222.02006</a>
2014	<a href="https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3222.02012">https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3222.02012</a>

Persons aged 85 and over were grouped in the 1999 population projections. In the third column of A1, they have been split according to the 2004 projections.

## A2 Permanent residents at 30 June

Sex & age	1999	2004	2009	2014	2019
Females					
0-59	0	0	1416	1255	1103
60	2791	2968	1286	1379	1264
65	2304	2209	2286	2723	2909
70	5511	4786	4230	4811	6017
75	12399	11686	9395	9455	10314
80	21048	23635	20920	19330	19142
85	27517	28492	32603	32763	29986
90	24454	22321	24743	31774	32647
95		8540	10717	12123	15803
100+			1792	2447	2711
<b>Total</b>			<b>109388</b>	<b>118060</b>	<b>121896</b>
<b>Published</b>	<b>96024</b>	<b>104637</b>	<b>112471</b>		<b>122075</b>
<b>Ratio</b>			<b>1.028</b>	<b>1.014</b>	<b>1.001</b>
Males					
0-59			1595	1459	1243
60	3151	3272	1518	1652	1558
65	2272	2230	2438	3051	3342
70	4313	3934	3806	4628	5751
75	6384	6768	6102	6900	7995
80	7609	9277	9603	10201	11061
85	7617	8265	10958	12990	13324
90	5050	5106	6594	9537	11487
95		1505	2129	2736	4266
100+			258	371	463
<b>Total</b>			<b>45001</b>	<b>53525</b>	<b>60490</b>
<b>Published</b>	<b>36396</b>	<b>40357</b>	<b>46414</b>		<b>60630</b>
<b>Ratio</b>			<b>1.031</b>	<b>1.014</b>	<b>1.002</b>

Numbers at 30 June 1999 are from AIHW "Residential aged care facilities in Australia 1998-99 - a statistical overview". Numbers at 30 June 2004 are from AIHW "Residential aged care in Australia 2003-04 - a statistical overview". Numbers at 30 June 2009, 2014 and 2019 are from ACFI data supplied by AIHW in response to data request R1920\_3935. Published totals at 30 June 2009 are from AIHW "Residential aged care in Australia 2008-09 - a statistical overview". Published totals at 30 June 2014 are estimates based on table 22 of Department of Health "2013-14 report on the operation of the Aged Care Act 1997"

### A3 Permanent residents - ACFI data adjusted to balance

Sex & age	1999	2004	2009	2014	2019
<b>Females</b>					
60-			1322	1398	1266
65-	2304	2209	2350	2761	2913
70-	5511	4786	4349	4878	6026
75-	12399	11686	9660	9587	10329
80-	21048	23635	21510	19599	19170
85-	27517	28492	33522	33219	30030
90-		22321	25440	32216	32695
95-			11019	12292	15826
100-			1843	2481	2715
<b>Total</b>	<b>68779</b>	<b>93129</b>	<b>111015</b>	<b>118431</b>	<b>120970</b>
<b>Published</b>	<b>68779</b>	<b>93129</b>	<b>112471</b>		<b>122075</b>
<b>Males</b>					
60-			1566	1675	1562
65-	2272	2230	2515	3093	3350
70-	4313	3934	3926	4692	5764
75-	6384	6768	6294	6996	8014
80-	7609	9277	9905	10343	11087
85-	7617	8265	11302	13171	13355
90-		5106	6801	9670	11514
95-			2196	2774	4276
100-			266	376	464
<b>Total</b>	<b>28195</b>	<b>35580</b>	<b>44771</b>	<b>52790</b>	<b>59386</b>
<b>Published</b>	<b>28195</b>	<b>35580</b>	<b>46414</b>		<b>60630</b>
<b>Published permanent residents</b>	<b>96974</b>	<b>128709</b>	<b>158885</b>	<b>171221</b>	<b>182705</b>

Persons below 65 have been excluded at 30 June 1999 and 2004, as the published figures are for all ages below 65.

Persons 90-94 have been excluded at 30 June 1999, as the published figures are for ages 90+.

Persons 95-99 have been excluded at 30 June 2004, as the published figures are for ages 95+.

#### A4 Permanent residents per 1000 persons

Age	F 1999	F 2004	F 2009	F 2014	F 2019
60-			2.7	2.2	1.8
65-	6.7	5.8	5.9	4.9	4.6
70-	16.7	14.6	13.3	11.7	11.2
75-	43.9	38.7	32.2	29.8	27.0
80-	118.2	102.6	89.8	77.7	69.4
85-	260.4	222.6	241.2	184.4	164.1
90-		393.9	412.6	372.2	334.8
95-			730.2	586.7	538.0
100-			930.8	680.5	664.8

Age	M 1999	M 2004	M 2009	M 2014	M 2019
60-			3.2	2.7	2.3
65-	6.8	6.1	6.5	5.6	5.6
70-	14.9	13.1	12.9	11.7	11.1
75-	29.9	27.3	24.9	24.2	22.9
80-	68.9	60.0	59.6	52.8	48.9
85-	146.2	125.8	149.8	115.1	104.5
90-		233.5	281.4	233.0	214.8
95-			510.0	383.2	356.7
100-			578.3	409.6	359.4

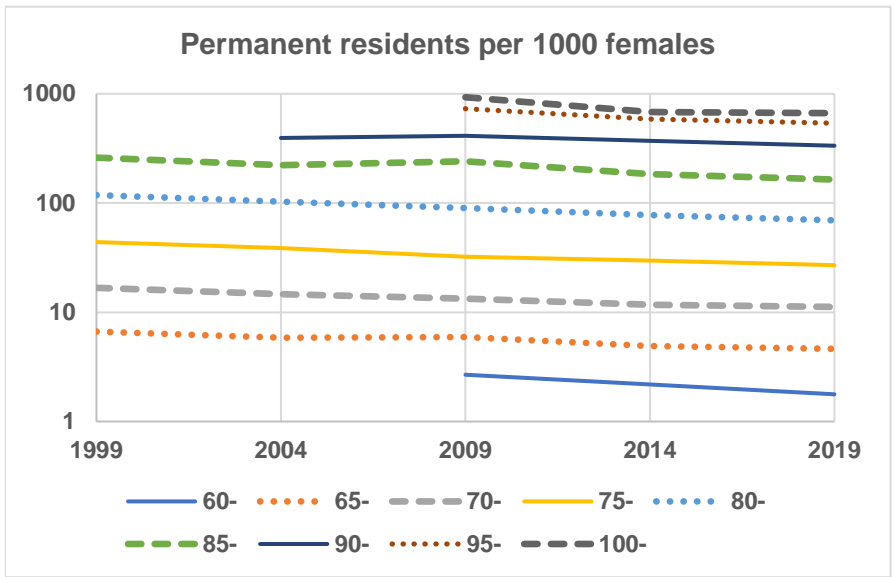
For example, permanent residents per 1000 males aged 85-89 at 30 June 2004 were estimated as  
 male permanent residents aged 85-89 at 30 June 2004 (from A2) 8265.0  
 divided by males aged 85-89 at 30 June 2004 (A1.2) 65.7  
 ie 125.8

#### A5 Annual rates of change in residents per 1000 persons

Age	Females 1999-19	Females 2004-19	Females 2009-19	Males 1999-19	Males 2004-19	Males 2009-19
60			-4.0%			-3.1%
65	-1.8%	-1.5%	-2.5%	-1.0%	-0.5%	-1.5%
70	-2.0%	-1.8%	-1.7%	-1.4%	-1.1%	-1.5%
75	-2.4%	-2.4%	-1.7%	-1.3%	-1.2%	-0.8%
80	-2.6%	-2.6%	-2.5%	-1.7%	-1.4%	-2.0%
85	-2.3%	-2.0%	-3.8%	-1.7%	-1.2%	-3.5%
90		-1.1%	-2.1%		-0.6%	-2.7%
95			-3.0%			-3.5%
100			-3.3%			-4.6%

For example, the growth rate from 1999 to 2019 for males aged 85-89 was estimated as  
 $(104.5 / 146.2)^{(1 / 20)} - 1$  ie -1.7%





**A6 Projected permanent residents per 1000 persons in 2040, assuming 2009 to 2019 rates of change**

Age	2019	Change	2040	2019	Change	2040
	000s Females	pa Females	Females	000s Males	pa Males	Males
60	1.8	-4.0%	0.7	2.3	-3.1%	1.2
65	4.6	-2.5%	2.7	5.6	-1.5%	4.1
70	11.2	-1.7%	7.8	11.1	-1.5%	8.1
75	27.0	-1.7%	18.7	22.9	-0.8%	19.2
80	69.4	-2.5%	40.5	48.9	-2.0%	32.2
85	164.1	-3.8%	73.2	104.5	-3.5%	49.0
90	334.8	-2.1%	215.9	214.8	-2.7%	121.8
95	538.0	-3.0%	283.3	356.7	-3.5%	168.4
100	664.8	-3.3%	327.9	359.4	-4.6%	132.4

Numbers of residents per 1000 persons are from A4, and rates of change are from the 2009-19 values in A5.

For example, residents per 1000 males in 2040 were estimated as  $104.5 * (1 - .0354)^{21}$   
ie 49.0

**A7 Projected permanent residents aged 60+ in 2040, assuming 2009 to 2019 rates of change**

Age	Persons	Residents	Residents	Persons	Residents	Residents	Residents
	2040 000s Females	per 1000 Females	2040 Females	2040 000s Males	per 1000 Males	2040 Males	2040 Total
60	827.3	0.7	618	784.2	1.2	938	1555
65	830.2	2.7	2268	768.1	4.1	3170	5437
70	751.7	7.8	5864	676.6	8.1	5495	11359
75	696.4	18.7	12992	622.7	19.2	11949	24941
80	570.9	40.5	23120	489.2	32.2	15755	38875
85	388.4	73.2	28411	309.9	49.0	15194	43605
90	203.1	215.9	43861	153.2	121.8	18653	62514
95	54.9	283.3	15567	38.1	168.4	6414	21981
100	11.2	327.9	3657	6.4	132.4	850	4507
Total	4334.0		136356	3848.4		78417	214773
Permanent residents at 30 June 2019 (from A3)							182705
Annual growth rate from 30 June 1999 to 30 June 2040							0.77%

For example, male residents aged 85-89 at 30 June 2040 were estimated as

estimated males at 30 June 2040 (000s, from A1.2)	310
times estimated residents per 1000 males (from A6)	49.0
	<hr/> 15194

**A8 Projected permanent residents per 1000 persons in 2040, assuming rates of change based on oldest data**

Age	2019	Change	2040	2019	Change	2040
	Females	pa Females	Females	Males	pa Males	Males
60	1.8	-4.0%	0.7	2.3	-3.1%	1.2
65	4.6	-1.8%	3.2	5.6	-1.0%	4.6
70	11.2	-2.0%	7.3	11.1	-1.4%	8.2
75	27.0	-2.4%	16.2	22.9	-1.3%	17.3
80	69.4	-2.6%	39.7	48.9	-1.7%	34.1
85	164.1	-2.3%	101.1	104.5	-1.7%	73.4
90	334.8	-1.1%	266.7	214.8	-0.6%	191.0
95	538.0	-3.0%	283.3	356.7	-3.5%	168.4
100	664.8	-3.3%	327.9	359.4	-4.6%	132.4

Numbers of residents per 1000 persons are from A4, and rates of change are from the oldest values in A5.

For example, residents per 1000 males aged 85-89 in 2040 were estimated as  $104.5 * (1 - .0167)^{21}$  ie 73.4

**A9 Projected permanent residents aged 60+ in 2040, assuming rates of change based on oldest data**

Age	Persons	Residents	Residents	Persons	Residents	Residents	Residents
	2040 000s	per 1000 Females	2040 Females	2040 000s	per 1000 Males	2040 Males	2040 Total
60	827.3	0.7	618	784.2	1.2	938	1555
65	830.2	3.2	2621	768.1	4.6	3510	6131
70	751.7	7.3	5511	676.6	8.2	5549	11060
75	696.4	16.2	11289	622.7	17.3	10759	22048
80	570.9	39.7	22687	489.2	34.1	16680	39367
85	388.4	101.1	39261	309.9	73.4	22749	62010
90	203.1	266.7	54168	153.2	191.0	29261	83429
95	54.9	283.3	15567	38.1	168.4	6414	21981
100	11.2	327.9	3657	6.4	132.4	850	4507
Total	4334.0		155380	3848.4		96709	252088
Permanent residents at 30 June 2019 (from A3)							182705
Annual growth rate from 30 June 1999 to 2040							1.54%

For example, male residents aged 85-89 at 30 June 2040 were estimated as

estimated males at 30 June 2040 (000s, from A1.2) 310  
 times estimated residents per 1000 males (from A6) 73.4  
 ie 22749

**A10 CPI, AWE and GDP**

Statistic	13-14	14-15	15-16	16-17	17-18	18-19	19-20
CPI	105.0	106.8	108.3	110.2	112.3	114.1	115.7
AWE Nov	1437.0	1477.0	1500.5	1533.4	1569.6	1605.5	1658.4
AWE May	1454.1	1483.1	1516.0	1543.2	1585.3	1634.8	1713.9
AWE	1441.3	1478.5	1504.4	1535.9	1573.5	1612.8	1672.3
GDP (\$b)	1599	1624	1661	1764	1850	1949	1981

CPI figures are averages of all-group indices for Australia for the last month in each quarter of the year, from ABS's "6401.0 Consumer Price Index, Australia", downloaded 26 August 2020 from <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6401.0June%202020?OpenDocument>

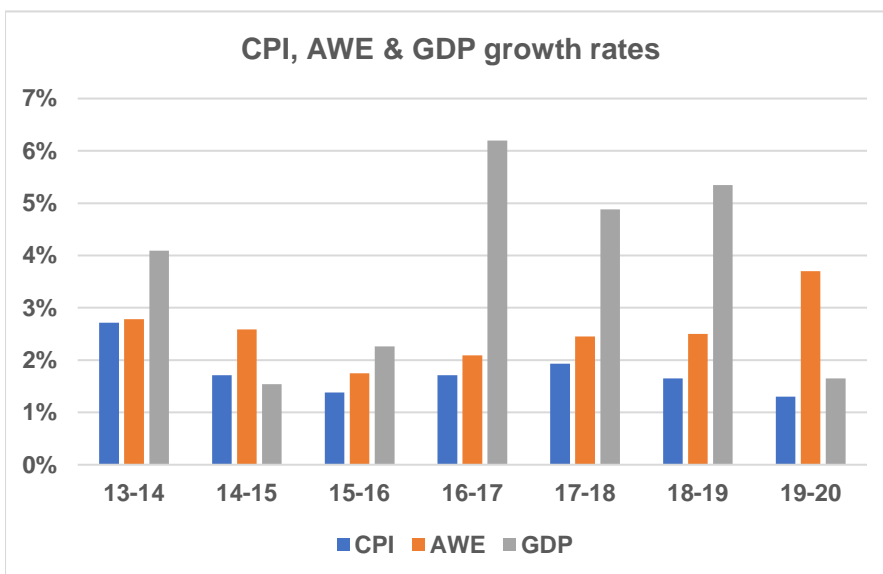
AWE figures are average weekly ordinary time weekly earnings for full-time adults, from ABS's "6302.0 - average weekly earnings, Australia, May 2020", downloaded on 20 August 2020 from <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6302.0May%202020?OpenDocument>  
Average AWE in a financial year were estimated as  
 $(3 * \text{November AWE} + \text{May AWE}) / 4$

GDP figures are the sums of seasonally adjusted quarterly gross domestic product in current prices, from ABS's "5206.0 - Australian National Accounts: National Income, Expenditure and Product, Mar 2020", downloaded 25 August 2020 from <https://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyCatalogue/52AFA5FD696482CACAA25768D0021E2C7?OpenDocument>

### A11 CPI, AWE and GDP growth rates

Statistic	13-14	14-15	15-16	16-17	17-18	18-19	19-20
CPI	2.7%	1.7%	1.4%	1.7%	1.9%	1.6%	1.3%
AWE	2.8%	2.6%	1.7%	2.1%	2.5%	2.5%	3.7%
GDP	4.1%	1.5%	2.3%	6.2%	4.9%	5.3%	1.7%

The above growth rates are from A10.



### A12 Commonwealth funding for residential aged care up to 18-19

	13-14	14-15	15-16	16-17	17-18	18-19
Residents at end	176816	177820	181048	184077	186597	188773
Residents at start	173094	176816	177820	181048	184077	186597
Average residents in year	174955	177318	179434	182563	185337	187685
Growth rate in residents	2.2%	0.6%	1.8%	1.7%	1.4%	1.2%
Funding (\$m)	9661	10391	11294	12124	12308	13004
Funding per resident (\$)	55220	58601	62942	66410	66409	69286
Funding increase	4.9%	6.1%	7.4%	5.5%	0.0%	4.3%
AWE increase	2.8%	2.6%	1.7%	2.1%	2.5%	2.5%
Real growth per resident	2.1%	3.5%	5.7%	3.4%	-2.5%	1.8%
Funding as % of GDP	0.595%	0.626%	0.640%	0.655%	0.632%	0.656%

Funding and resident numbers are from the Aged Care Financing Authority's "Eighth report on the funding and financing of the aged care industry", downloaded on 20 August 2020 from [https://www.health.gov.au/sites/default/files/documents/2020/07/eighth-report-report-on-the-funding-and-financing-of-the-aged-care-industry-may-2020\\_0.pdf](https://www.health.gov.au/sites/default/files/documents/2020/07/eighth-report-report-on-the-funding-and-financing-of-the-aged-care-industry-may-2020_0.pdf) and from similar earlier reports. Respite residents are included.

For example, real growth per resident was estimated for 18-19 as

1 + increase in funding per resident	104.3%
divided by 1 + growth in AWE	102.5%
	1.8%

ACFA's "Third report on the funding and financing of the aged care sector" noted that

"There was an upsurge of admissions to permanent care pre 1 July 2014 reforms, followed by a dip in admissions in July 2014. This reflected residents moving into care before 1 July 2014 to lock in capped accommodation charges in residential care and avoid higher means tested contributions."

### A13 Growth in Commonwealth funding per resident, in excess of AWE

Year	13-14	14-15	15-16	16-17	17-18	18-19
Real growth	2.1%	3.5%	5.7%	3.4%	-2.5%	1.8%
Average	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%

### A14 Estimated Commonwealth funding for residential aged care in 19-20

Estimate	Sources	Basis A	Basis B	Basis C
Estimated resident numbers in 18-19	A12	187685	187685	187685
Assumed growth rate pa in resident numbers	3.3	0.8%	1.2%	1.6%
Estimated resident numbers in 19-20		189186	189937	190688
Actual funding in 18-19 (\$m)	A12	13004	13004	13004
Funding per resident in 18-19		69286	69286	69286
Actual growth in AWE	A11	3.7%	3.7%	3.7%
Assumed funding growth per resident above AWI	3.3	0.5%	1.0%	1.5%
Estimated funding in 19-20 (\$m)		13661	13783	13906
Estimated GDP in 19-20 (\$b)	A10	1981	1981	1981
Estimated funding as % of GDP in 19-20		0.690%	0.696%	0.702%

The basis B estimate of funding in 19-20 was calculated as

actual funding in 18-19	13004
times 1 + assumed growth in resident numbers (from 3.3)	1.012
times 1 + actual AWE growth	1.037
times 1 + assumed funding growth per resident above AWE (from 3.3)	1.010
	13783

### A15 Profitability of residential aged care providers

Statistic	13-14	14-15	15-16	16-17	17-18	18-19
Revenue (\$m)	14826	15810	17172	17757	18066	19302
Revenue growth	6.2%	6.6%	8.6%	3.4%	1.7%	6.8%
Expenses (\$m)	14115	14903	16109	16751	17631	19037
Profit (\$m)	711	907	1063	1006	435	265
Profit as % revenue	4.8%	5.7%	6.2%	5.7%	2.4%	1.4%
Equity at end (\$m)	11168	10901	10944	11326	11827	13519
Equity growth in year	9.6%	-2.4%	0.4%	3.5%	4.4%	14.3%
Asset at end (\$m)	33662	36586	40694	45017	48400	52568

Asset growth in year	9.1%	8.7%	11.2%	10.6%	7.5%	8.6%
Equity as % assets	33.2%	29.8%	26.9%	25.2%	24.4%	25.7%
Return on equity	6.4%	8.3%	9.7%	8.9%	3.7%	2.0%
Expense per resident (\$)	80678	84047	89777	91755	95129	101431
Growth	3.9%	4.2%	6.8%	2.2%	3.7%	6.6%
AWE growth	2.8%	2.6%	1.7%	2.1%	2.5%	2.5%
Growth above AWE	1.0%	1.6%	5.0%	0.1%	1.2%	4.0%

Revenue, expenses, equity and assets are from ACFA's "Eighth report on the funding and financing of the aged care industry", and from similar earlier publications.

For example, expense per resident in 18-19 was calculated as

expenses in 18-19 (\$m)	19037
<u>divided by average residents in 18-19 (from A12)</u>	<u>187685</u>
	101431

AWE growth estimates are from A11.

### A16 Confidence limits for estimates of efficient costs per bed day in 19-20

Bed numbers	Q1		Q2		Q3	
	95% LCL	95% UCL	95% LCL	95% UCL	95% LCL	95% UCL
Less than 30	268	279	263	271	255	266
30+	233	237	223	225	233	235

These confidence limits are from page 25 of the Commission's "The cost of residential care", research paper 9. August 2020.

### A17 Confidence limits for costs of raising all facilities to Q1 level in their size band in 18-19

Statistic	<30 beds	<30 beds	30+ beds	30+ beds	Total
	Q2 to Q1	Q3 to Q1	Q2 to Q1	Q3 to Q1	
Bed days (000s)	786	45	55181	9117	
Estimated cost per bed day increase	6.5	12.86	11.22	0.72	
Estimated cost increase (\$m)	5.1	0.6	619.1	6.6	631.4
SD of current cost per bed day estim	2.1	2.8	0.5	0.5	
SD of new cost per bed day estimate	2.8	2.8	1.0	1.0	
SD of cost per bed day increase	3.5	4.0	1.1	1.1	
SD of cost increase (\$m)	2.7	0.2	63.3	10.5	
Variance of cost increase (\$m)	7.5	0.0	4003.9	109.3	4120.7
SD of total cost increase (\$m)					64.2
LCL of total cost increase (\$m)					506.2
UCL of total cost increase (\$m)					756.6

Bed days, and estimated costs of increases to bring all facilities to Q1 standard in their size range, are from table 9 of research paper 9.

For example, the SD of the current cost per bed day estimate of moving from Q3 to Q1 for facilities with 30+ beds was estimated as

95% UCL for Q3 facilities with 30+ beds (from A16)	235
95% LCL for Q3 facilities with 30+ beds (from A16)	233
<u>Difference divided by 1.95*2</u>	<u>0.5</u>

The SD of the new cost per bed day estimate of moving from Q3 to Q1 for 30+ beds was estimated as

SD of current cost estimate squared	0.3
<u>plus SD of new cost estimate squared</u>	<u>1.1</u>
Square root of sum	1.1

The SD of the cost increase of moving from Q3 to Q1 for 30+ beds was estimated as

bed days	9117
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times SD of cost increase estimate per bed day	1.1
SD of cost increase (\$m)	10.5

The variance of the total cost increase was estimated by squaring the SDs of the four components, and adding. The SD of the total cost increase was estimated by taking the square root of the variance. The LCL of the total cost increase was estimated as

estimated total cost increase (\$m)	631.4
less 1.95 times the SD of the total cost increase	125.2
	506.2

The UCL was similarly estimated by adding 1.95 times the SD.

#### A18 Confidence limits for costs of raising all facilities to Q1 level in their size band in 18-19

Estimate	Sources	Basis A	Basis B	Basis C
Increasing to Q1 in 18-19 (\$m)	A17	506.2	631.4	756.6
divided by expenses in 18-19	Paper 9	15697	15697	15697
Increasing to Q1 as % of expenses		3.2%	4.0%	4.8%
Expenses in 18-19 (\$m)	A15	19037	19037	19037
Assumed resident growth	3.3	0.8%	1.2%	1.6%
AWE growth	A11	3.7%	3.7%	3.7%
Assumed real expense growth	3.3	0.2%	2.2%	4.2%
Expenses in 19-20 (\$m)		19939	20418	20900
Increasing to Q1 in 19-20 (\$m)		643	821	1007
GDP (\$b)	A10	1981	1981	1981
Increasing to Q1 in 19-20 as % GDP		0.032%	0.041%	0.051%

#### A19 Additional staff hours per shift needed to meet CMS standards

Times	RN	Other	Total	RN as %
Current care times per resident day (minutes)	36	144	180	20%
Extra time needed for minimum of 3 stars	4	32	36	11%
Extra time needed for minimum of 4 stars	11	56	67	16%
Extra time needed for minimum of 5 stars	28	61	89	31%
Extra time for 3 stars, as % of current time	11%	22%	20%	
Extra time for 4 stars, as % of current time	31%	39%	37%	
Extra time for 5 stars, as % of current time	78%	42%	49%	

Current care times, and extra times needed to meet minimum standards, are from table 8 of "The cost of residential aged care", research paper 9, August 2020.

It is not clear why the 20% of current care times provided by registered nurses differs from the 14.9% shown for 2016 in table 1 of research paper 9.

#### A20 Estimated costs of different types of direct care staff in 2016

Type of staff	Full-time equivalents 2016	Full-time equivalents 2016 %	Median weekly earnings 2016 \$	Estimated total earnings 2016 \$m	% of estimated total earnings 2016
Nurse practitioner	293	0.3%	1493	27	0.5%
Registered nurse	14564	14.9%	1493	1362	22.8%
Enrolled nurse	9126	9.3%	1050	600	10.0%
Personal care attendant	69983	71.5%	860	3769	63.1%
Allied health professionals	1092	1.1%	969	66	1.1%
Allied health assistant	2862	2.9%	855	153	2.6%
Total	97920	100.0%		5977	100.0%

Full-time equivalents in 2016 are from table 1 of research paper 9.

Median weekly earnings in 2016 are the 35-40 hour earnings from table 3.20 of "The aged care workforce, 2016", with nurse practitioners assumed to have the same earnings as registered nurses.

For example, the total earnings of personal care attendants in 2016 were estimated as

full-time equivalents	69983
times median weekly earnings	860
times factor to allow for mean being higher than median	1.2
times weeks in a year	52.18
<b>total earnings in 2016</b>	<b>3769</b>

Published care staff expenses in 16-17, as a % of those estimated above for 2016, were

published care staff expenses (\$m, from table 6.14 of ACFA 2)	8550
divided by expenses estimated above	5977
	<b>143%</b>

### A21 Care employee expenses

Statistic	16-17	17-18	18-19	19-20		
				Basis A	Basis B	Basis C
Care employee expense	8550	8969	9728	10189	10434	10680
Residents	182563	185337	187685	189186	189937	190688
Expense per resident (\$)	46833	48393	51832	53857	54932	56007
Growth		3.3%	7.1%			
AWE growth		2.5%	2.5%	3.7%	3.7%	3.7%
Growth above AWE		0.9%	4.5%	0.2%	2.2%	4.2%

Care employee expenses up to 18-19 are from ACFA's "Eighth report on the funding and financing of the aged care industry". No earlier values are apparently available.

Residents up to 18-19 are from A12, and for 19-20 are from A14.

AWE growth estimates are from A11.

For example, the basis C estimate of care employee expenses in 19-20 was calculated as

basis C estimate of residents in 19-20	190688
times basis C estimate of expenses per resident	56007
	<b>10680</b>

### A22 Expense increases from meeting CMS star ratings

Statistic	Source	19-20			
		3-star	4-star	5-star	
Care employee expenses	\$m	A21	10189	10434	10680
Proportion attributed to RNs		A20	23.2%	23.2%	23.2%
Expenses for RNs	\$m		2368	2425	2482
Assumed increases for RNs		A19	11%	31%	78%
Extra expenses for RNs	\$m		263	741	1930
Expenses for other care staff	\$m		7821	8009	8198
Assumed increases for other staff		A19	22%	39%	42%
Extra expenses for other staff	\$m		1738	3115	3473
Extra expenses for all care staff	\$m		2001	3855	5403
Extra expenses as %			19.6%	37.0%	50.6%
GDP	\$b	A10	1981	1981	1981
Extra expenses as % of GDP			0.101%	0.195%	0.273%

For example, basic C expenses attributed to RNs were

estimated basis C care employee expenses in 19-20	10680
---	-------



times proportion attributed to nurse practitioners and RNs

23.2%

2482

### A23 Assumed expense increases in 19-20 to give quality expected by the community

Statistic	Source	Basis A	Basis B	Basis C
Estimated expense increases needed \$m	A18, A22	821	2338	3855
Estimated GDP \$b	A10	1981	1981	1981
Extra expenses as % of GDP		0.041%	0.118%	0.195%

Basis A estimate of the expense increases needed is the basis B estimate in A18.

Basis C estimate of the expense increases needed is the basis B estimate in A22.

Basis B estimate of the expense increase needed is the average of the basis A and C estimates.

### A24 Extra residential funding needed in 19-20 to give reasonable return on equity

Statistic	Source	Basis A	Basis B	Basis C
Assets 30 June 2019 (\$m)	A15	52568	52568	52568
Assumed asset growth 19-20	3.3	7%	9%	11%
Estimated assets 30 June 2020 (\$m)		56248	57299	58350
Assumed equity as % assets	3.4	20%	25%	30%
Assumed reasonable return on equity	3.4	8%	10%	12%
Estimated profit needed 19-20 (\$m)	3.3	900	1432	2101
Revenue 19-20 (\$m)	A15	19302	19302	19302
Assumed revenue growth 19-20	3.3	3%	6%	9%
Estimated revenue 19-20 (\$m)		19881	20460	21039
Assumed profit as % revenue	3.3	5%	2%	-1%
Estimated profit 19-20 (\$m)		994	409	-210
Estimated profit shortfall 19-20		-94	1023	2311
Estimated GDP 19-20 (\$b)	A10	1981	1981	1981
Profit shortfall as % GDP		-0.005%	0.052%	0.117%

For example, the assumed profit needed in 19-20 was estimated under basis C as

estimated assets 30 June 2020	58350
times assumed equity as % assets	30%
times assumed reasonable return on equity	12%
	2101

### A25 Assumed savings in 19-20 from controlled financial reporting

Statistic	Source	Basis A	Basis B	Basis C
Estimated expenses in 19-20 (\$m)	A18	19939	20418	20900
Assumed savings as % expenses	3.5	2.5%	5.0%	7.5%
Estimated savings (\$m)		498	1021	1567
Estimated GDP (\$m)	A10	1981	1981	1981
Estimated savings as % GDP		0.025%	0.052%	0.079%

### A26 Estimated Commonwealth funding for residential aged care in 39-40

Estimate	Sources	Basis A	Basis B	Basis C
Estimated residents 30/6/20	A21	189186	189937	190688
Assumed resident growth pa to 30/6/40	3.7	0.8%	1.2%	1.6%
Estimated residents 30/6/40		221871	241113	261937
Estimated actual funding in 19-20 (\$m)	A14	13661	13783	13906

Extra funding needed to give expected quality (\$r A23		821	2338	3855
Extra funding needed to give return on equity (\$rr A24		-94	1023	2311
Savings from controlled financial reporting (\$m) A25		-498	-1021	-1567
Estimated funding needed in 19-20 (\$m)		13890	16124	18505
Estimated residents in 19-20				
Assumed resident number growth pa	3.6	0.8%	1.2%	1.6%
Assumed real resident funding growth pa	3.6	0.5%	1.0%	1.5%
Assumed AWE growth pa	3.6	2.0%	2.5%	3.0%
Estimated funding needed in 39-40 (\$m)		26744	40925	61836
Estimated GDP 19-20 (\$b)	A10	1981	1981	1981
Assumed GDP growth pa	3.6	2.0%	2.8%	3.0%
Estimated GDP 39-40 (\$b)		2944	3441	3578
Estimated funding needed as % GDP 39-40		0.909%	1.189%	1.728%

For example, the basis C estimate of funding needed in 19-20 was calculated as

estimated funding needed in 19-20 (\$m)	18505
times factor to allow for number growth at 1.6% pa	1.374
times factor to allow for number growth at 1.5% pa	1.347
times factor to allow for AWE growth at 3.0% pa	1.806
estimated funding needed in 39-40 (\$m)	61836

Estimated GDP in 39-40 was calculated as

estimated GDP in 19-20 (\$b)	1981
times factor to allow for GDP growth at 3.0% pa	1.806
estimated GDP in 39-40 (\$b)	3578

## Appendix B: Persons employed

### B1 Persons employed in June (000s)

Sex & age	1999	2004	2009	2014	2019
<b>Females</b>					
15-24	743	820	877	884	958
25-34	923	954	1050	1208	1408
35-44	979	1009	1138	1148	1288
45-54	834	990	1135	1181	1272
55-64	256	429	634	750	886
65+	40	51	95	156	243
<b>Total</b>	<b>3775</b>	<b>4253</b>	<b>4928</b>	<b>5326</b>	<b>6054</b>
<b>Males</b>					
15-24	797	856	936	901	977
25-34	1208	1223	1300	1480	1652
35-44	1250	1289	1335	1380	1482
45-54	1061	1138	1250	1283	1339
55-64	484	663	818	913	1016
65+	97	122	205	270	367
<b>Total</b>	<b>4898</b>	<b>5290</b>	<b>5843</b>	<b>6227</b>	<b>6832</b>

Persons employed are original figures from Australian Bureau of Statistics, "Labour Force Australia June 2020, catalog no 6202.0".

Downloaded 11 August 2020 from

<https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6202.0Jun%202020?OpenDocument>

### B2 Persons (000s)

Sex & age	Females 1999	Females 2004	Females 2009	Females 2014	Females 2019	Females 2040
<b>Females</b>						
15-24	1316	1347	1413	1523	1592	2164
25-34	1444	1438	1445	1717	1915	2465
35-44	1467	1509	1539	1629	1702	2430
45-54	1256	1386	1439	1570	1639	2254
55-64	830	1044	1129	1362	1502	1802
65+	1303	1439	1480	1847	2141	3507
<b>Total</b>	<b>7616</b>	<b>8163</b>	<b>8443</b>	<b>9649</b>	<b>10491</b>	<b>14621</b>
<b>Males</b>						
15-24	1379	1416	1474	1596	1671	2269
25-34	1448	1439	1449	1748	1903	2507
35-44	1461	1495	1519	1612	1684	2412
45-54	1278	1370	1417	1540	1576	2171
55-64	845	1063	1132	1328	1435	1713
65+	1019	1165	1213	1604	1885	3064
<b>Total</b>	<b>7429</b>	<b>7949</b>	<b>8204</b>	<b>9428</b>	<b>10154</b>	<b>14136</b>

Numbers of persons are from A1.

### B3 Employment rates

Sex	Females 1999	Females 2004	Females 2009	Females 2014	Females 2019	Growth pa 2009-19
<b>Females</b>						
15-24	56.4%	60.9%	62.1%	58.0%	60.2%	-0.003
25-34	63.9%	66.4%	72.7%	70.3%	73.5%	0.001
35-44	66.8%	66.8%	74.0%	70.5%	75.7%	0.002
45-54	66.4%	71.4%	78.9%	75.2%	77.6%	-0.002
55-64	30.9%	41.1%	56.1%	55.0%	59.0%	0.005
65+	3.0%	3.5%	6.4%	8.4%	11.3%	0.058
<b>Total</b>	<b>49.6%</b>	<b>52.1%</b>	<b>58.4%</b>	<b>55.2%</b>	<b>57.7%</b>	<b>-0.001</b>
<b>Males</b>						
15-24	57.8%	60.4%	63.5%	56.4%	58.4%	-0.008
25-34	83.4%	85.0%	89.7%	84.7%	86.8%	-0.003
35-44	85.6%	86.2%	87.9%	85.6%	88.0%	0.000
45-54	83.1%	83.0%	88.2%	83.3%	84.9%	-0.004
55-64	57.2%	62.3%	72.3%	68.8%	70.8%	-0.002
65+	9.5%	10.5%	16.9%	16.8%	19.5%	0.014
<b>Total</b>	<b>65.9%</b>	<b>66.6%</b>	<b>71.2%</b>	<b>66.1%</b>	<b>67.3%</b>	<b>-0.006</b>

For example, the employment rate in 2019 for males aged 65+ was estimated as  
 males aged 65+ employed 30 June 2019 (from B1) 367  
 divided by males aged 65+ at 30 June 2019 (from A1.2) 1885  
19.5%

The growth rate pa in male employment at ages 65+ from 2009 to 2019 was estimated as  
 $(.195 / .169) ^ .1 - 1$  ie 0.014





**B4 Projected employed in 2040 (000s), assuming 2019 employment rates**

Age	Persons 2040 Females	Partici- pation Females	Employed 2040 Females	Persons 2040 Males	Partici- pation Males	Employed 2040 Males	Employed 2040 Total
15-24	2164	0.602	1302	2269	0.584	1326	2628
25-34	2465	0.735	1813	2507	0.868	2177	3990
35-44	2430	0.757	1838	2412	0.880	2123	3961
45-54	2254	0.776	1749	2171	0.849	1843	3592
55-64	1802	0.590	1063	1713	0.708	1212	2275
65+	3507	0.113	398	3064	0.195	597	994
<b>Total</b>	<b>14621</b>	<b>0.558</b>	<b>8162</b>	<b>14136</b>	<b>0.656</b>	<b>9278</b>	<b>17440</b>

For example, the numbers of males aged 65+ employed in June 2040 were estimated as

estimated number of males aged 65+ at 30 June 2040 (000s, from B2)	3064
times estimated employment rate in June 2019 for males aged 65+ (from	<u>0.195</u>
	597

### B5 Projected employment rates in 2040, assuming 1999-2019 rates of change

Age	2019 Change pa		2040	2019 Change pa		2040
	Females	Females		Males	Males	
15-24	0.602	-0.003	0.563	0.584	-0.008	0.492
25-34	0.735	0.001	0.754	0.868	-0.003	0.811
35-44	0.757	0.002	0.793	0.880	0.000	0.882
45-54	0.776	-0.002	0.750	0.849	-0.004	0.784
55-64	0.590	0.005	0.654	0.708	-0.002	0.678
65+	0.113	0.058	0.371	0.195	0.014	0.263

For example, the employment rate for males aged 65+ in June 2040 was estimated as  
 $.195 * (1 + .0144)^{21}$  ie 0.263

### B6 Projected employed in 2040 (000s), assuming 2009 to 2019 rates of change

Age	Persons	Employ-	Employed	Persons	Employ-	Employed	Employed
	2040	ment rate	2040	2040	ment rate	2040	2040
	Females	Females	Females	Males	Males	Males	Total
15-24	2164	0.563	1219	2269	0.492	1115	2334
25-34	2465	0.754	1859	2507	0.811	2034	3893
35-44	2430	0.793	1927	2412	0.882	2128	4055
45-54	2254	0.750	1691	2171	0.784	1701	3392
55-64	1802	0.654	1178	1713	0.678	1161	2339
65+	3507	0.371	1300	3064	0.263	807	2107
<b>Total</b>	<b>14621</b>	<b>0.628</b>	<b>9175</b>	<b>14136</b>	<b>0.633</b>	<b>8947</b>	<b>18122</b>

For example, the numbers of males aged 65+ employed in June 2040 were estimated as  
 estimated number of males aged 65+ at 30 June 2040 (000s, from B2) 3064  
 times estimated employment rate in June 2040 for males aged 65+ (from 0.263)  
 807

### B7 Persons employed per permanent resident aged 60+

Year	1999	2004	2009	2014	2019
Employed (000s)	8673	9543	10771	11553	12886
Residents	132420	144994	151378	168871	180040
Employed persons per resident	65.5	65.8	71.2	68.4	71.6

Persons employed are from B1.  
 Residents are from A2.

### B8 Estimated persons employed per permanent resident aged 60+ in 2040

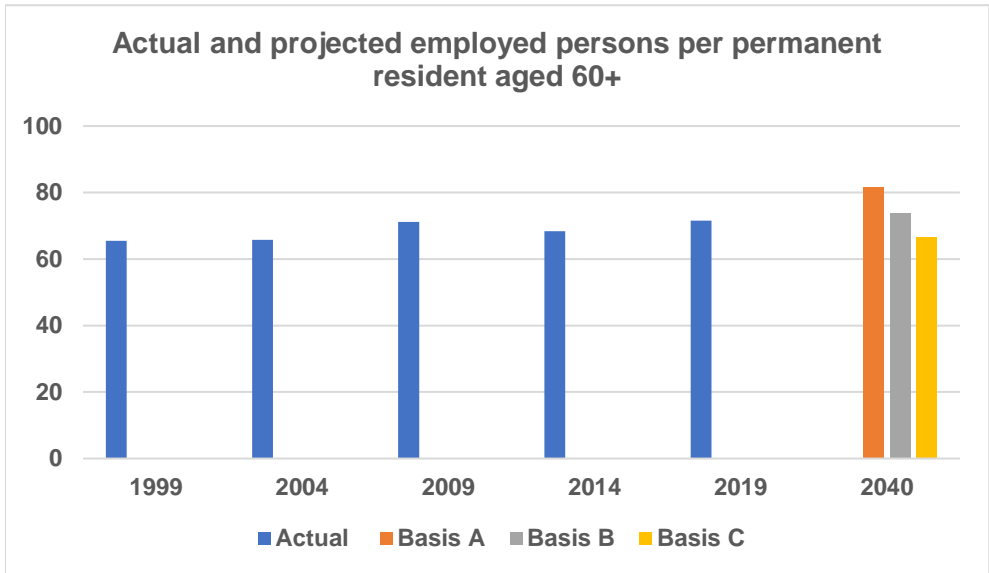
Projection name	Basis for employment rate assumptions	Basis for residents per person assumptions	Employed in 2040 000s	Residents in 2040	Employed per resident
A	B6	Basis A	18122	221871	81.7
B	(B4+B6)/2	Basis B	17781	241113	73.7
C	B4	Basis C	17440	261937	66.6

Estimated residents in 2040 are from A26.

**B9 Summary of actual and projected persons employed per permanent resident aged 60+**

Source	1999	2004	2009	2014	2019	2040
Actual	65.5	65.8	71.2	68.4	71.6	
Basis A						81.7
Basis B						73.7
Basis C						66.6

Actual values are from B7, and projected values from B8.



## Appendix C: Home care

### C1 Numbers of persons in home care packages, by sex and age

Sex & age	2014	2015	2016	2017	2018	2019
Females						
0-				1441	1587	1548
65-				2664	3265	3596
70-				4824	6484	7665
75-				7463	9642	11375
80-				10656	13602	16130
85-				11498	14476	16513
90-				8991	11346	13337
Total				47537	60402	70164
Males						
0-				1046	1079	967
65-				1743	2083	2320
70-				2894	3865	4509
75-				3850	5234	6151
80-				5045	6823	8069
85-				5592	7257	8304
90-				3662	5030	6183
Total				23832	31371	36503
Persons				71369	91773	106667
ROACA	59739	59506	64069	71423	91847	106707

The above numbers at 30 June 2019 are from AIHW's "Aged Care Data Snapshot 2019", accessed 2 September 2020 on

<https://www.gen-agedcaredata.gov.au/Resources/Access-data/2019/September/Aged-care-data-snapshot%E2%80%942019>

Data at 2017 and 2018 are from similar publications.

Totals marked "ROACA" are from the Department of Health's "2018-19 report on the operation of the Aged Care Act 1997" and similar earlier publications.

### C2 Numbers of persons in population (000s)

Sex & age	2014	2015	2016	2017	2018	2019
Females						
0-	9967.2	10110.8	10254.5	10398.1	10541.7	10685.4
65-	563.9	577.0	590.2	603.4	616.5	629.7
70-	417.3	441.5	465.8	490.0	514.2	538.5
75-	322.0	334.1	346.2	358.3	370.3	382.4
80-	252.4	257.1	261.9	266.6	271.3	276.0
85-	180.1	180.7	181.3	181.8	182.4	183.0
90-	111.2	115.2	119.2	123.2	127.2	131.2
Total	11814.1	12016.5	12218.9	12421.3	12623.7	12826.1
Males						
0-	10106.3	10231.6	10356.9	10482.1	10607.4	10732.7
65-	554.5	562.8	571.1	579.4	587.6	595.9
70-	400.4	423.9	447.4	470.9	494.4	517.9
75-	288.7	301.0	313.2	325.5	337.7	350.0
80-	195.9	202.1	208.3	214.5	220.7	226.9
85-	114.4	117.1	119.8	122.5	125.1	127.8
90-	49.7	53.1	56.5	60.0	63.4	66.9
Total	11710.0	11891.6	12073.2	12254.8	12436.4	12618.0

Numbers of persons at 30 June 2014 and 2019 are from A1.

Numbers at 2015 to 2018 were estimated by linear interpolation.



### C3 Persons in home care at 30 June, per 1000 persons

Sex & age	2014	2015	2016	2017	2018	2019
Females						
0-	0.1	0.1	0.1	0.1	0.2	0.1
65-	3.5	3.6	4.1	4.4	5.3	5.7
70-	8.7	8.4	8.8	9.8	12.6	14.2
75-	18.5	18.2	19.5	20.8	26.0	29.7
80-	37.2	35.5	37.0	40.0	50.1	58.4
85-				63.2	79.4	90.3
90-				73.0	89.2	101.7
Males						
0-	0.1	0.1	0.1	0.1	0.1	0.1
65-	2.5	2.5	2.7	3.0	3.5	3.9
70-	5.6	5.4	5.7	6.1	7.8	8.7
75-	10.4	10.0	10.7	11.8	15.5	17.6
80-	21.7	20.4	21.2	23.5	30.9	35.6
85-				45.7	58.0	65.0
90-				61.0	79.3	92.4

Rates for ages "90-" are for all persons aged 90 and over.

Rates at 30 June 2016 are from table 14A.20 of the Productivity Commission's Report on Government Services 2017, accessed on 18 August 2020 from

<https://www.pc.gov.au/research/ongoing/report-on-government-services/2020/community-services/aged-care-services>

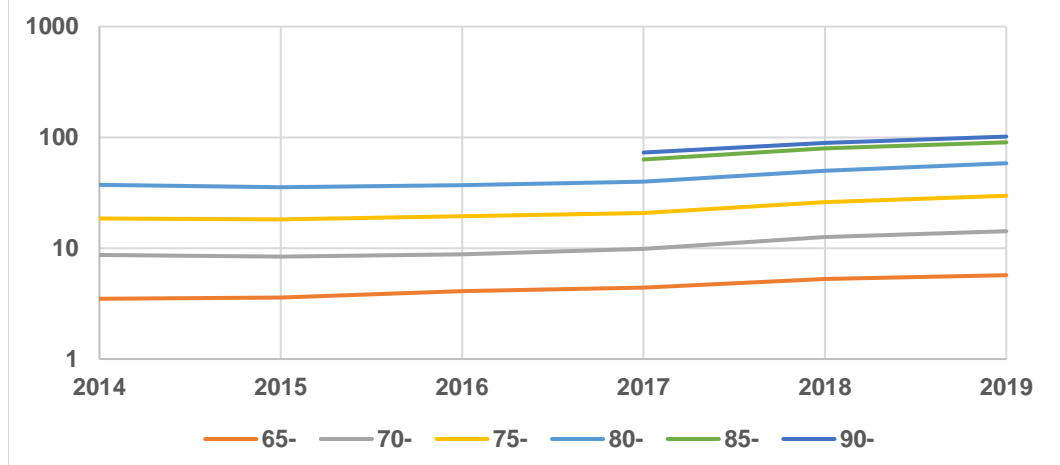
Rates at 2014 and 2016 are from similar earlier publications.

Rates at 30 June 2019 are from the Department of Health's "Aged care data snapshot", accessed on

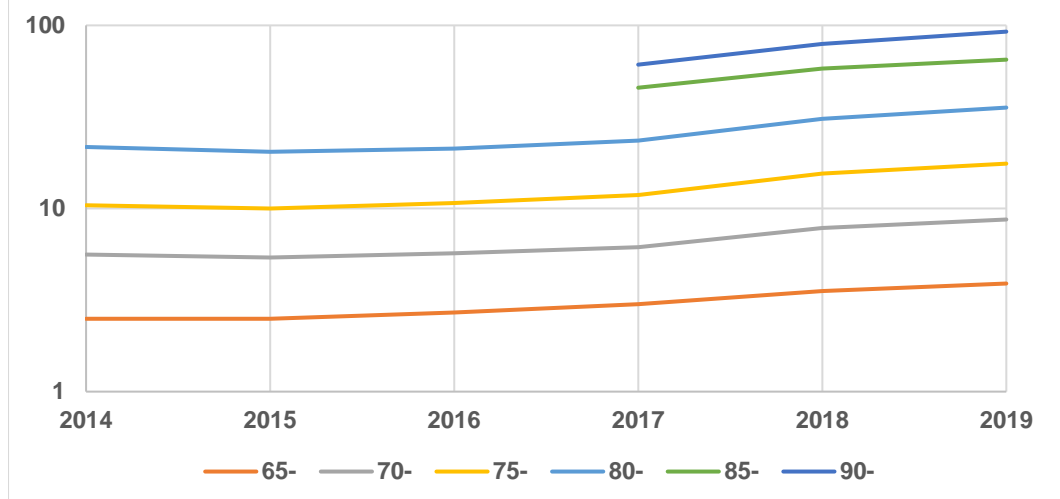
<https://gen-agedcaredata.gov.au/Resources/Access-data/2019/September/Aged-care-data-snapshot%E2%80%942019>

Rates at 2017 and 2018 are from similar earlier publications.

**Figure C1: Females in home care at 30 June, per 1000 females**



**Figure C2: Males in home care at 30 June, per 1000 males**



**C4 Numbers of persons in home care packages, by level, at 30 June**

Level	2014	2015	2016	2017	2018	2019	2020
1	667	1015	1165	1168	4841	8516	14932
2	45498	41942	42513	47268	51496	47734	61823
3	752	2698	4848	6750	12693	20193	28713
4	12822	13851	15543	16237	22817	30264	38286
<b>Total</b>	<b>59739</b>	<b>59506</b>	<b>64069</b>	<b>71423</b>	<b>91847</b>	<b>106707</b>	<b>143754</b>

Numbers at 30 June 2019 are from the Department of Health's "2018–19 Report on the Operation of the Aged Care Act 1997", available from <https://www.health.gov.au/resources/publications/2018-19-report-on-the-operation-of-the-aged-care-act-1997>

Earlier numbers are from similar earlier publications.

Numbers at 30 June 2020 are basis B estimates based on numbers at 31 March 2020 (see C5).

### C5 Numbers of persons in home care packages, by level, at end of each quarter

6.1

Date	Level 1	Level 2	Level 3	6.100	Total	Growth
30/6/17	1168	47268	6750	16237	71423	
30/9/17	1127	50852	6702	15524	74205	0.039
31/12/17	2301	49684	8464	17469	77918	0.050
31/3/18	3559	50655	10565	20137	84917	0.090
30/6/18	4841	51496	12693	22817	91847	0.082
30/9/18	4841	51496	12693	22817	91847	0.000
31/12/18	5466	45184	14954	25042	90646	-0.013
31/3/19	4631	45068	17890	25742	93331	0.030
30/6/19	8516	47734	20193	30264	106707	0.143
30/9/19	10194	52410	22864	32582	118050	0.106
31/12/19	10947	57834	25453	34547	128781	0.091
31/3/20	14221	58879	27346	36463	136909	0.063
30/6/20 A	14221	58879	27346	36463	136909	0.000
30/6/20 B	14932	61823	28713	38286	143754	0.050
30/6/20 C	15643	64767	30081	40109	150600	0.100

Numbers at 31 March 20 are from the Department of Health's "Home care packages program - data report 2nd quarter 2019-20", accessed on 18 August 2020 on <https://www.gen-agedcaredata.gov.au/Resources/Reports-and-publications/2020/July/Home-care-packages-program-data-report-1-January-%E2%80%93>

Earlier numbers are from similar publications.

The splits between levels were not available for the quarters ending 31 December 2017 and 31 March 2018. These splits were estimated by linear interpolation and balancing to the quarterly totals. Numbers at 30 June 2020 were estimated from those at 31 March 2020, assuming the growth rates in 3.3. growth rate in the quarter.

### C6 Home care package annual subsidy rates

Year	Level 1 \$pa	Level 2 \$pa	Level 3 \$pa	Level 4 \$pa
17-18	8000	14500	32500	49500
18-19	8271	15045	33076	50286
19-20	8845	15562	33866	51335

Subsidy rates for 19-20 are from the Department of Health's "Home care packages program - data report 3rd quarter 2019-20". Earlier subsidies are from similar publications.

## C7 Estimated subsidies for home care packages

Quarter end-date	Level 1 \$m	Level 2 \$m	Level 3 \$m	Level 4 \$m	Total \$m	Year \$m	Estimated as % of published
30/9/17	2.3	177.8	54.6	196.5	431.3		
31/12/17	3.4	182.2	61.6	204.1	451.4		
31/3/18	5.9	181.9	77.3	232.7	497.7		
30/6/18	8.4	185.1	94.5	265.8	553.8	1934	95.2%
30/9/18	10.0	193.7	105.0	286.8	595.5		
31/12/18	10.7	181.8	114.3	300.8	607.6		
31/3/19	10.4	169.7	135.8	319.2	635.2		
30/6/19	13.6	174.5	157.5	352.0	697.6	2536	102.7%
30/9/19	20.7	194.8	182.3	403.3	801.0		
31/12/19	23.4	214.5	204.5	430.8	873.1		
31/3/20	27.8	227.0	223.5	455.7	934.0		
30/6/20 A	31.4	229.1	231.5	468.0	960.0	3568	
30/6/20 B	32.2	234.8	237.3	479.7	984.0	3592	
30/6/20 C	33.0	240.5	243.1	491.4	1008.0	3616	

For example, level 4 subsidies in the quarter ending 30 June 20 were estimated as

number level 4 packages at 31/3/20 (from C5)	36463
basis B estimated level 4 packages at 30/6/20 (from C5)	<u>38286</u>
average number in quarter ending 30/6/20	37375
times annual subsidy rate (from C6)	51335
multiplied by factor to give quarterly value	<u>0.25</u>
estimated subsidies in quarter (\$m)	479.7

The totals for 17-18 and 18-19 are compared with the published totals in C8.

## C8 Commonwealth expenditure on home care, as % of GDP

Year	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Home care	1271	1281	1487	1586	2032	2469	3592
GDP (\$b)	1599	1624	1661	1764	1850	1949	1981
% of GDP	0.079%	0.079%	0.090%	0.090%	0.110%	0.127%	0.181%

Home care expenditures up to 18-19 are from the Department of Health's "2018-19 Report on

the Operation of the Aged Care Act 1997". The figure for 19-20 is the basis B estimate in C7.

**C9 Commonwealth expenditure on home care in 19-20, as % of GDP**

<b>Estimate</b>	<b>Source</b>	<b>Basis A</b>	<b>Basis B</b>	<b>Basis C</b>
Home care (\$m)	C7	3568	3592	3616
GDP (\$b)	A10	1981	1981	1981
% of GDP		0.180%	0.181%	0.183%

## C10 Subsidies saved on those in queue without an interim package

### C10.1 Numbers in queue without an interim package

Date	Level 1	Level 2	Level 3	Level 4	Total	Basis
Never offered an interim package						
30/9/18	1465	25147	26304	16170	69086	
31/12/18	2649	29392	27406	14531	73978	
31/3/19	3383	30947	28131	13278	75739	
30/6/19	3656	30242	27044	11120	72062	
30/9/19	3673	26312	23852	9105	62942	
31/12/19	3646	25023	22510	7757	58936	
31/3/20	3363	25018	23290	7400	59071	
Offered an interim package, but not yet accepted						
30/9/18		221	786	6791	7798	
31/12/18		875	2672	2723	6270	
31/3/19		1804	2500	2051	6355	
30/6/19		3183	2857	2675	8715	
30/9/19		3086	4265	2040	9391	
31/12/19		2935	3724	1856	8515	
31/3/20		3846	2598	1521	7965	
Offered an interim package, but did not take up						
30/9/18		4063	5399	9635	19097	
31/12/18		2972	3799	10871	17642	
31/3/19		2717	3824	10120	16661	
30/6/19		3128	2442	6604	12174	
30/9/19		3699	2995	5004	11698	
31/12/19		3378	3166	2776	9320	
31/3/20		3858	3297	1632	8787	
Total persons in queue without an interim package						
30/6/18	1436	28857	31855	31960	94109	
30/9/18	1465	29431	32489	32596	95981	
31/12/18	2649	33239	33877	28125	97890	
31/3/19	3383	35468	34455	25449	98755	
30/6/19	3656	36553	32343	20399	92951	
30/9/19	3673	33097	31112	16149	84031	
31/12/19	3646	31336	29400	12389	76771	
31/3/20	3363	32722	29185	10553	75823	
30/6/20	3363	32722	29185	10553	75823	A
30/6/20	3531	34358	30644	11081	79614	B
30/6/20	3699	35994	32104	11608	83405	C

Numbers at 31 March 20 are from the Department of Health's "Home care packages program - data report 3rd quarter 2019-20".

Numbers from 30 September 2018 to 31 December 2019 are from similar publications.

Numbers at 30 June 2018 were estimated from those at 30 September 2018, assuming the total growth rate from 30 September 2018 to 31 December 2018.

Numbers at 30 June 2020 were estimated from those at 31 March 2020, assuming the growth rates in 3.3.

## C10.2 Estimated subsidies saved assuming full acceptance

Quarter end-date	Level 1 \$m	Level 2 \$m	Level 3 \$m	Level 4 \$m	Total \$m	Year \$m	Basis
30/9/18	3.0	109.6	266.0	405.8	784.4		
31/12/18	4.3	117.9	274.4	381.7	778.2		
31/3/19	6.2	129.2	282.5	336.8	754.7		
30/6/19	7.3	135.4	276.2	288.2	707.1	3024	
30/9/19	8.1	135.5	268.6	234.5	646.7		
31/12/19	8.1	125.3	256.2	183.1	572.7		
31/3/20	7.7	124.6	248.0	147.2	527.6		
30/6/20	7.4	127.3	247.1	135.4	517.3	2264	A
30/6/20	7.6	130.5	253.3	138.8	530.2	2277	B
30/6/20	7.8	133.7	259.4	142.2	543.1	2290	C

For example, level 4 subsidies saved in the quarter to 30 June 2020 were estimated with basis B assumptions as

number at level 4 at 31 March 2020 (from C10.1)	10553
number at level 4 at 30 June 2020 (from C10.1)	11081
average number at level 4 in quarter	10817
times annual subsidy rate (from C6)	51335
multiplied by factor to give quarterly value	0.25
estimated subsidies in quarter (\$m)	138.8

## C10.3 Subsidies saved allowing for some persons not accepting

Estimate	Source	Basis A	Basis B	Basis C
Savings assuming full acceptance	C10.2	2264	2277	2290
Assumed % accepting	3.4	90%	95%	100%
Savings allowing for partial acceptance (\$m)		2038	2163	2290

## C11 Subsidies saved on those in queue with an interim package

### C11.1 Numbers in queue with an interim package

Date	Level 1	Level 2	Level 3	Level 4	Total
30/6/18		3949	9731	17991	31671
30/9/18		3834	9448	17469	30751
31/12/18		3088	9442	17328	29858
31/3/19		3742	10962	15579	30283
30/6/19		5149	9552	11870	26571
30/9/19		5975	11402	10829	28206
31/12/19		5905	12353	9444	27702
31/3/20		7628	12315	7833	27776
30/6/20		7628	12315	7833	27776
31/3/20		8009	12931	8225	29165
30/6/20		8391	13547	8616	30554

Numbers at 31 March 20 are from the Department of Health's "Home care packages program - data report 3rd quarter 2019-20".

Numbers from 30 September 2018 to 31 December 2019 are from similar publications.

Numbers at 30 June 2018 were estimated from those at 30 September 2018, assuming the total growth rate from 30 September 2018 to 31 December 2018.

Numbers at 30 June 2020 were estimated from those at 31 March 2020, assuming the total growth rate from 31 December 2019 to 31 March 2020.

### C11.2 Assumed proportions of persons in each interim level

Interim level	Approved Level 1	Approved Level 2	Approved Level 3	Approved Level 4
Level 1	n/a	100%	50%	0%
Level 2	n/a	n/a	50%	50%
Level 3	n/a	n/a	n/a	50%
Level 4	n/a	n/a	n/a	n/a

Persons at approved level 2 can only have level 1 interim packages.  
 50% of persons at approved levels 3 and 4 are assumed to have interim packages 2 levels below their approved level, and 50% at one level below their approved level.

### C11.3 Assumed annual subsidy savings on persons in interim home care packages

Year	Level 1 Full subsidy \$pa	Level 2 Full subsidy \$pa	Level 3 Full subsidy \$pa	Level 4 Full subsidy \$pa	Level 2 Assumed saving \$pa	Level 3 Assumed saving \$pa	Level 4 Assumed saving \$pa
18-19	8271	15045	33076	50286	6774	21418	26226
19-20	8845	15562	33866	51335	6717	21663	26621

Full annual subsidies are from C6 , and interim level assumptions from C10.2.  
 For example, the annual saving on a level 4 package in 19-20 was estimated as

assumed percent on level 2	50%	
times level 2 subsidy rate	15562	7781
assumed percent on level 3	50%	
times level 3 subsidy rate	33866	16933
total subsidy paid for level 4 case		24714
full subsidy for level 4		51335
subsidy saving for level 4		26621



#### C11.4 Estimated subsidies saved on persons in queue with an interim package

Quarter end-date	Level 1 \$m	Level 2 \$m	Level 3 \$m	Level 4 \$m	Total \$m	Year \$m
30/9/18		6.6	51.3	116.2	174.2	
31/12/18		5.9	50.6	114.1	170.5	
31/3/19		5.8	54.6	107.9	168.3	
30/6/19		7.5	54.9	90.0	152.4	665
30/9/19		9.3	56.7	75.5	141.6	
31/12/19		10.0	64.3	67.5	141.8	
31/3/20		11.4	66.8	57.5	135.7	
30/6/20		12.8	66.7	52.1	131.6	551
30/6/20		13.1	68.4	53.4	134.9	554
30/6/20		13.4	70.0	54.7	138.2	557

For example, level 4 subsidies saved in the quarter to 30 June 2020 were estimated as

number at level 4 at 31 March 2020 (from C11.1)	7833
number at level 4 at 30 June 2020 (from C11.1)	8616
average number at level 4 in quarter	8225
times annual subsidy saving (from C11.3)	26621
times factor to give quarterly value	0.25
estimated subsidies in quarter (\$m)	54.7

#### C11.5 Subsidies saved allowing for some persons not accepting

Estimate	Source	Basis A	Basis B	Basis C
Savings assuming full acceptance	C11.4	551	554	557
times factor allowing for uncertainty	3.4	80%	100%	120%
Savings allowing for uncertainty (\$m)		441	554	669

#### C11.6 Summary of savings due to wait lists in 19-20

Estimate	Source	Basis A	Basis B	Basis C
Persons without packages (\$m)	2C10.2	2038	2163	2290
Persons with interim package (\$m)	C11.5	441	554	669
Total savings (\$m)		2478	2717	2959
GDP (\$b)	A10	1981	1981	1981
Savings as % of GDP		0.125%	0.137%	0.149%

## C12 Commonwealth funding for home care

Year	14-15	15-16	16-17	17-18	18-19	19-20
Funding (\$m)	1281	1487	1586	2032	2469	3616
Recipients at end	59506	64069	71423	91847	106707	150600
Recipients at start	59739	59506	64069	71423	91847	106707
Average recipients	59623	61788	67746	81635	99277	128653
Growth in recipients	-0.4%	7.7%	11.5%	28.6%	16.2%	41.1%
Funding per recipient (\$)	21485	24066	23411	24891	24870	28108
Increase		12.0%	-2.7%	6.3%	-0.1%	13.0%
AWE November	1477.0	1500.5	1533.4	1569.6	1605.5	1658.4
AWE May	1483.1	1516.0	1543.2	1585.3	1634.8	1713.9
Average AWE in year	1478.5	1504.4	1535.9	1573.5	1612.8	1672.3
AWE increase	2.6%	1.7%	2.1%	2.5%	2.5%	0.0%
Real growth per recipient		10.1%	-4.7%	3.8%	-2.5%	13.0%
GDP (\$b)		1661	1764	1850	1949	1999
Funding as % of GDP		0.090%	0.090%	0.110%	0.127%	0.181%

Funding and recipient numbers up to 30 June 2019 are from the Health Department's "2018-19 report on the operation of the Aged Care Act 1997". and from similar earlier reports.  
 Funding in 19-20 is a basis B estimate from C7, based on data to 31 March 2020.  
 Recipient numbers at 30 June 2020 are an estimate from C5, based on numbers up to March 2020.  
 AWE increases and GDP figures are from A10.  
 GDP for 19-20 was estimated from the published data for the first three quarters, assuming a 3% drop in the last quarter.

## C12 Estimated Commonwealth funding for home care in 39-40

Estimate	Sources	Basis A	Basis B	Basis C
Estimated actual funding in 19-20 (\$m)	C9	3568	3592	3616
Savings from clearing wait lists (\$m)	C10.2	2478	2717	2959
Estimated funding needed in 19-20 (\$m)		6047	6310	6575
Assumed home care number growth pa	3.6	0.8%	1.2%	1.6%
Assumed real home care funding growth pa	3.6	0.5%	1.0%	1.5%
Assumed AWE growth pa	3.6	2.0%	2.5%	3.0%
Estimated funding needed in 39-40 (\$m)		11642	16014	21970
Estimated GDP 19-20 (\$b)	A10	1981	1981	1981
Assumed GDP growth pa	3.6	2.0%	2.8%	3.0%
Estimated GDP 39-40 (\$b)		1981	1981	1981
Estimated funding needed as % GDP 39-40		0.588%	0.808%	1.109%

For example, the basis C estimate of funding needed in 19-20 was calculated as

estimated funding needed in 19-20 (\$m)	6575
times factor to allow for number growth at 1.6% pa	1.374
times factor to allow for number growth at 1.5% pa	1.347
times factor to allow for AWE growth at 3.0% pa	1.806
<u>estimated funding needed in 39-40 (\$m)</u>	<u>21970</u>

Estimated GDP in 39-40 was calculated as

estimated GDP in 19-20 (\$b)	1981
<u>times factor to allow for GDP growth at 3.0% pa</u>	<u>1.806</u>
estimated GDP in 39-40 (\$b)	3578

## Appendix D: Commonwealth Home Support Programme

### D1 Funding and recipients in 18-19

Year	16-17	17-18	18-19	19-20 Basis A	19-20 Basis B	19-20 Basis C
CHSP funding (\$m)	2083	2166	2490			
HACC WA funding 9\$m)	310	318	0			
Other funding (\$m)	123	117	128			
<b>Total</b>	<b>2516</b>	<b>2601</b>	<b>2618</b>	<b>2554</b>	<b>2715</b>	<b>2880</b>
<b>Recipients</b>						
CHSP recipients	722838	783043	840984			
HACC WA recipients	74475	75116	0			
<b>Total</b>	<b>797313</b>	<b>858159</b>	<b>840984</b>	<b>815754</b>	<b>840984</b>	<b>866214</b>
Growth in recipients		7.6%	-2.0%	-3.0%	0.0%	3.0%
Expenditure per recipient	3155	3031	3113	3131	3228	3325
Growth per recipient		-3.9%	2.7%			
AWE growth		2.5%	2.5%	3.7%	3.7%	3.7%
Real growth per recipient		-6.2%	0.2%	-3.0%	0.0%	3.0%
GDP (\$b)	1764	1850	1949	1981	1981	1981
% GDP	0.143%	0.141%	0.134%	0.129%	0.137%	0.145%

CHSP expenditures and recipients are from the Department of Health's "2018-19 Report on the Operation of the Aged Care Act 1997" (p 43-44) and from similar earlier reports.

"Other" expenditures are shown in the 2018-19 report as being for My Aged Care, RAS and other initiatives in support of the CHSP.

HACC WA expenditures include WA government expenditures.

The basis B estimate of expenditure per CHSP recipient in 19-20 was calculated as

expenditure per recipient in 18-19	3113
times 1 + AWE growth to 19-20	1.037
times 1 + assumed real growth to 19-20	1.000
<b>expenditure per recipient in 19-20</b>	<b>3228</b>

The basis B estimate of CHSP expenditure in 19-20 was calculated as

recipients in 18-19	840984
times 1 + assumed growth in recipients to 19-20	1.000
times assumed expenditure per recipient in 19-20	3228
<b>expenditure in 19-20 (\$m)</b>	<b>2715</b>

### D2 Funding and recipients in 19-20

Statistic	Source	Basis A	Basis B	Basis C
Recipients in 18-19	D1	840984	840984	840984
Assumed growth to 19-20	3.4	-3%	0%	3%
<b>Estimated recipients in 19-20</b>		<b>815754</b>	<b>815754</b>	<b>815754</b>
Funding per recipient in 18-19	D1	3113	3113	3113
Assumed real growth to 19-20	3.4	-3%	0%	3%
AWE growth	A10	3.7%	3.7%	3.7%
<b>Estimated funding in 19-20 (\$m)</b>		<b>3131</b>	<b>3228</b>	<b>3325</b>

### D3 Estimated Commonwealth funding for CHSP in 39-40

Estimate	Sources	Basis A	Basis B	Basis C
Estimated funding in 19-20 (\$m)	C9	3131	3228	3325
Assumed CHSP number growth pa	3.6	-1.0%	0.0%	1.0%
Assumed real CHSP funding growth pa	3.6	-1.0%	0.0%	1.0%
Assumed AWE growth pa	3.6	2.0%	2.5%	3.0%
Estimated funding needed in 39-40 (\$m)		3113	5290	8941
Estimated GDP 19-20 (\$b)	A10	1981	1981	1981
Assumed GDP growth pa	3.6	2.0%	2.8%	3.0%
Estimated GDP 39-40 (\$b)		2944	3441	3578
Estimated funding needed as % GDP 39-40		0.106%	0.154%	0.250%

For example, the basis C estimate of funding needed in 19-20 was calculated as

estimated funding needed in 19-20 (\$m)	3325
times factor to allow for number growth at 1.0% pa	1.220
times factor to allow for number growth at 1.0% pa	1.220
times factor to allow for AWE growth at 3.0% pa	1.806
<u>estimated funding needed in 39-40 (\$m)</u>	<u>8941</u>

Estimated GDP in 39-40 was calculated as

estimated GDP in 19-20 (\$b)	1981
times factor to allow for GDP growth at 3.0% pa	1.806
<u>estimated GDP in 39-40 (\$b)</u>	<u>3578</u>