

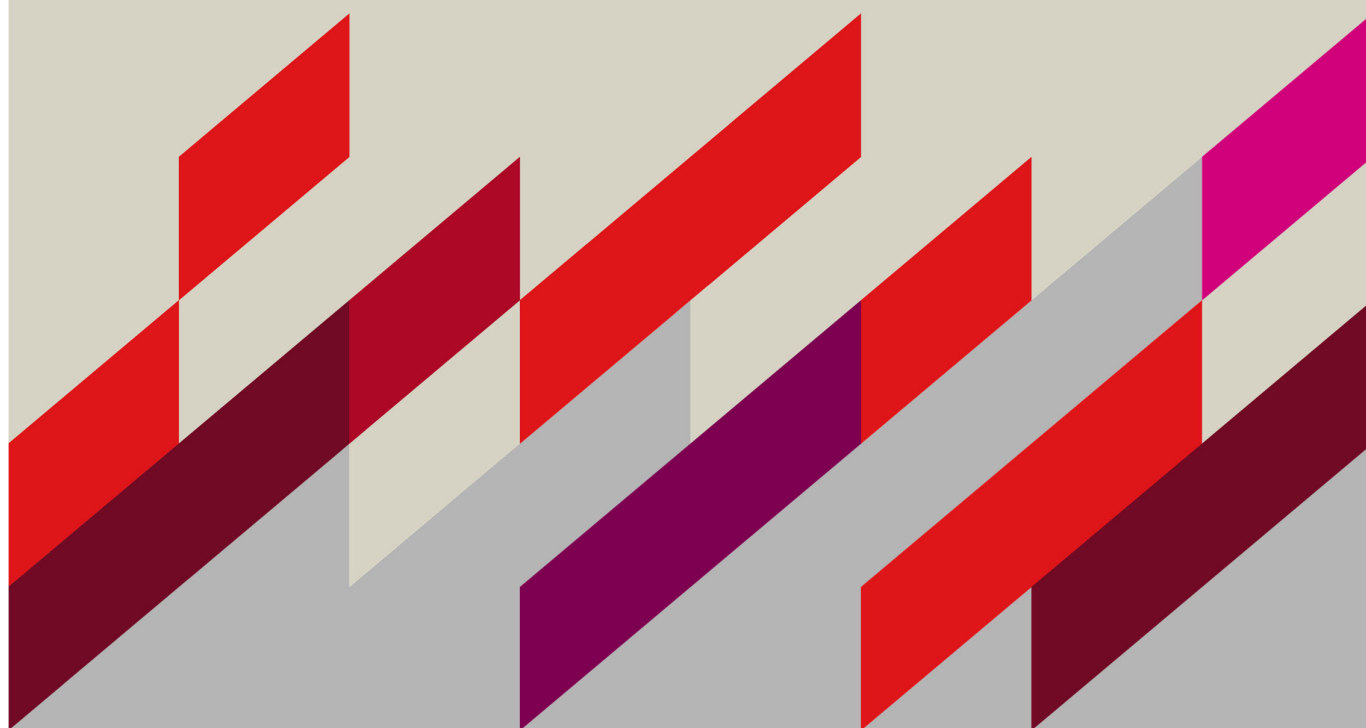


# The role of refundable accommodation deposits

PREPARED FOR

AGED CARE FINANCING AUTHORITY

March 2021



# DISCLAIMER

This report has been prepared at the request of the Department of Health in accordance with the terms of Macquarie University's contract dated 7 May 2020.

This report is intended for use by the Department of Health only and may not be distributed externally or reproduced in any form without express written permission of Macquarie University. All data and information contained herein are considered confidential and proprietary.

Neither Macquarie University nor its employees undertake any responsibility for third party reliance placed on this report.

# PREPARED BY

This report was prepared by:

Professor Henry Cutler

Dr Yuanyuan Gu

Dr Megan Gu

Mona Aghdaee

Associate Professor Mostafa Hasan

Dr Carl Shen

For further information on this report, or about MUCHE, please contact:

Professor Henry Cutler

Director

P: + 61 2 9850 2998

M: +61 409 770 946

E: [henry.cutler@mq.edu.au](mailto:henry.cutler@mq.edu.au)

[health-economy.mq.edu.au](http://health-economy.mq.edu.au)

# FUNDING

This project was funded by the Australian Department of Health.

# Acknowledgments

A significant amount of analysis within this report was made possible by the generous time, effort, and information many providers and stakeholders gave to MUCHE within the provider survey, focus groups, and interviews. We also acknowledge the contributions ACFA members have made to this report, including helpful direction throughout its development and insightful comments on earlier drafts.

# About MUCHE

Macquarie University is recognised as one of Australia's leading research universities, with an enviable reputation for excellence. While still relatively young, success of the past 50 years has positioned our distinctive approach to deliver ground-breaking research with world-changing impact.

Recently, we have invested heavily in infrastructure, with over \$1 billion spent on facilities and buildings. We have also significantly expanded our teaching and research capacity in health, for example, with the development of a new Faculty of Medicine and Health Sciences, and the relocation of the Australian Institute of Health Innovation from the University of NSW.

The University's objectives are to accelerate world-leading research; to prepare world-ready higher degree research candidates; to actively engage externally as a world-recognised research collaborator and partner of choice. We believe collaborating with industries, governments, communities, professions and academic colleagues around the world is paramount to our success.

Macquarie University's Centre for the Health Economy (MUCHE) is a strategic initiative to undertake innovative research on health and aged care. Our vision is to create a world where decision makers and the public are empowered with trusted and influential research. Our mission is to be Australia's most influential health economics research centre in academic and public policy debate.

We undertake research funded by competitive academic grants and by government and non-government organisations. We actively promote our research using a clear communication strategy to inform public debate, assist decision-making, and help formulate strategy and policy.

We investigate the Health Economy at the macro level, focused on the interdependency of these systems with each other and the broader economy. We investigate factors beyond the health and aged care sectors that impact the health and wellbeing of populations.

Our point of difference lies in our approach to research. While MUCHE primarily consists of specialist health economists, researching the Health Economy requires many skill sets and experience. Solving complex problems within health and aged care now requires teams with multi-disciplinary skills working closely together.

We actively collaborate with Macquarie University academics within the Macquarie Business School, Faculty of Medicine, Health and Human Sciences, and Faculty of Science and Engineering. We collaborate with Macquarie University research hubs and centres. These include partners within the Australian Hearing Hub, the Australian Institute of Health Innovation, H:EAR, and the Centre for Emotional Health. Our collaborations extend to world leading universities in Europe and Asia.

We take pride in combining our professional approach to partner engagement with our academic methods to deliver innovative and translational research.



Dr Henry Cutler  
Director  
Centre for the Health Economy  
Macquarie University

# Contents

---

Executive summary .....	1
1. A reflection on RADs .....	7
Funding residential aged care .....	7
The history of lump sum accommodation payments .....	10
Current RAD debates .....	12
2. Trends in RADs .....	17
Trends in the volume RADs .....	17
Trends in RAD balances .....	18
3. Factors driving RAD trends .....	22
Overview of accommodation payment choice .....	22
Methodology .....	23
Non supported residents .....	24
Partially supported residents .....	34
4. Provider survey results .....	35
Survey method .....	35
Trends in RADs .....	36
Current use of RADs .....	38
Future use of RADs .....	41
5. Views from providers .....	45
Current use of RADs .....	45
The potential impact from a reduction in RADs .....	50
Other financial arrangements to RAD .....	51
6. Views from other stakeholders .....	57
The value of RADs .....	57
Impact of a reduction in RADs .....	61
Other financial arrangements to RADs .....	62
7. RADs and provider financial performance .....	68
Methodology .....	68
RADs and profitability .....	70
RADs and capital expenditure .....	72

RADs and liquidity .....	75
RADs and solvency .....	77
Impact on providers from a reduction in RAD balances .....	79
8. International financial arrangements .....	82
Financing capital expenditure abroad .....	82
9. Conclusions .....	86
The role of RADs .....	86
The potential impact from a significant reduction in RAD balances .....	89
Should the Australian Government intervene? .....	90
Direct Australian Government response .....	93
Indirect Australian Government response .....	96
References .....	100
Appendix A. Analysing consumer choice .....	103
Non supported residents .....	103
Partially supported residents .....	110
Modelling methodology .....	121
Appendix B. Survey .....	122
Screening .....	122
Consent .....	122
Introduction .....	123
Questions .....	124
Conclusion .....	132
Appendix C. Focus group guide .....	133
Introduction .....	133
Questions .....	134
Appendix D. Interview guide .....	136
Introduction .....	136
Questions .....	136
Appendix E. Provider data analysis .....	139
Variables used to assess provider financial performance and RADs .....	139
Sub group analysis of profitability .....	140
Sub group analysis of capital expenditure .....	144
Sub group analysis of liquidity .....	150
Sub group analysis of solvency .....	157

# Executive summary

The residential aged care sector provided a home and care to 242,612 older and vulnerable Australians in 2018-19. This was delivered by 873 residential aged care providers, who managed 2,717 facilities and 213,397 operational beds.

Providing good quality residential aged care requires a financially healthy sector. Providers must attract a significant and continuous stream of equity and debt, build new facilities, and refurbish old facilities to meet consumer demand.

The Aged Care Financing Authority (ACFA) has estimated that providers must undertake around \$51 billion worth of capital expenditure over the next decade. This represents more than 2.5 times the residential aged care sector's investment between 2010-19. Most of this capital expenditure will require a substantial increase in refundable accommodation deposit (RAD) balances.

However, the Royal Commission into Aged Care Quality and Safety recommended a phased transition away from RADs towards a rental model with capital funding derived from commercial debt and equity. It also recommended that the Australian Government develop an aged care accommodation capital facility to help providers transition away from RADs.

This report explores the current role of RADs in residential aged care. It identifies RAD trends across provider types and factors that significantly impact the consumer's accommodation payment choice. It outlines the size and scope of the residential aged care sector's reliance on RADs and the relationship between RADs and provider financial performance. This report concludes by discussing other potential financial arrangements that could complement RADs if there were a significant reduction in RAD balances.

## Trends in RADs

Accommodation bonds were introduced through the *Aged Care Act 1997*. The Australian Government sought to encourage capital investment in residential aged care stock to help providers better meet building standards and improve their building stock quality. Bonds were converted to RADs through the Living Longer Living Better reform package. The most significant changes were allowing providers to charge high care consumers a RAD and removing the ability of providers to retain amounts from a RAD.

Many residential aged care providers are wholly reliant on RADs to undertake significant redevelopment and build new facilities. The total value of RADs held by providers has increased from \$15.6 billion in 2013-14 to \$30.2 billion in 2018-19. Capital expenditure has also increased substantially over that period, with an additional \$10.5 billion spent on private sector building jobs for aged care facilities.

Most residential aged care providers have experienced an increase in RAD balances, although trends differ across provider characteristics. Providers with most facilities located in metropolitan regions have experienced the greatest proportional growth in RAD balances, increasing by around 27.4 per cent between 2016-17 and 2018-19. However, providers in regional areas also experienced strong growth, with a 25 per cent increase in RAD balances.

Large providers (1,501 beds or more) have experienced the slowest growth in RAD balances, with a 14.8 per cent increase between 2016-17 and 2018-19. This contrasts with medium sized providers (301 to 1,500 beds), which experienced a 30.7 per cent increase in RAD balances. RAD balances grew similarly across provider ownership status.

Overall, RAD balances have grown quicker than RAD volumes. This has occurred from an increase in the number of consumers entering residential aged care and a large increase in average RAD values. Growth in average RAD values was strongest for providers with for-profit status, those with most facilities located in metropolitan regions, and for small (less than 300 beds) and medium sized providers. This has lessened the potentially negative impact on RAD balances from the shift in consumer preference from RADs to DAPs.

## Factors driving RAD choice

Two administrative datasets were obtained from the Department of Health to assess the relationship between choosing a RAD and consumer, payment, and facility characteristics. These datasets were merged to contain 57,508 non-supported consumers and 18,129 partially supported consumers that entered residential aged care between 1 July 2016 and 30 June 2019. A zero-one-inflated beta (zoib) regression framework was used to capture the unique decision-making process undertaken by consumers when making an accommodation payment choice.

Results from the regression analysis suggests that consumer characteristics, accommodation price, and facility characteristics have statistically significant associations with the accommodation payment choice. Consumers were more likely to choose a RAD if they stayed in residential aged care longer. This may be due to the increased consumer's ability to pay a RAD, as they had more time to sell their home, or they may have expected a long duration of stay, which has encouraged them to pay a RAD.

Aged Care Funding Instrument (ACFI) domains, including the Activities of Daily Living (ADL); Behavioural (BEH); and Complex Healthcare (CHC), also affected the payment choice. Less healthy consumers were less likely to choose a RAD when entering residential aged care, although this relationship was weak.

The value of assets a consumer held when entering residential aged care had the most substantial impact on choosing a RAD. The greater the value of assets, the more likely they would choose a RAD. In contrast, the more income a consumer received when entering residential aged care, the less likely they would choose a RAD.

A higher accommodation price reduced the likelihood of a consumer choosing a RAD. Consumers were more likely to choose a combination payment when faced with a high accommodation price but were also more likely to choose a DAP within that combination payment. Consumers were more likely to choose a RAD (and less likely to choose a DAP) when faced with a higher maximum permissible interest rate (MPIR).

An older consumer, or married consumer, entering residential aged care was more likely to choose a RAD and less likely to choose a DAP. They were also more likely to choose a greater proportion of RAD within a combination payment. Male consumers were more likely to choose a DAP, although gender did not significantly impact the likelihood of choosing a RAD. There were also strong associations between accommodation payment types and facility location, remoteness, and provider ownership.

## Provider survey

A survey of 300 residential aged care providers was undertaken to capture the current and future use of RADs in residential aged care. The survey found that provider preferences for RADs vary considerably. Only 25 per cent of providers noted they prefer to receive a RAD, while 23 per cent prefer a DAP, and 20 per cent prefer a combination payment. Around 32 per cent of providers had no preference between receiving a RAD, DAP, or combination payment.

The reliance on RADs for capital expenditure differed across provider characteristics. For-profit and larger providers invested a considerable proportion of their RADs in capital expenditure, while RADs were used less for capital expenditure by small, remote, or government providers. Most RAD balances not used for capital expenditure are held as cash in a deposit account.

A small number of providers noted that they had experienced a decline in RADs balances. They associated the decrease mainly with consumer preferences shifting to DAPs, decreased occupancy rates, and an increased number of supported residents.

Nearly half of providers thought their RAD balances were exposed to a potential reduction in housing prices. Providers were less concerned with other external events impacting their RAD balances, although some were still significant. A decrease in occupancy rates and a reduction in the MPIR were noted as additional risks to RAD balances.

Most providers expected a shift in consumer preferences from RADs to DAPs in the next five years. However, around 68 per cent of providers noted that a 10 per cent reduction in RAD balances would not impact their capital investment decisions. Some providers stated they could cover a 10 per cent reduction in RADs by obtaining additional equity or commercial debt. Some providers noted they would consider entering into a real estate investment trust (REIT) agreement.

Providers noted they had a strategy to maintain or increase RADs balances. Common strategies were marketing activities to increase the occupancy rate and offering discounts on fees to incentivise residents to choose a RAD.

## Views from providers

Five focus group discussions with 23 providers were undertaken to gain a better understanding of the role of RADs in residential aged care. Providers were selected based on their significant RAD balances, reflecting primarily large for-profit and not-for-profit organisations that owned facilities located across Australia.

All providers shared the view that RADs have encouraged and facilitated capital expenditure in residential aged care. The reliance on RADs varied by provider characteristics and the stage of their capital expenditure program. While larger providers, for-profit providers, and providers with most facilities located in metropolitan areas could readily attract RADs, other providers found it more difficult.

Providers noted they have little control over a residents' accommodation payment choice. A decline in occupancy rates, and a shorter length of stay due to the increased availability of Home Care packages, were considered threats to their RAD balances. However, most providers had experienced an increase in RADs balances recently from a rise in accommodation prices and increased bed capacity.

Providers doubted they could obtain enough debt or equity to replace a significant reduction in RAD balances. Most providers stated that the MPIR did not reflect the cost of providing accommodation and suggested the weighted average cost of capital (WACC) should replace the MPIR. They believed any



alternative financing system to replace RADs must be supported by the Australian Government, and include better provider returns to attract commercial debt and equity.

## Views from other stakeholders

Semi-structured interviews were undertaken with 14 aged care stakeholders that represented banks, aged care peak bodies, consumer peak bodies, and valuers.

These stakeholders held multiple views on the role of RADs in residential aged care. Nearly all recognised that RADs were essential for capital expenditure. However, some noted that RADs created a more volatile capital structure than commercial debt and that a rapid and sustained outflow of RADs would reduce liquidity for many providers.

Banks noted that lending for capital expenditure requires a provider with good access to RADs for debt to be repaid quickly. Several banks noted that a significant reduction in RADs would reduce their lending capacity. They also noted that many providers with less than three facilities would have limited commercial debt access to cover a significant reduction in RAD balances, due to their increased business risk.

There was no consensus among stakeholders on whether RADs are appropriate to fund accommodation in a future aged care system. Some stakeholders noted there are no current viable alternatives to RADs. Several banks stated that they would not have the capacity to cover a significant reduction in RAD balances.

Some stakeholders noted that RADs could only be replaced if there were a stable alternative, along with a detailed transition plan developed in consultation with all stakeholders and implemented over a long period. A role for the Australian Government within the transition plan, and potentially providing a loan facility, was also supported.

## RADs and provider financial performance

A detailed analysis of provider financial data for 2016-17 to 2018-19, sourced from the Department of Health, was undertaken to assess the relationship between RADs and provider financial metrics. A total of 16 financial metrics was used across four domains, including profitability, capital expenditure, liquidity, and solvency.

Univariate analysis found a statistically significant relationship between provider RAD balances and profitability, capital expenditure, liquidity, and solvency. An increase in RAD balances was estimated to increase profitability and capital expenditure but reduce liquidity and solvency. The impact of RADs on financial metrics varied across the ownership type and provider size.

A multivariate analysis was undertaken to account for other factors that may also impact financial metrics. While the significant relationships between RADs and capital expenditure, liquidity, and solvency remained, the positive relationship between RADs and profitability reversed, and the relationship became statistically insignificant.

## International financial arrangements

A review of accommodation financing in other countries found that residents of long term care homes mostly pay accommodation fees. No other country uses a financing mechanism like RADs, although Japanese providers use a lump sum forward payment of rent until an expiration period as determined by the provider.

Private for-profit operators are the dominant players in several countries, such as the US and UK. These providers rely on a mix of debt and equity to fund capital expenditure. REITs feature prominently in several countries, such as the US, Canada, and the UK. Government support for capital expenditure is available in some countries, such as mortgage insurance provided by the US Department of Housing and Urban Development. This encourages private lenders into the nursing home market.

European countries use a mix of long term care insurance to fund private operators and a greater proportion of government nursing homes, which receive funding for capital expenditure directly from the government.

## Conclusion

RADs have allowed providers to refurbish old facilities and build new facilities to meet consumer preferences better. Providers that mostly rely on RADs have invested their RADs in capital expenditure or are looking to undertake further significant capital expenditure. As all providers must undertake substantial capital expenditure at some point, the value of RADs is contingent on where a provider sits within their capital expenditure cycle.

Total RAD balances have grown by approximately 93 per cent between 2014 and 2019 despite a shift from RADs to DAPs. There is little to suggest that a significant reduction in total RAD balances will occur soon, although some individual providers may experience a significant reduction based on their individual circumstance. Trends in factors that impact the consumer's accommodation payment choice suggest a further significant shift to DAPs over the long term is uncertain.

Increased housing prices and superannuation balances may increase RADs in the future as greater asset values increases the likelihood of a consumer choosing a RAD. One trend that has likely driven the shift from RADs to DAPs is the reduction in the MPIR. There is limited scope for the MPIR to decline much further, given the Australian economy is currently experiencing historically low interest rates.

The impact of additional Home Care packages on reducing RAD balances is potentially small. While additional funding has significantly increased the number of Home Care packages, demand for these packages has also increased. Waiting times for consumers to receive their first Home Care package and waiting times for consumers to receive their approved Home Care package has not changed. This suggests the impact on accessing residential aged care, length of stay, and health when entering care is limited.

If a significant reduction in RAD balances occurred, it would impact residential aged care providers differently. Providers that would be most negatively affected are those with most RADs invested in capital. In general, these are large, for-profit providers with most facilities located in metropolitan regions, although many not-for-profit providers also have a significant amount of RAD balances invested in capital. A significant reduction in RAD balances would reduce capital expenditure undertaken by non-government providers but would have little impact on government providers.

A reduction in RADs may benefit some providers not looking to undertake significant capital expenditure. Given the current low returns on permitted uses for RADs, a shift to DAPs would increase these providers' income. This could help fund daily living activities and care services, generate greater investment returns or increase equity.

Whether the Australian Government should intervene if a significant reduction in RAD balances occurred would depend on the size of the reduction and its timing. The sector could most likely absorb a small reduction in RAD balances over a long period, but many providers would be exposed to liquidity issues if a significant reduction occurred swiftly.

The Australian Government would need to consider the benefits and costs of intervening. The primary argument for intervention is ensuring consumers can access good quality residential aged care when

needed. If there were a significant reduction in RAD balances, but this did not significantly impact care access, there is less need for the Australian Government to intervene.

There are several ways the Australian Government could intervene. Direct interventions could include increasing capital grants to providers and guaranteeing commercial debt given to providers by banks. These intervention types are already used by the Australian Government. It allocates capital grants to providers through the Aged Care Approvals Round, while the coronavirus small and medium enterprises (SME) guarantee covers 50 per cent of new loans issued by participating lenders.

The Australian Government could also develop a loan facility for providers as recommended by the Royal Commission into Aged Care Quality and Safety. Funds could be derived from either low cost market debt obtained from the Australian Government's AAA rating, or using RADs not invested in capital that are supplied by other providers. The latter option could have additional benefits, such as increased returns on RAD investments for providers.

Some providers have suggested they should be allowed to restrict consumer choice. This would reduce their risk of experiencing a significant reduction in RAD balances. However, this option seems counter to a consumer-focused residential aged care system. It would reduce the consumer's ability to match their accommodation payment choice to their financial circumstance and potentially lead to worse wealth outcomes.

The Australian Government could also indirectly intervene to manage a significant reduction in RAD balances. One option is to attract more REITs into residential aged care, although this would necessitate a substantial increase in provider returns. This may require price increases for daily living activities and care services or allowing providers to retain RAD amounts. An alternative is to provide tax advantages to REITs to encourage equity investment in the residential aged care sector.

Two other indirect options available to the Australian Government include attracting more commercial debt to the residential aged care sector by increasing provider returns, and replacing the MPIR with a WACC to make DAPs more attractive. However, increasing provider returns is unlikely to increase access to debt substantially. Banks noted they could not significantly increase core debt to the residential aged care sector. Increased income is unlikely to be sufficient to help pay off commercial debt in the time required, and provider liquidity ratios would unlikely meet bank thresholds.

Applying a WACC to the MPIR also has several problems. The MPIR was designed to create an equivalent income to providers between a RAD and DAP. Providers have different WACCs, so using an average WACC would provide a competitive advantage to providers with a lower WACC. The WACC would be applied to the accommodation price, which is usually greater than the cost of building a room. Applying a WACC to the margin between the accommodation price and the cost of building a room seems counter to a consumer-focused aged care system.

The Australian Government would face significant pressure to intervene if there was a significant reduction in RAD balances. This could be reduced if the reduction was temporary and adequate liquidity and capital adequacy requirements were enforced on providers, as recommended by the Royal Commission into Aged Care Quality and Safety.

Under this recommendation, many providers (mostly for-profit) would be required to increase their liquidity and capital adequacy requirements. There may be some initial reduction in capital expenditure growth as some providers would hold their new RADs rather than invest them, although this reduction in growth would only be temporary until the requirements are met or RAD balances increased again.

Ultimately, a greater return on investment and reduced uncertainty within the residential aged care sector are required to attract more equity and commercial debt into the market. Without those characteristics, the residential aged care sector will continue to rely on RADs, and providers will continue to be exposed to the financial risk from a significant reduction in RAD balances.

# 1. A reflection on RADs

The residential aged care sector is a significant contributor to society and the Australian economy. It cares for the most vulnerable of all Australians, employing around 220,000 persons annually and producing around one per cent of GDP. Healthy capital expenditure is required to meet the growing demand and changing preferences for residential aged care.

This chapter provides a background to investment in capital expenditure in residential aged care. It shows that the residential aged care sector has relied on RADs for growth and renewal. This chapter also summarises the current debate around RADs, noting that the continued use of RADs for capital expenditure is not without controversy.

## Funding residential aged care

The residential aged care sector was responsible for providing a caring home environment to 242,612 older and vulnerable Australians in 2018-19. This was delivered by 873 residential aged care providers, who managed 2,717 facilities and 213,397 operational beds.

Residential aged care was mostly funded by the Australian Government. It spent around \$13 billion in 2018-19, with consumers contributing \$4.8 billion.<sup>1</sup> Living expenses accounted for \$3.4 billion of consumer contributions, while \$0.6 billion was spent on care and \$0.8 billion was spent on accommodation (excluding RADs) by consumers. (1)

The Australian Government funds care services through the Aged Care Financing Instrument (ACFI). While daily living expenses are funded by consumers, most income received by consumers to cover this expense is derived from the Australian Government through the single aged pension. Daily living expenses could be considered primarily funded indirectly by the Australian Government.

Accommodation costs are treated somewhat differently by the Australian Government, reflecting the idea that accommodation is the consumer's responsibility. Consumers with low means are supported by the Australian Government through an accommodation supplement. The amount received by providers depends on whether the facility is significantly refurbished, meets building requirements, and whether the provider has less than 40 per cent of low means, supported, concessional, and assisted residents.

Partially supported residents and non supported residents are required to contribute to their accommodation costs. Given daily living expenses costs the consumer 85 per cent of their single age pension, most consumers pay for accommodation from either other income sources or their assets.

Residential aged care providers must allow consumers to choose their accommodation payment type between a RAD, daily accommodation payment (DAP), or a combination of both.<sup>2</sup> Around 35 per cent of

---

<sup>1</sup> A consumer is defined in this report as the resident, family member or friend that makes any payment to a residential aged care provider.

<sup>2</sup> Partially supported residents contribute to accommodation through refundable accommodation charge (RAC), daily accommodation charge (DAC), or a combination of both. In this report, references to RADs includes RACs and accommodation bonds, and references to DAPs also includes DACs.

partially supported and non supported residents funded their accommodation in 2018-19 using a RAD. This declined from 43 per cent in 2014-15, reflecting a recent shift towards DAPs by consumers.

Despite this shift towards DAPs, providers held \$30.2 billion in RAD balances as at 30 June 2019, which increased from \$15.6 billion in 2013-14. (1) This increase is primarily due to (i) the ability of providers to charge all new residents a RAD after the Living Longer Living Better (LLLb) reforms; (ii) an increase in accommodation prices; and (iii) an increase in the total number of operational beds.

RADs (and accommodation bonds) have been a boon for the residential aged care sector since their introduction through the *Aged Care Act 1997*. Providers have used lump sum accommodation payments to fund the development of new facilities and significant refurbishment. RADs have allowed providers to better meet consumer preferences.<sup>3</sup>

Providers also use RADs to generate additional income by investing in permitted uses, such as low risk financial assets. This has allowed providers to improve their cashflow and earnings, along with cross subsidising daily living activities and care services when required.

## Capital expenditure

The need for capital investment in the residential aged care sector over the next decade is expected to be significant. The Aged Care Financing Authority (ACFA) projects that approximately 80,000 new beds are required in the next decade to meet the demand projected from population growth and ageing alone.<sup>4</sup>

Including the need to refurbish and rebuild the current stock, ACFA estimated that the combined required total investment is \$51 billion. This represents more than 2.5 times the investment made by the residential aged care sector between 2010-19. (1)

Capital expenditure is funded through equity, commercial debt, donations and endowments, RADs, and Australian Government capital grants. Most capital expenditure in residential aged care is funded by RADs. RADs accounted for 57.4 per cent of provider assets compared to 4.1 per cent from bank debt, 4.4 per cent from related parties, and 25.7 per cent from equity on 30 June 2019. (1)

Capital expenditure and RAD trends are positive for the residential aged care sector. Chart 1.1 shows that the growth in the cumulative value of monthly building jobs for residential aged care increased after the LLLb reforms were introduced, reflecting greater access to RADs and a better financial environment for providers. Chart 1.2 shows the trends in RAD balances, and the annual value of private sector building jobs for residential aged care have risen together since 2012-13.

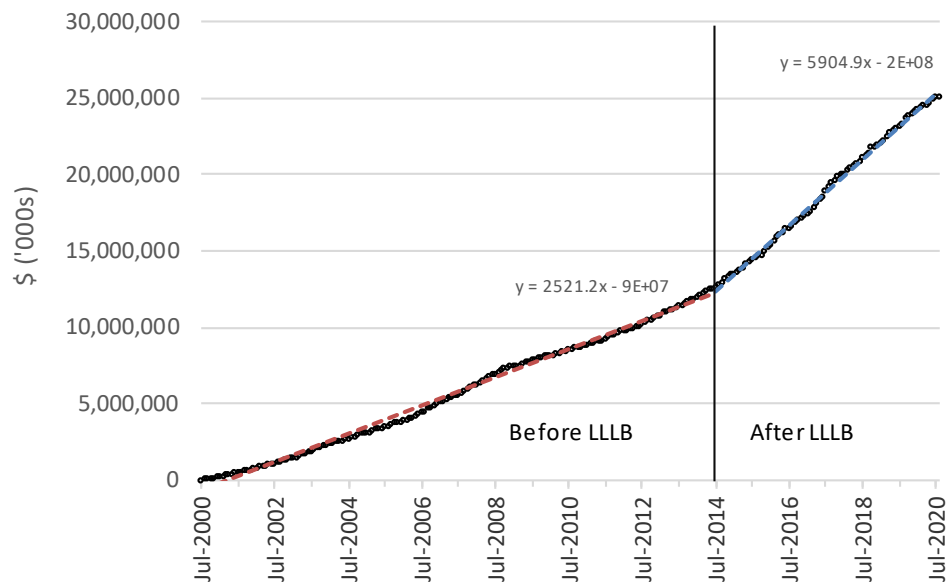
Investment in capital after the LLLb reforms has recently declined from its peak in 2016. Chart 1.3 shows that the 12 month rolling average of the value of private building jobs for aged care facilities has decreased from a high in 2017-18. This likely reflects the worsening financial position of providers, given Earnings Before Interest, Tax, Depreciation, and Amortisation (EBITDA) has declined from its peak in 2016-17. (1)

---

<sup>3</sup> Accommodation funding from RADs has also been supplemented by the Australian Government through capital grants. These grants have focused on helping providers improve facilities in rural and remote regions, or for consumers with special needs

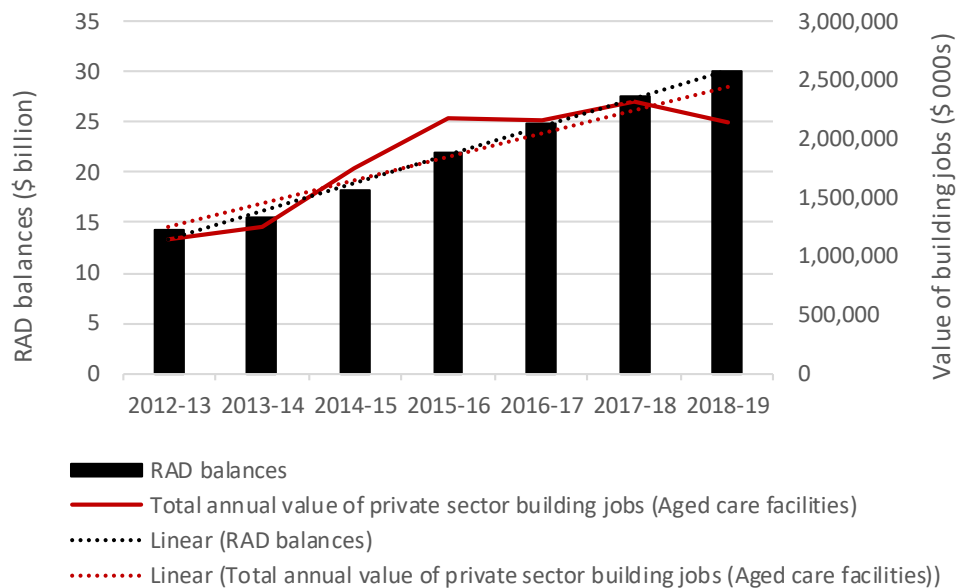
<sup>4</sup> This projection assumes the current target provision ratio remains and does not consider the potential reduction in demand for residential aged care from any future increase in Home Care packages made by the Australian Government.

**Chart 1.1: Cumulative value of monthly private sector building jobs for aged care facilities**

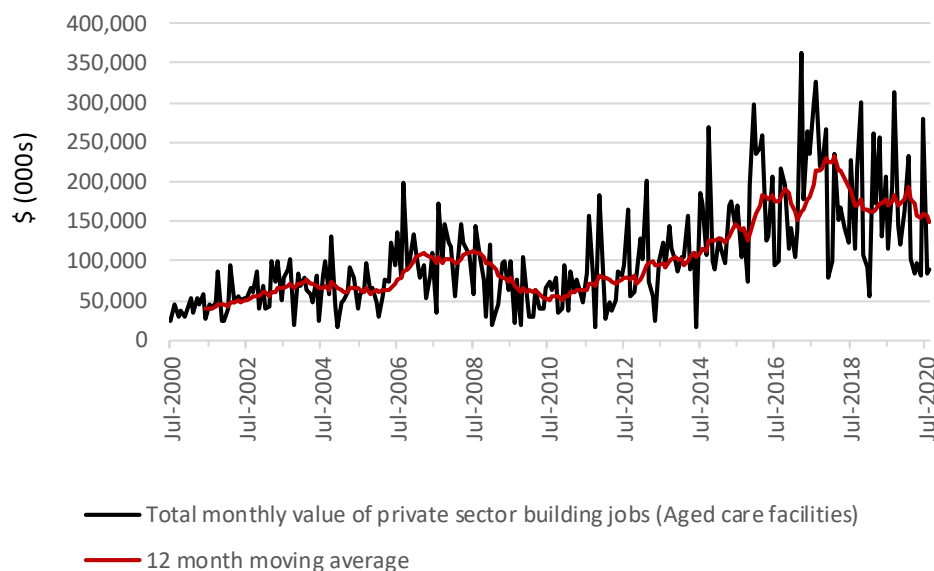


Source: (2)

**Chart 1.2: RAD balances and annual value of private sector building jobs for aged care facilities**



Source: (1, 2)

**Chart 1.3: Total monthly value of private sector building jobs for aged care facilities**

Source: (2)

## The history of lump sum accommodation payments

Accommodation bonds were first announced in the 1996-97 Federal Budget and subsequently introduced into the aged care system through the *Aged Care Act 1997*. (3) This was a response by the Australian Government to a lack of investment in nursing home stock. There were significant deficiencies in capital works, little incentive for providers to invest in maintaining or improving their buildings, and a need to significantly increase funding to maintain the quality of building stock. (4)

Several options to increase the quality of aged care capital stock were explored. One was to expand the Australian Government's capital funding program, targeting homes that required upgrading and replacement to meet building standards. Another was a more market based approach, allowing providers to increase their accommodation fees to incentivise and provide the means to invest in their buildings. (4)

The Australian Government rejected both options. It suggested that the economic climate was not strong enough to allow providers to seek the required funding to maintain and upgrade nursing homes. (4) At that time, unemployment was above eight per cent, there was a national savings problem, investment in housing was low, and the Budget deficit equalled two per cent of GDP. (5)

The introduction of accommodation bonds accompanied major structural changes within the aged care sector. This included amalgamating nursing homes and hostels under one system to ensure overlap between the two systems were combined. The Australian Government also sought to shift aged care towards a more user pays system, which included an income assessment for residential care benefits. (6)



Prior to accommodation bonds, most hostel operators could maintain their buildings through resident contributions, entry fees, and funding from the Australian Government. However, nursing homes were mostly capital funded under the *Aged or Disabled Persons Care Act 1954*. (7)

A new direction by the Australian Government in 1987 saw government funding shift from nursing homes to hostels to limit care in nursing homes to those only with acute needs. This was a response to spiralling nursing home costs. Nursing homes were treated as a lower cost alternative to hospitals, so many were built with multiple bed rooms and shared facilities. (7)

The Australian Government initially proposed that accommodation bonds could be charged to all new residents within residential care facilities, which now included people classified with either low and high care needs. This aligned with the way hostels had charged for accommodation, with entry fees averaging around \$26,000 in 1997, while some hostels charged over \$200,000. (7)

There were no restrictions on how much providers could charge for accommodation. Providers could retain funds from the accommodation bond, subject to a maximum annual and five year amount, and retain any asset returns from investing the bond in a permitted use. (7)

The *Aged Care Act 1997* stated providers could use income derived from bonds for capital works and to retire debt. Where capital works were not necessary, a provider was required to use income derived from bonds to improve the quality and range of aged care services, although no acquittal process was introduced to monitor this income use. (8)

Providers were required to leave residents with a minimum asset level worth 2.5 times the basic age pension at the resident's time of entry. Providers could not seek a bond from a 'concessional' resident and could not include the house in an asset test when determining if someone could afford a bond if there was a spouse, carer, or family member still living in the house.(4) This was to avoid a resident having to sell the family home to gain access to residential aged care.

The *User Rights Principles* required providers to allow residents to pay the bond using a periodic payment, comprised of the retention amount and interest on the bond balance. Alternatively, residents could pay a combination of lump sum and periodic payment. According to the *Aged Care Act 1997*, the conversion of bonds to periodic payments was required to consider the income that a provider could have derived if investing the bond, plus the retention amounts that would have been permitted. (8)

Only providers meeting building standards set by the Australian Government could charge a bond. This was to incentivise providers to invest bonds in upgrading building stock. The Australian Government also proposed to cease all capital funding of residential aged care facilities, with exemptions only made for rural and remote facilities. (4)

In total, structural reform of the residential aged care sector was estimated to save the Australian Government \$479 million over four years within the 1996-97 Budget. (5) This saving was primarily derived from shifting accommodation funding from the Australian Government to consumers, thereby helping the Australian Government reduce its budget deficit.

Proposed changes to aged care funding within the 1996-97 Federal Budget were referred to a Senate Community Affairs Reference Committee in 1997. The Senate Committee opposed the use of bonds for residents with high care needs (nursing home care). It was concerned people would be charged for the provision of health care and that bonds would lead to a two tiered system of care as providers sought to attract residents with greater assets. (4) The Committee also provided several recommendations to improve the bond system if they were to be introduced.



While concessional residents were not required to pay a bond, there was still unease within the Australian community about charging high care residents a bond. The Australian Government subsequently removed this ability unless the resident had chosen an extra service place.<sup>5</sup> High care residents were required to pay an accommodation charge if not supported by the Australian Government.

## Living Longer Living Better reforms

There was no major change to the accommodation bond regime until the LLLB reforms were introduced in 2013. The LLLB reforms allowed providers to charge high care residents a RAD if not supported or RAC if partially supported.

Alternatively, residents could pay for their accommodation using a DAP, DAC or a combination of a RAD and DAP. The LLLB reforms also allowed the resident to draw down DAPs from their RAD if a combination payment was chosen.

The ability of providers to retain amounts from RADs was removed. This was a contentious characteristic of bonds from early on, with the 'Hogan Review' recommending its removal. It was thought having a bond serve as corporate debt, and a source of fees was confusing and should be separated. (9) The LLLB reforms retained the right for providers to earn and keep a return on permissible uses for RADs. There were no significant changes that addressed prudential arrangements for RADs.

The LLLB reforms introduced other significant changes that indirectly affected accommodation payments. Providers were required to publish their room prices on the My Aged Care website. Accommodation prices above \$550,000 required approval from the Aged Care Pricing Commissioner, which aimed to stop providers from accepting a RAD that did not reflect the accommodation cost. The LLLB reforms also introduced the value of the home prior to entering residential care as an asset, although only up to a maximum value set at \$144,500 (in 2012 prices).

# Current RAD debates

## Prudential requirements

The *Aged Care Act 1997* introduced legislated prudential requirements for lump sum accommodation payments to ensure balances were protected and could be refunded to residents or their estate when required. The initial legislation was supplemented in 2006 to introduce standards on liquidity, record keeping, disclosure, and to require providers to seek an independent audit of their bond position. These changes were aimed at enhancing the protection of bond balances for residents.

The *Aged Care (Bond Security) Act 2006* established the Accommodation Bond Guarantee Scheme to provide extra safeguards for bond balances. The Scheme ensured that the Australian Government guaranteed residents would have their bonds returned if their provider became bankrupt. The *Aged Care (Bond Security) Levy Act 2006* allowed the Australian Government to recoup any money paid through the Scheme by imposing a levy on providers. Despite the Scheme being triggered several times, the Australian Government is yet to impose a levy on providers.

---

<sup>5</sup> Providers could charge accommodation bonds to high care residents between 1 October and 5 November 1997.

The prudential requirements for managing lump sum accommodation payments outlined within the *Fees and Payments Principles 2014 (No 2)* include four standards. (10)

- Liquidity standard to ensure providers can refund balances when due. This requires providers to implement and maintain a written liquidity management strategy.
- Records standard to ensure the provider establish and maintain a lump sum accommodation payment register that includes details of the care recipient, lump sum accommodation payment arrangements, and refunds.
- Governance standard to ensure a provider uses a governance system for managing lump sum accommodation payment balances, balances are invested only in permitted uses, and an investment strategy is employed to invest lump sum accommodation payment balances.
- Disclosure standard to ensure a provider submits an annual prudential compliance statement that outlines lump sum accommodation payments held, their use, and whether the provider has met the other standards.

Several reviews over the last decade have focused on prudential arrangements of bonds and RADs. A review by the Auditor General made seven recommendations in 2009 to strengthen the administration of prudential requirements. These were all agreed by the Department of Health and Ageing. (11)

Additional calls to further strengthen the prudential framework were made in recent years, driven by a need to ensure the risk associated with a growing RAD balance to the Australian Government was minimised. *EY* recommended the Department of Health increase reporting transparency on corporate structures and inter-party transactions, redefine the liquidity standard, introduce a capital adequacy requirement, and improve transparency on how providers are using lump sum accommodation payments. (12) Strengthening the prudential framework was also supported by the ‘Tune Review’. (13)

The Australian Government responded by introducing a compulsory retrospective levy on providers to cover the cost of lump sum accommodation payment defaults where they exceed \$3 million. This type of arrangement had been supported by ACFA prior. (14) The Australian Government also highlighted the need to strengthen prudential requirements and strengthen the capability within the Department of Health to monitor and manage prudential compliance.

The Australia Government released a discussion paper in 2019 on managing prudential risk in residential aged care, calling for submissions to comment upon nine options that could potentially strengthen the prudential standards. (15)

StuartBrown was commissioned by the Department of Health to review recommendations to improve the prudential framework in 2019. (16) It found that around \$9.6 billion worth of lump sum accommodation payments were held by providers on 30 June 2018 that were considered as having a high liquidity risk rating (between 5-8 per cent) or very high liquidity risk rating (lower than 5 per cent).

StuartBrown also found that 164 providers were at risk of not complying with the permitted use rules, with around \$1.6 billion of lump sum accommodation payments being used for other purposes. Coupled with poor financial returns for residential aged care providers, there was a significant risk that providers holding a significant proportion of lump sum accommodation payments could default. (16)

Stuart Brown made several recommendations. These included to improve governance and strengthen risk assessment, increase information sharing with the Department of Health on financial circumstances and significant financial risks faced by providers, provide clarity on corporate structures and what constitutes a loan, and further restrict permitted uses. (16)

It recommended a minimum 15 per cent liquidity ratio as the primary risk indicator, with capital adequacy and whether a provider meets permitted use requirements being used as a secondary risk indicator. Those providers that face heightened financial risk would be required to remediate their situation. (16)

The Department of Health is yet to make a final determination on any changes to the prudential framework.

## Royal Commission into Aged Care Quality and Safety

The Royal Commission into Aged Care Quality and Safety explored the role of RADs in residential care. It released a call for submissions on capital financing for residential aged care in September 2020 to determine whether capital financial arrangements are appropriate and if not, what type of reforms should be introduced. (17)

The Royal Commission received 33 submissions from a range of stakeholders. The Counsel Assisting's Final Submissions noted that consideration should be given to a phased transition away from RADs completely, although this was not explicitly recommended. It noted there were increased solvency risks from RADs, inequitable access to finance for providers in regional, rural and remote regions, and some consumers were not being given a choice between a RAD or DAP.

The Counsel Assisting noted that a phased transition away from RADs was needed to establish a capital financing environment that relies on rental payments for accommodation, with capital expenditure funded primarily through debt and equity. (18) The Counsel Assisting noted that a transition would require coordination between the sector and lenders and support from the Australian Government by potentially using a capital financing pool or a system of loan guarantees. (18)

The final report from the Royal Commission recommended phasing out RADs for new residents and assisting providers with the transition by establishing an aged care accommodation capital facility. One Commissioner suggested that any Australian Government backed loan facility should be temporary to help providers transition to more commercial debt and equity, while the other Commissioner suggested it should be permanent to support redevelopment and building new facilities, along with increased capital grants. (19)

The Royal Commission also made several recommendations to reduce the risk of poor provider financial management. These included strengthening financial oversight, enforcing liquidity and capital adequacy requirements, more stringent financial reporting, and strengthened monitoring and enforcement powers, among other recommendations. (19)

### Providers

Providers have long stated that RADs are crucial to funding capital expenditure in residential aged care. This point was reiterated by providers within the Royal Commission into Aged Care Quality and Safety, with all noting that RADs play a crucial role in accessing and repaying bank debt for capital expenditure.

Estia Health noted RADs remain critical to the future development of residential aged care facilities, and withdrawing RADs would create significant financial risk. It was suggested that replacing RADs with commercial debt would create gearing levels too high for equity investors. Consumers may also be negatively impacted, having to pay a DAP at a higher rate than the opportunity cost associated with RADs. (20)

Estia Health also noted that RAD prudential requirements must be tightened. It was also suggested that a financial derivative be developed to allow the exchange of RADs and DAPs across providers to better meet organisational preferences. (20)

Regis Healthcare noted that the shift from RADs to DAPs would continue to impact cashflow negatively and require additional equity or commercial debt, thereby increasing required rates of return. It was also suggested that a major shift towards DAPs might render new capital expenditure unviable, given the incremental income from DAPs does not support gearing to the same extent as what can be sourced through RADs. The DAP return from the maximum permissible interest rate (MPIR) would not be enough to cover the hurdle rate for investment, thereby reducing development activity. (21)

Converting RADs to DAPs using the MPIR was considered inappropriate by some providers. These providers argued that the MPIR does not reflect the cost associated with building accommodation, nor the required rate of return for equity providers. (20) There was concern from providers with the MPIR at historical lows due to a reduction in interest rates. It was suggested the MPIR be replaced with the weighted average cost of capital (WACC) to better reflect the required rate of return and align DAPs with an equivalence to RADs. (21)

### ***The banking sector***

The banking sector made several comments related to RADs within the Royal Commission. It noted that RADs are fundamental to development lending, enabling providers to borrow above limits than would otherwise be supported through operating cash flows. (22)

The banking sector noted that the shift in preferences by consumers from RADs to DAPs, along with low profitability in the residential aged care sector and reduce occupancy rates, is making the sector less attractive for investment. (23) Westpac noted that the shift towards DAPs is impacting cashflow and debt levels. (22)

The banking sector expects any development funding it provides to be fully covered by RADs. This is primarily because bank lending is typically offered over three years. A reduction in RAD balances makes it harder for providers to repay their debt, thereby decreasing the amount of funding banks are willing to lend. (22, 23)

A shift from RADs to DAPs can reduce a provider's liquidity and the appetite for banks to lend. CBA suggested that reduced occupancy may also create a liquidity problem from RADs not being replaced. (24)

Banks noted that a reduction in RADs would reduce its valuation of a new facility and the amount a bank is willing to lend. (23) While an increase in DAPs will increase the core valuation of investment from additional income, this does not offset the loss in value from a reduction in RADs.

Banks suggested that they are less likely to invest in smaller providers. This was because they are generally less profitable, have weaker management, are unable to capture economies of scale, cannot diversify risk across sites, are at more financial risk from sanctions, have less access to capital to invest in assets, and generally have less quality accommodation stock. (23-25) A key consideration for banks when deciding on lending to a provider is residential housing prices and the liquidity of the housing market, given both correlate with RADs. (22, 25).

Banks suggested the sector could not cover the outflow from a significant reduction in RAD balances. (22, 23) The level of capital required would be too great, and a shift to DAPs would result in a core debt to EBITDA leverage that exceeds current lending thresholds. Banks suggested that any shift to such an

environment would require consultation with the sector to develop an alternative capital source and significant transition lead times.

### ***Other participants***

The Treasury noted that a capital financing alternative to RADs, such as private equity, may be more appropriate for residential aged care. It suggested that a shift to DAPs would better allow superannuation income streams to fund accommodation. However, The Treasury also noted that products providing retirees with dependable sources of income in retirement are under-developed. (26)

The Treasury noted that retirees may be less inclined to run down their assets to fund retirement living, given RADs may be required when entering residential aged care. (26) This suggests that RADs may have broader implications for how people structure their retirement income. Saving for RADs reduces present consumption, along with individual utility and economic activity.

The Treasury noted that reverse mortgage schemes, such as the Pension Loan Scheme (PLS) operated by the Australian Government, allows people to better contribute to the cost of their aged care. This includes DAPs given people can borrow against the equity in their home to access a regular income stream of up to 150 per cent of the maximum rate of the age pension. Maximum lump sum payments prohibit the PLS from being used to fund RADs.

While the PLS provides more opportunity for a resident to choose a DAP, there are barriers to their use by consumers. The Treasury noted this includes a reluctance to move back into debt in retirement, a reduction in bequest value, and the perception that reverse mortgages are a means of last resort. (26)

### **Impact from COVID-19**

The potential impact of COVID-19 on lump sum accommodation payments has been monitored by Ansell Consulting for the Department of Health. (27) Using a sample of providers, Ansell Consulting suggested that since the start of COVID-19 in February 2020, the residential aged care sector had reduced RAD balances by approximately \$1 billion up to 12 July 2020. This represents approximately a three per cent decline compared to the total value of RADs held by all providers.

Two primary factors identified by Ansell Consulting for the decline were a shift in DAPs by new residents and reduced overall occupancy rates due to shutdown measures imposed by providers. Ansell Consulting suggested that the decline in RADs has impacted cash flow, putting parts of the residential aged care sector at financial risk. It suggested this was likely to materialise into provider financial distress towards the end of 2020.

## 2. Trends in RADs

While RAD balances have grown strongly in the last five years, consumers are now more likely to choose a DAP when entering care, suggesting the growth in RAD balances may slow in the future if this shift from RADs to DAPs continues. This will impact the sector differently, with some providers more reliant on RADs than others.

This chapter presents results from a detailed exploration of RADs across provider characteristics, including ownership type (not-for-profit, for profit and government), size (small providers with less than 300 beds, mid-sized providers with 301 to 1500 beds, and large providers with 1,501 beds or more), and provider location (metropolitan, regional and remote).<sup>6</sup>

### Trends in the volume RADs

Most RADs are held by not-for-profit providers, followed by for-profit providers and then government owned providers (see Chart 2.1). This is primarily due to not-for-profit providers being the dominant ownership type, accounting for 56 per cent of the market.

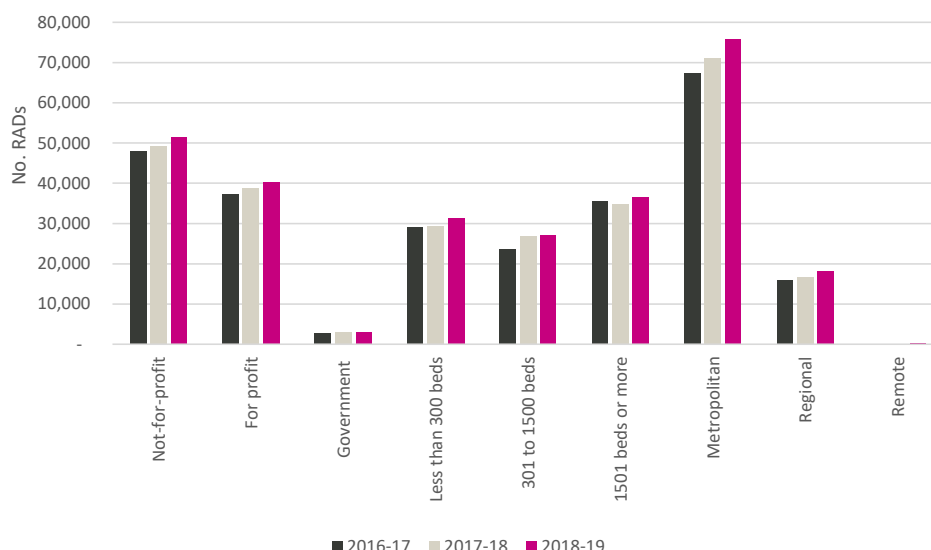
Growth in the number of RADs held was similar across the different ownership types between 2016-17 to 2018-19. Growth has steadily increased, totalling 7.2 per cent for not-for-profit, 7.6 per cent for-profit, and 8.9 per cent for government providers

Large providers held the most RADs, followed by smaller providers and then mid-sized providers. This is because large providers have the most approved beds compared to mid-sized and smaller providers, even though large providers only make up 10.4 per cent of the number of providers. Small providers hold a significant amount of RADs due to their market share as a group. They consist of 79.6 per cent of all providers, with the remaining 10 per cent being mid-sized providers.

The number of RADs held increased 15.1 per cent for mid-sized providers between 2016-17 to 2018-19. This was the greatest growth rate across provider size. Small providers experienced a 14.8 per cent increase in the number of RADs, while growth for large providers was only 1.1 per cent.

---

<sup>6</sup> Some providers operate facilities across multiple regional locations. These providers were classified into a region by examining where each facility was located. Providers were allocated to a region based on where most of their facilities were located.

**Chart 2.1: Number of RADs held by provider characteristics**

Source: Australian Government Department of Health.

## Trends in RAD balances

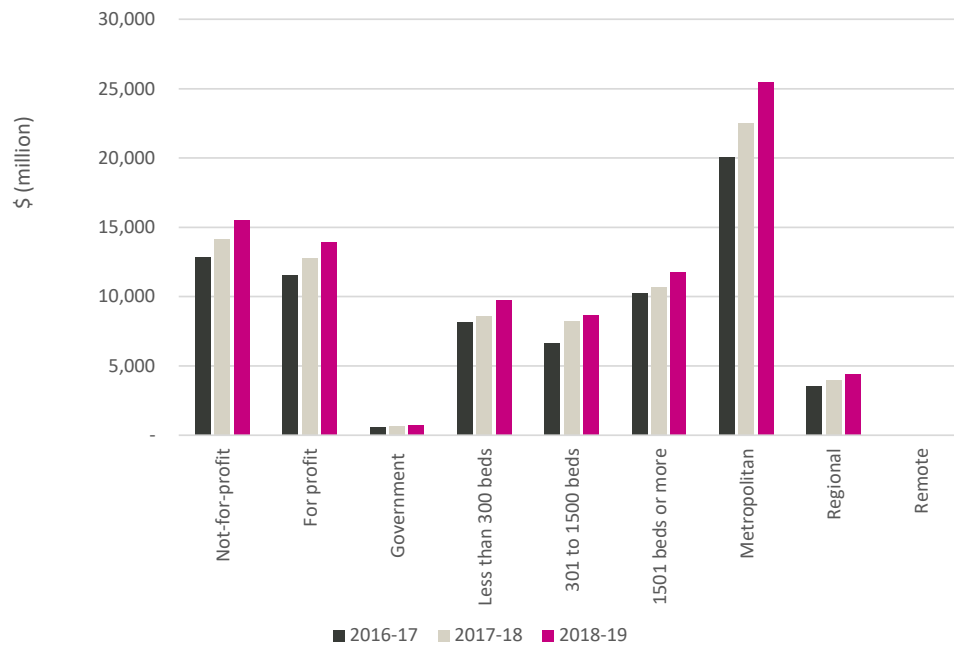
Trends in total RAD balances reflect the same increased trends in RAD volumes (see Chart 2.2). There was an increasing trend in total RAD balances held by providers between 2016-17 and 2018-19. Not-for-profit providers, large providers, and providers with most facilities located in metropolitan regions held the greatest RAD balances.

RAD balances have increased at a greater rate compared to the volume of RADs. This reflects increased average RAD values (see Chart 2.3) associated with increased accommodation prices. For-profit providers had the highest average RAD value of \$333,185 in 2018-19, with not-for-profit providers at \$267,032 and government providers at \$217,084. The average RAD value within for-profit providers increased by 18.5 per cent compared to 11.9 per cent for not-for-profit providers and only 8.6 per cent for government providers.

The average RAD value was the highest for mid-sized providers at \$312,840 in 2018-19, followed by small providers at \$282,070 and large providers at \$251,723. In the three-year period of 2016-17 to 2018-19, average RAD values increased by around 15 per cent for both small and mid-sized providers, while the increase was only 1.1 per cent for large providers. This was due to a 4.5 per cent fall from 2017-18 to 2018-19.

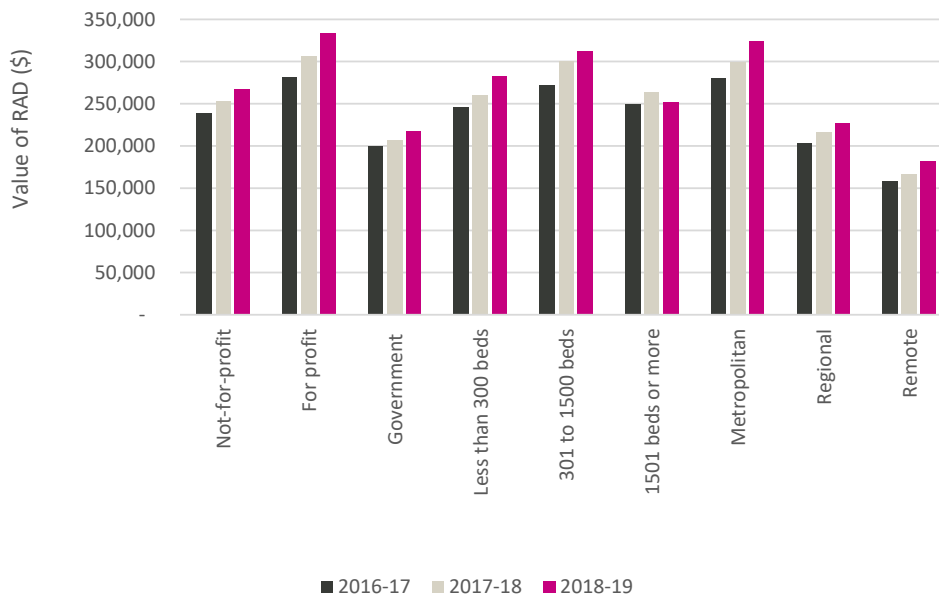
The average RAD value was higher for providers in metropolitan areas at \$324,121 in 2018-19, followed by those in regional areas at \$226,524 and in remote locations at \$181,871. The growth rate for average RAD values was 15 per cent for metropolitan and remote areas and 12 per cent for regional areas 2016-17 to 2018-19.

**Chart 2.2: Total RAD balance by provider characteristics**



Source: Australian Government Department of Health

**Chart 2.3: Average RAD value by provider characteristics**



Note: The average value of RADs held by providers was calculated by dividing the total provider RAD balance by the total number of RADs held.

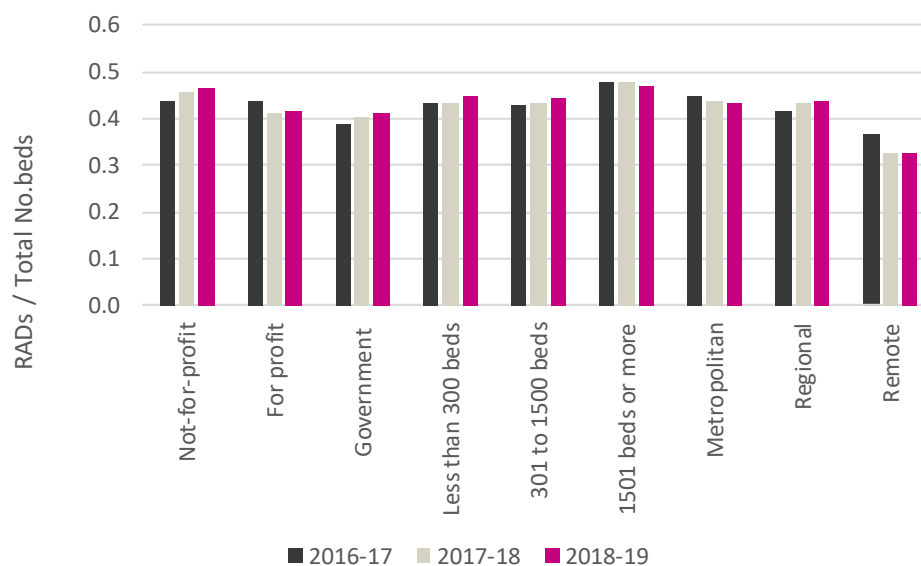
Source: Australian Government Department of Health



There has been an increase in RAD volume, RAD balances, and average RAD values across ownership, size, and region, despite a shift from RADs to DAPs. According to ACFA, the proportion of unsupported and partially supported consumers choosing a RAD has decreased from 43 per cent in 2014-15 to 35 per cent in 2018-19. Instead, consumers have shifted to choosing a DAP, with the proportion increasing from 33 per cent to 41 per cent over the same period. The proportion of consumers choosing a combination payment has remained the same at 24 per cent. (1)

The impact of a shift from RADs to DAPs is not consistent across provider types. The proportion of beds paid for by RADs has increased for not-for-profit providers and government providers, but decreased for for-profit providers (see Chart 2.4). The proportion of total beds covered by RADs has also decreased for large providers and those located in metropolitan and remote regions.

**Chart 2.4: Proportion of total beds paid for by RADs**



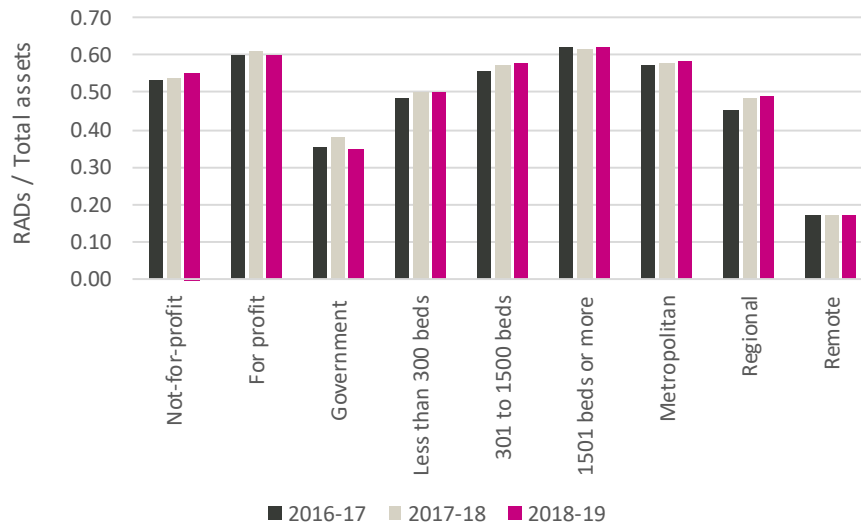
Note: Total beds include beds for fully supported, partially supported, and unsupported residents.

Source: Australian Government Department of Health.

Reliance on RADs to fund capital expenditure has grown recently, although not for all provider types (see Chart 2.5). Providers operating most of their facilities in regional areas have experienced the greatest increase, with their RADs as a proportion of total assets increasing from 45.3 per cent to 48.9 per cent between 2016-17 and 2018-19. This represents a 7.9 per cent increase. Not-for-profit providers and small providers have also experienced a relatively large increase in their reliance on RADs, with a 3.7 per cent and 3.6 per cent increase, respectively.

For-profit providers, large providers, and metropolitan providers have the greatest reliance on RADs for capital expenditure. The reliance on RADs has remained relatively unchanged for for-profit providers and large providers, but grew by 1.6 per cent for metropolitan providers. Government providers have become less reliant on RADs, experiencing a 2.4 per cent reduction in RADs as a proportion of total assets between 2016-17 and 2018-19.

**Chart 2.5: Reliance on RADs for capital expenditure**



Source: Australian Government Department of Health.

# 3. Factors driving RAD trends

Trends in RADs ultimately comes down to consumer preferences. Accommodation payment choice is complex, nearly always undertaken by consumers that have no experience with residential aged care, who may have limited financial literacy, and who may be under stress. The choice will be impacted by individual financial circumstance and non financial preferences.

This chapter presents results from analysing deidentified data on consumers that entered residential aged care between 2016 to 2019, to assess whether consumer characteristics, accommodation price, and external factors impact the accommodation payment choice.

## Overview of accommodation payment choice

Residential aged care providers must offer consumers a choice between a RAD, DAP, or a combination of both when deciding how to pay for accommodation. Trends in RADs are therefore determined by trends in consumer choices. This choice is complex, potentially significantly impacting a consumer's pension income, other income streams, co-contribution to care, taxation, and wealth.

While the consumer sees a payment decision, choosing an accommodation payment type is also a major investment decision. Selling the family home and paying a RAD reduces investment exposure to residential property. Paying a DAP and keeping the family home maintains an investment in residential property, with the income earned from renting that property potentially used to pay for residential care accommodation.

Given a resident can pay for accommodation using any combination of RAD or DAP, there will be an optimum combination for a consumer based on their specific financial situation, expected length of stay, level of risk adversity, and views on future asset performance.

An accommodation payment decision is often made in times of stress, with time and financial constraints. Access to a financial advisor can be limited, either because people cannot afford the cost, are fearful they would not understand the advice, or do not have enough time.

There is also an emotional component attached to the accommodation payment decision. Selling the family home to pay for a RAD can be emotionally difficult, especially if the consumer held out hope that they would once return to their home.

Little research has evaluated factors that impact the accommodation payment choice. A survey of persons aged 60 years and over, informal carers, and aged care recipients undertaken by KPMG in August 2018 identified several factors that impact the accommodation payment decision. This included the level of the MPIR, expected length of stay, personal financial circumstances, whether the consumer is part of a couple, and the time it takes to sell the family home. (28)

ACFA has also reported feedback from providers on factors that may impact consumer choice. It suggested a reduction in housing prices and a reluctance for consumers to sell their home in a declining market may reduce the likelihood that consumers to choose a RAD. (1) ACFA also suggested a shift to DAPs may be due to greater consumer awareness of their accommodation payment choices. ACFA noted that the impact of the MPIR on choice depends on investment rates faced by consumers. If the return is greater than the MPIR, the consumer is better off financially investing the lump sum and paying a DAP. (1)

## Methodology

Two de-identified administrative datasets were obtained from the Department of Health. One was derived from the annual survey of aged care homes (SACH), containing detailed payment information on all the new and transferred residents between 1 July 2016 to 30 June 2019. It also contained information about aged care home characteristics, such as their location and ownership type, but had no information on resident's characteristics.

The other administrative dataset was derived from information collected by Service Australia, containing de-identified information on the resident's characteristics. This included ACFI assessment scores and asset and income recorded on the asset and income test lodged when entering care. However, this dataset did not contain reliable information on accommodation payment choices.

Consequently, the two datasets were merged, using the deidentified aged care facility ID and the entry date of the deidentified resident. The merged dataset containing 57,508 non-supported residents and 18,129 partially-supported residents.<sup>7</sup> These two types of residents were analysed separately, given preferences for accommodation payment types may differ substantially. (1)

Summary statistics for the accommodation payment choice and predictors of choice (provider characteristics, resident characteristics, and other external factors) across different payment are presented, along with their definitions, within Appendix A.

Overall, the proportion of consumers choosing a RAD, DAP, or a combination of both between 2016-17 to 2018-19 for the non-supported and partially supported consumer samples are almost identical to that presented by ACFA. (1) This suggests the sample used for this analysis is robust, although potential nonrepresentation across other characteristics could not be evaluated.

Regression analyses were used to estimate the associations between the accommodation payment choice and choice predictors. The payment choice is two tiered. Consumers first choose among a RAD, DAP, or a combination of both. If they choose a combination payment, they must then choose the proportion of the RAD in their payment.

A zero-one-inflated beta (zoib) regression framework was adopted to simultaneously model the probability of choosing RAD, the probability of choosing DAP, and the proportion of RADs within the combination payment. This enabled the model to capture the unique decision making process for

---

<sup>7</sup> Due to data missing on assets, the sample size used in the regression analysis was 48,018 for non-supported residents and 13,378 for partially supported residents. The sample reduction had a small impact on the descriptive statistics of the predictors. This is further discussed in Appendix A.

accommodation payments. Details on this modelling strategy are provided in Appendix A. All analyses were undertaken using the Stata 16 software.<sup>8</sup>

## Non supported residents

### Factors that impact accommodation payment choice

Regression analysis results suggest provider characteristics, resident characteristics, and other external factors significantly impact accommodation payment choice for non-supported consumers. Table 3.1 shows the coefficient estimates and their p value, which is used to assess whether the effect of the predictor is statistically significant. Coefficient estimates reflect the impact on accommodation payment choice while controlling for other observable factors.

#### *Length of stay*

A consumer has 28 days upon entry into residential aged care to choose their accommodation payment type. Length of stay (LOS) should therefore not directly impact the accommodation payment choice because that choice is made at the beginning of their stay.

However, LOS is statistically significant and positively associated with the probability of choosing RAD and negatively associated with the probability of choosing DAP.<sup>9</sup> A consumer that stayed for a relatively short period in residential aged care was more likely to choose a DAP when they entered residential aged care.

While the underlying reason for this cannot be confirmed by the data, there may be two reasons. Consumers with a short LOS may have formed expectations that their LOS was going to be short when choosing their accommodation payment. They may be less willing to convert their assets, such as the family home, into cash to pay a RAD. In this case, the LOS coefficient represents the impact of LOS expectations on choice.

Another reason is that a short period in residential aged care can reduce the consumer's ability to pay a RAD, even if that were their choice. A consumer has six months to pay a RAD to the provider after making an accommodation payment decision. In the meantime, the consumer pays a DAP. It can take several months to prepare and sell a house, so consumers with a shorter stay have less opportunity to pay using a RAD.

---

<sup>8</sup> The `zoib` regressions and associated marginal effects were estimated using a user-written Stata command `-zoib-` developed by Maarten L. Buis.

<sup>9</sup> As the observable period ended on June 30, 2019, the exact LOS for those who remained at the facility on that date is unknown. This means LOS is censored on the right. Dropping censored data will reduce the sample size and bias the parameter estimates as censoring is not random. A censoring dummy variable was used to detect the potential impact of censoring. The statistical significance of its coefficient estimate suggests the effect of LOS may be overestimated.

**Table 3.1: Estimated impacts of predictors on accommodation payment choice**

	Probability of choosing RAD		Probability of choosing DAP		RAD percentage in the combination	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
LOS	0.0003***	[0.0000]	-0.0010***	[0.0001]	0.0004***	[0.0000]
LOS uncensored (ref)						
LOS censored	0.0908***	[0.0251]	-0.1924***	[0.0278]	0.0376*	[0.0194]
ACFI: ADL score	-0.0011	[0.0007]	0.0060***	[0.0008]	-0.0016**	[0.0006]
ACFI: BEH score	0.0005	[0.0006]	0.0024***	[0.0007]	0.00004	[0.0005]
ACFI: CHC score	-0.0449***	[0.0159]	-0.0261	[0.0174]	-0.0047	[0.0129]
Asset amount on entry	0.0012***	[0.0000]	-0.0004***	[0.0001]	0.0005***	[0.0000]
Income	-0.0001***	[0.0000]	0.0001*	[0.0001]	-0.00007*	[0.0000]
Agreed accommodation price	-0.0015***	[0.0001]	-0.0023***	[0.0001]	-0.0008***	[0.0001]
MPIR	0.4213**	[0.1969]	-1.1778***	[0.2484]	1.1336***	[0.1852]
Age at admission	0.0062***	[0.0016]	-0.0196***	[0.0017]	0.0007	[0.0013]
Female (ref)						
Male	-0.0232	[0.0261]	0.1306***	[0.0281]	-0.0128	[0.0208]
Not married (ref)						
Married	0.1032***	[0.0277]	-0.0648**	[0.0302]	-0.0648	[0.0302]
State: NSW (ref)						
State: VIC	-0.2354***	[0.0320]	-0.2741***	[0.0353]	-0.1945***	[0.0281]
State: QLD	-0.7162***	[0.0349]	-0.5867***	[0.0377]	-0.1017***	[0.0284]
State: SA	-0.5974***	[0.0434]	-0.7390***	[0.0493]	-0.0085	[0.0319]

	Probability of choosing RAD		Probability of choosing DAP		RAD percentage in the combination	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
State: WA	-1.0060***	[0.0452]	-0.9224***	[0.0485]	-0.3583***	[0.0349]
State: TAS	-0.0159	[0.0766]	-0.3217***	[0.0839]	-0.0119	[0.0596]
State: ACT	-0.0458	[0.1054]	-0.1539	[0.1210]	0.0909	[0.0809]
State: NT	-0.6122	[0.5043]	-0.5446	[0.4547]	-0.1888	[0.1851]
Remoteness: Major cities (ref)						
Remoteness: Inner regional	-0.3281***	[0.0315]	-0.2492***	[0.0342]	0.0081	[0.0250]
Remoteness: Outer regional	-0.5498***	[0.0500]	-0.1605***	[0.0527]	-0.1656***	[0.0369]
Remoteness: Remote	0.8606***	[0.2820]	1.0526***	[0.2979]	-0.3038**	[0.1266]
Ownership: For profit (ref)						
Ownership: Non for profit	-0.3725***	[0.0252]	0.2396***	[0.0279]	0.1651***	[0.0200]
Ownership: Government	-0.3427***	[0.0689]	0.3995***	[0.0727]	0.1325**	[0.0547]
Year: 2016-2017 (ref)						
Year: 2017-2018	0.0045	[0.0363]	-0.1204***	[0.0403]	0.0300	[0.0312]
Year: 2018-2019	-0.1374***	[0.0451]	-0.0680	[0.0530]	-0.0828**	[0.0395]
Constant	-1.6831	[1.1564]	9.8350***	[1.4543]	-6.4106***	[1.0866]
Ln(phi): Constant	0.9948***	[0.0135]				

Note: N=48,018. S.E. = Standard Error. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively.

### **Consumer health**

Consumer health when entering a facility may also impact accommodation payment choice. This is reflected in the coefficients attached to the three Aged Care Funding Instrument (ACFI) domains, although each domain affects accommodation payment choice differently.

The Activities of Daily Living (ADL) domain reflects the amount of assistance required by a consumer. ADL is measured across five sub-domains, including nutrition, mobility, personal hygiene, toileting, and continence. A higher score means the consumer requires more assistance.

The ADL score coefficient is statistically significantly and positively associated with the probability of choosing DAP, either on its own, or within a combination payment. The more assistance a consumer requires for activities when entering residential aged care, the more likely they will choose a DAP. Similarly, the less assistance required, the more likely they will choose a RAD.

The Behavioural (BEH) domain reflects the extent to which a consumer's behavioural and mental health disorders require support and assistance. It is measured across five sub-domains, including cognitive skills, wandering, verbal behaviour, physical behaviour, and depression. A higher score means the consumer is more impaired.

The BEH score coefficient is only statistically significantly and positively associated with the probability of choosing DAP. The more behavioural impairment a consumer has, the more likely they will choose a DAP. It has no statistically significant impact on choosing a RAD, either on its own, or within a combination payment.

The Complex Healthcare (CHC) domain reflects the need for additional healthcare assistance due to chronic conditions. It is measured across two sub-domains, including medication and complex health care. A higher score means the consumer requires more assistance to manage their health care.

The CHC score is only statistically significantly and negatively associated with the probability of choosing RAD. The more continual health care a consumer needs in residential aged care, the less likely they will choose a RAD. However, the CHC score does not significantly impact the choice of choosing a RAD within a combination payment.

Overall, coefficients attached to the three ACFI domains suggest less healthy consumers are when entering residential aged care, the less likely they will choose a RAD. This conclusion reflects the impact of health on choosing a RAD independently from LOS. One explanation is that LOS does not perfectly proxy expected LOS. LOS expectations are also likely to be correlated with ADL scores. ADL domains may affect consumer choice through LOS expectations.

### **Assets and income**

The amount of assets a consumer reported on their asset and income test submitted to Services Australia is statistically significant and positively associated with the probability of choosing a RAD. The more assets reported by the consumer, the more likely they will choose a RAD.

Understanding the relationship between assets and choosing a RAD is complex as it depends on the composition of assets (e.g., housing is treated differently in means testing to all other assets). A positive relationship between assets and the probability of choosing a RAD is expected, given most consumers pay for a RAD using their assets. Consumers with low asset value are less likely to afford a RAD, instead drawing down on their assets to pay a DAP.



Income is also statistically significant but negatively associated with the probability of choosing RAD. This relationship likely reflects the increased ability for a consumer to pay a DAP as income increases. A consumer is unlikely to afford a DAP if they receive an aged pension, given providers charge 85 per cent of the single aged pension for daily living expenses.

Overall, statistically significant coefficients attached to assets and income suggest choosing an accommodation payment is somewhat a financial decision, although non-financial factors also impact choice.

### ***Accommodation price and the MPIR***

The accommodation price is statistically significant and negatively associated with the probability of choosing a RAD, DAP, or a RAD within a combination payment. This suggests that consumers are more likely to choose a combination payment when faced with a high accommodation price but are also more likely to choose a DAP within that combination payment.

There is some uncertainty on why this relationship exists. One explanation may be that consumers are either less willing, or find it more difficult, to pay a RAD when the accommodation price is high. Instead, they may pay the RAD amount they can afford and have the provider draw down the DAP from the RAD.

The MPIR is also statistically significant but positively associated with the probability of choosing a RAD. Consumers are more likely to choose a RAD as the MPIR increases. This makes sense, given that the cost of DAPs increase when the MPIR increases, making them less affordable for consumers. It may explain (in part) why consumers have shifted from RADs to DAPs between 2014-15 and 2018-19, as the MPIR has also declined over this period.

The relationship between the MPIR and the probability of choosing a RAD is not straight forward. The rate of investment return will likely change as the MPIR changes, which means the income from investing a RAD in some financial product, rather than giving it to a provider, could also change.

If the differential between an investment return and MPIR becomes smaller,<sup>10</sup> and the investment return is below the MPIR, then income from investing the RAD can more easily cover a DAP. This may increase the probability of choosing a DAP. Conversely, a larger differential will make it more difficult for the consumer to pay a DAP using income from investing a RAD, which may increase the probability of choosing a RAD.<sup>11</sup>

### ***Resident characteristics***

Resident characteristics were also significantly associated with accommodation payment choice. An older person, or married person, entering residential aged care is more likely to choose a RAD and less likely to choose a DAP. They are also more likely to choose a greater proportion of RAD within a combination payment. Male consumers are more likely to choose a DAP, although gender does not seem to significantly impact the likelihood of choosing a RAD.

---

<sup>10</sup> This could occur if the MPIR declines more quickly than the investment return, or the investment return increases more quickly than the MPIR.

<sup>11</sup> The opposite relationship will exist if the investment return is greater than the MPIR. In this case, a larger differential will increase the consumer's ability to pay a DAP from investment income, thereby increasing the probability of choosing a DAP, while a smaller differential will increase the probability of choosing a RAD.

Results from the analysis do not provide enough information to understand why the relationships between resident characteristics and accommodation payment choice exist. While some may argue that an older person is more likely to choose a RAD, LOS, expected LOS, health and assets, which are all positively correlated with age, have been captured within the model. This suggests there is some other unobserved component of ageing that is impacting accommodation payment choice.

### **Facility characteristics**

There should be little relationship between facility characteristics and accommodation payment choice. However, there may be some unobserved factors that impact consumer choice that are also correlated with facility location. Potential examples include cultural differences in attitudes towards accommodation payment types, differences in financial literacy and access to financial advisors, differences in the composition of assets when entering residential aged care, and differences in education.

States within which a consumer resides has a statistically significant impact on the probability of choosing a RAD. Compared to those who entered facilities in NSW, consumers who entered facilities in all other states except ACT were more likely to use the combination payment with a lower proportion of RAD component. This relationship was only statistically significant in VIC, QLD, SA and WA.

Consumers who entered facilities in regional areas are more likely to choose a combination payment compared to consumers who entered facilities located in major cities. Consumers entering outer regional facilities are likely to choose a lower proportion of RAD component. Consumers who enter facilities in remote areas are more likely to choose a DAP than a RAD, over the combination payment. If they do choose a combination payment, the proportion of the RAD component is likely to be lower.

A statistically significant relationship was also found between provider ownership type and accommodation payment choice. Consumers who entered a not-for-profit or government facility were less likely to choose a RAD and more likely to choose a DAP or combination payment. However, if a consumer chose a combination payment, they were more likely to include a greater proportion of RAD component if they entered a not-for-profit or government facility.

The underlying reason for the statistically significant relationship between ownership status and accommodation payment choice cannot be determined from the data. One reason may be that different types of ownership may attract different types of consumers. Some of these differences are controlled for in the model, such as location of facilities, along with consumer assets and income. Another potential reason is that some providers may manipulate accommodation payment choices towards RADs. This is evident in the provider survey (see Chapter 4) and provider focus groups (see Chapter 5), although the extent to which this occurs is unknown.

### **The relative impact of factors on accommodation payment choice**

A scenario analysis was undertaken to determine the relative impact of each choice predictor on the probability of choosing a RAD. This was based on a 2018-19 hypothetical sample consumer by setting all continuous variables at their sample median and all the categorical variables at their reference point used in the regression analysis. Results are presented in Table 3.2. Results for the impact of each choice predictor on the probability of choosing a DAP or the proportion of the RAD in combination payment are presented in Table 3.3 and Table 3.4, respectively.

The predicted probability for the hypothetical resident to choose a RAD over the other payment types is 69.4 per cent. The continuous variable predictor with the greatest positive impact on the probability of choosing a RAD is the consumer's reported asset amount. A one standard deviation increase in the reported asset amount is estimated to increasing the probability of choosing a RAD by 13.6 per cent.

The continuous variable predictor with the greatest negative impact on the probability is the agreed accommodation price. A one standard deviation increase in accommodation price is estimated to reduce the probability of choosing a RAD by 4.4 per cent. This is substantially greater than the negative marginal impact of the ADL and CHC scores, suggesting accommodation price is a more important factor than health for consumers when choosing a RAD. A one standard deviation increase in the MPIR is estimated to increase the probability of choosing a RAD by 1.0 per cent.

Categorical variables with the greatest marginal effect on the probability of choosing a RAD are related to location. If the hypothetical person were to live in an aged care home in WA rather than NSW, while all other characteristics remained the same, the person would be 24.1 per cent less likely to choose a RAD.

Remoteness also has a relatively large marginal effect, although the trend is inconsistent. The probability of choosing a RAD would reduce by 7.4 per cent if the consumer lived in an inner regional region aged care home rather than a metropolitan aged care home, or by 12.7 per cent if the consumer lived in an outer regional region aged care home. However, it would increase by 14.9 per cent if the consumer lived in a remote region aged care home compared to a metropolitan region. This suggests that unsupported consumers living in a remote region aged care homes are more likely to choose a RAD compared to a DAP or a combination payment.

The predicted probability for the hypothetical consumer to choose a DAP over the other payment types is 62.9 per cent. The continuous variable predictor with the greatest impact on the probability is LOS, closely followed by the agreed accommodation price.

A one standard deviation increase in LOS is estimated to reducing the probability of choosing a DAP by 7.7 per cent. Whilst this is potentially overestimated due to the censoring problem, it is much larger than the marginal impact of health, as represented by the ADL, BEH, and CHC scores. A one standard deviation increase in accommodation price is estimated to reducing the probability of choosing a DAP by 7.6 per cent.

The MPIR impacts the choice of choosing a DAP more than a RAD. A once standard deviation increase in the MPIR is estimated to reduce the probability of choosing a DAP by 3.1 per cent.

Categorical variables with the greatest marginal effect on the probability of choosing a DAP are related to location. If the hypothetical person were to live in an aged care home in WA rather than NSW, while all other characteristics remained the same, the person would be 22.6 per cent less likely to choose a DAP compared to a RAD or a combination payment.

Remoteness also has a relatively large marginal effect. It would increase the probability of choosing a DAP by 20 per cent if the person lived in a remote region aged care home compared to a metropolitan region, while all other characteristics remained the same.

**Table 3.2: Relative impact of choice predictors on choosing a RAD**

Choice predictor	Scenario	Impact on probability	95% confidence interval	
LOS	one sd increase	2.3%	[1.7%	2.9%]
LOS censored	compared to uncensored	1.9%	[0.9%	2.9%]
ACFI: ADL score	one sd increase	-0.5%	[-1.0%	0.1%]
ACFI: BEH score	one sd increase	0.2%	[-0.3%	0.7%]
ACFI: CHC score	one sd increase	-0.8%	[-1.3%	-0.2%]
Asset amount on entry	one sd increase	13.6%	[12.4%	14.8%]
Income	one sd increase	-1.2%	[-1.8%	-0.5%]
Agree accommodation price	one sd increase	-4.4%	[-5.0%	-3.9%]
MPIR	one sd increase	1.0%	[0.1%	1.9%]
Age at admission	one sd increase	1.0%	[0.5%	1.5%]
Male	compared to female	-0.5%	[-1.6%	0.6%]
Currently married	compared to not married	2.1%	[1.0%	3.3%]
State: VIC	compared to NSW	-5.2%	[-6.6%	-3.8%]
State: QLD	compared to NSW	-16.8%	[-18.5%	-15.2%]
State: SA	compared to NSW	-13.9%	[-15.9%	-11.8%]
State: WA	compared to NSW	-24.1%	[-26.2%	-21.9%]
State: TAS	compared to NSW	-0.3%	[-3.5%	2.9%]
State: ACT	compared to NSW	-1.0%	[-5.4%	3.5%]
State: NT	compared to NSW	-14.3%	[-38.7%	10.2%]
Remoteness: Inner regional	compared to major cities	-7.4%	[-8.8%	-5.9%]
Remoteness: Outer regional	compared to major cities	-12.7%	[-15.1%	-10.3%]
Remoteness: Remote	compared to major cities	14.9%	[7.5%	22.3%]
Ownership: Non for profit	compared to "for profit"	-8.4%	[-9.6%	-7.3%]
Ownership: Government	compared to "for profit"	-7.7%	[-10.9%	-4.5%]

Note: sd = standard deviation. This analysis is based on a 2018-19 hypothetical sample consumer established by setting all continuous variables at their sample median and all the categorical variables at their reference point used in the regression analysis.

**Table 3.3: Relative impact of choice predictors on choosing a DAP**

Choice predictor	Scenario	Impact on probability	95% confidence interval	
LOS	one sd increase	-7.7%	[-8.5%	-6.9%]
LOS censored	compared to uncensored	-4.6%	[-5.9%	-3.3%]
ACFI: ADL score	one sd increase	2.6%	[1.9%	3.3%]
ACFI: BEH score	one sd increase	1.2%	[0.5%	1.8%]
ACFI: CHC score	one sd increase	-0.5%	[-1.1%	0.2%]
Asset amount on entry	one sd increase	-4.4%	[-5.7%	-3.1%]
Income	one sd increase	1.6%	[-0.2%	3.3%]
Agree accommodation price	one sd increase	-7.6%	[-8.4%	-6.9%]
MPIR	one sd increase	-3.1%	[-4.3%	-1.9%]
Age at admission	one sd increase	-3.5%	[-4.1%	-2.9%]
Male	compared to female	3.0%	[1.7%	4.3%]
Currently married	compared to not married	-1.5%	[-2.9%	-0.1%]
State: VIC	compared to NSW	-6.6%	[-8.2%	-4.9%]
State: QLD	compared to NSW	-14.4%	[-16.2%	-12.6%]
State: SA	compared to NSW	-18.2%	[-20.5%	-15.8%]
State: WA	compared to NSW	-22.6%	[-24.9%	-20.4%]
State: TAS	compared to NSW	-7.8%	[-11.8%	-3.7%]
State: ACT	compared to NSW	-3.7%	[-9.4%	2.1%]
State: NT	compared to NSW	-13.3%	[-35.6%	9.0%]
Remoteness: Inner regional	compared to major cities	-6.0%	[-7.6%	-4.3%]
Remoteness: Outer regional	compared to major cities	-3.8%	[-6.3%	-1.3%]
Remoteness: Remote	compared to major cities	20.0%	[11.7%	28.4%]
Ownership: Non for profit	compared to "for profit"	5.4%	[4.2%	6.6%]
Ownership: Government	compared to "for profit"	8.8%	[5.8%	11.7%]

Note: sd = standard deviation. This analysis is based on a 2018-19 hypothetical sample consumer established by setting all continuous variables at their sample median and all the categorical variables at their reference point used in the regression analysis.

**Table 3.4: Relative impact of choice predictors on choosing a RAD within a combination payment**

Choice predictor	Scenario	Impact on probability	95% confidence interval	
LOS	one sd increase	2.9%	[2.3%	3.5%]
LOS censored	compared to uncensored	0.9%	[0.0%	1.9%]
ACFI: ADL score	one sd increase	-0.7%	[-1.3%	-0.2%]
ACFI: BEH score	one sd increase	0.0%	[-0.5%	0.5%]
ACFI: CHC score	one sd increase	-0.1%	[-0.6%	0.4%]
Asset amount on entry	one sd increase	6.4%	[5.2%	7.6%]
Income	one sd increase	-1.2%	[-2.4%	0.0%]
Agree accommodation price	one sd increase	-2.9%	[-3.5%	-2.2%]
MPIR	one sd increase	3.2%	[2.2%	4.1%]
Age at admission	one sd increase	0.1%	[-0.4%	0.6%]
Male	compared to female	-0.3%	[-1.3%	0.7%]
Currently married	compared to not married	0.2%	[-0.9%	1.3%]
State: VIC	compared to NSW	-4.8%	[-6.2%	-3.4%]
State: QLD	compared to NSW	-2.5%	[-3.9%	-1.1%]
State: SA	compared to NSW	-0.2%	[-1.8%	1.3%]
State: WA	compared to NSW	-8.7%	[-10.4%	-7.1%]
State: TAS	compared to NSW	-0.3%	[-3.2%	2.6%]
State: ACT	compared to NSW	2.3%	[-1.7%	6.2%]
State: NT	compared to NSW	-4.7%	[-13.5%	4.2%]
Remoteness: Inner regional	compared to major cities	0.2%	[-1.0%	1.4%]
Remoteness: Outer regional	compared to major cities	-4.1%	[-5.9%	-2.3%]
Remoteness: Remote	compared to major cities	-7.4%	[-13.4%	-1.5%]
Ownership: Non for profit	compared to "for profit"	4.1%	[3.1%	5.1%]
Ownership: Government	compared to "for profit"	3.3%	[0.6%	6.0%]

Note: sd = standard deviation. This analysis is based on a 2018-19 hypothetical sample consumer established by setting all continuous variables at their sample median and all the categorical variables at their reference point used in the regression analysis.

The predicted proportion of the RAD in the combination for the hypothetical resident is 46.9 per cent. The continuous variable predictor with the greatest impact on the proportion of RAD chosen within a combination payment is the recorded asset amount on entry, followed by the MPIR. A one standard deviation increase in asset amount is estimated to increase the proportion of RAD in the combination by 6.4 per cent. A one standard deviation increase in MPIR is estimated to increasing the proportion of RAD in the combination by 3.2 per cent.

Categorical variables with the greatest marginal effect on the proportion of RAD are related to location. If the hypothetical person were to live in an aged care home in WA rather than NSW, while all other characteristics remained the same, the proportion of the RAD in the person's payment will be reduced by 8.7 per cent. It would be reduced by 7.4 per cent if the person lived in a remote region aged care home compared to a metropolitan region, while all other characteristics remained the same.

## Partially supported residents

While the data structure is somewhat different for partially supported residents (who mostly chose DAC and rarely chose RAC), the regression results are consistent with those for non-supported residents (see Appendix A).<sup>12</sup> There are only two clearly different estimates in terms of significance and direction. Being married has a statistically significant and positive association with the proportion of RAC in the combination payment. Furthermore, compared to those who entered facilities in NSW, consumers who entered facilities in ACT were more likely to use DAC.

The scenario analysis based on the same hypothetical consumer reveals more differences (see Appendix A). The continuous variable predictor with the greatest impact on the probability of choosing a RAC is the agreed accommodation price (see Table A.9). A one standard deviation increase in the accommodation price was estimated to reduce the likelihood of choosing a RAC by 24.8 per cent. This is a much stronger effect compared to the impact of accommodation price on choosing a RAD, which was 4.4 per cent.

In contrast, the effect of reported assets on choosing a RAC was smaller. A one standard deviation increase in reported assets was estimated to increase the likelihood of choosing a RAC by 6.2 per cent, whereas it was 13.2 per cent for a RAD.

The continuous variable predictor with the greatest impact on the probability of choosing a DAC is also the agreed accommodation price (see Table A.10). A one standard deviation increase in accommodation price is estimated to reduce the likelihood of choosing a DAC by 3.6 per cent, where it was 7.6 per cent for a DAP. The effect of the MPIR on reducing the likelihood of choosing a DAC is also much smaller than a DAP at 0.5 per cent.

---

<sup>12</sup> Some statistical insignificance within the results for partially supported residents may be due to the small number of consumers choosing RAC (N=789) and combination payments (N=1,581) in the sample.



## 4. Provider survey results

An online survey was developed and administered to capture a broad view of the role of RADs from residential aged care providers. A total of 300 providers completed the survey questionnaire, representing approximately 36 per cent of all approved residential aged care providers in Australia. This chapter presents a summary of those survey results.

### Survey method

An unstratified random sample of providers completed an online survey using Qualtrics, an online survey platform, to gain a broader understanding of the role of RADs in residential aged care. The survey questionnaire was developed around this research project's objectives and refined from information collected within the focus groups (see Chapter 5).

A draft questionnaire was reviewed by members of the Aged Care Financing Authority to ensure it captured relevant information. After refinement, the survey was piloted with providers to test all aspects of the survey process, such as respondent directions, the questionnaire design, relevance of questions, question wording, question levels, and time required to undertake the survey. The questionnaire is presented in Appendix B.

The survey sought only providers that held RADs and respondents that understood the use of RADs in their organisation. This was managed through two screening questions. All survey respondents remained anonymous, with questions carefully designed to preserve this anonymity within the subsequent data analysis. However, providers could contact MUCHE via email if they had a query when completing the survey.

The Department of Health invited 845 approved residential aged care providers via email to complete the survey, which between them operated 2,720 facilities. The survey was open between 26 October 2020 and 13 November 2020. The Department of Health sent a reminder email to providers one week before the survey closed. The survey was also promoted through provider trade magazines by the Department of Health.

An initial review of the survey responses was undertaken to identify incomplete questionnaires,<sup>13</sup> and illogical relationships between question responses.<sup>14</sup> These questionnaires were discarded from the analysis of survey results. Responses were also checked for potential speeders, finding the minimum time to complete the questionnaire was 4.9 minutes, with the fastest 2.5 per cent of the sample completing the survey in 8.1 minutes. These responses were kept, as dropping them did not significantly impact the mean results. A total of 300 completed survey questionnaires remained, representing approximately 36 per cent of all approved residential aged care providers.

---

<sup>13</sup> Questionnaires with less than 80 per cent completed (i.e., they were not complete up to Part 4) were deemed incomplete and removed from the analysis.

<sup>14</sup> This was undertaken by exploring the ratio of select questions and looking for outliers. These included a ratio of Facilities to Approved Beds, Facilities to RAD value, Approved Beds to RAD value, RAD Value to Unsupported residents.



Respondents broadly reflected the sector's composition, capturing providers of all size, ownership type, and location of facilities across regional areas and states and territories (see Table 4.1). There was some over representation of mid-sized providers (301-1,500 approved beds), providers with most facilities located in remote regions, and not-for-profit providers.

**Table 4.1: Comparison of survey respondents to provider population composition**

	Survey population	Provider population
	<i>per cent</i>	<i>per cent</i>
	74.6	79.6
	18.7	10.0
	6.7	10.4
	55.3	56.1
	39.0	41.0
	5.7	2.9
	67.7	56.0
	21.3	32.6
	11.0	11.4

Note: n=300

Source: Provider population portions was calculated from data supplied by the Department of Health.

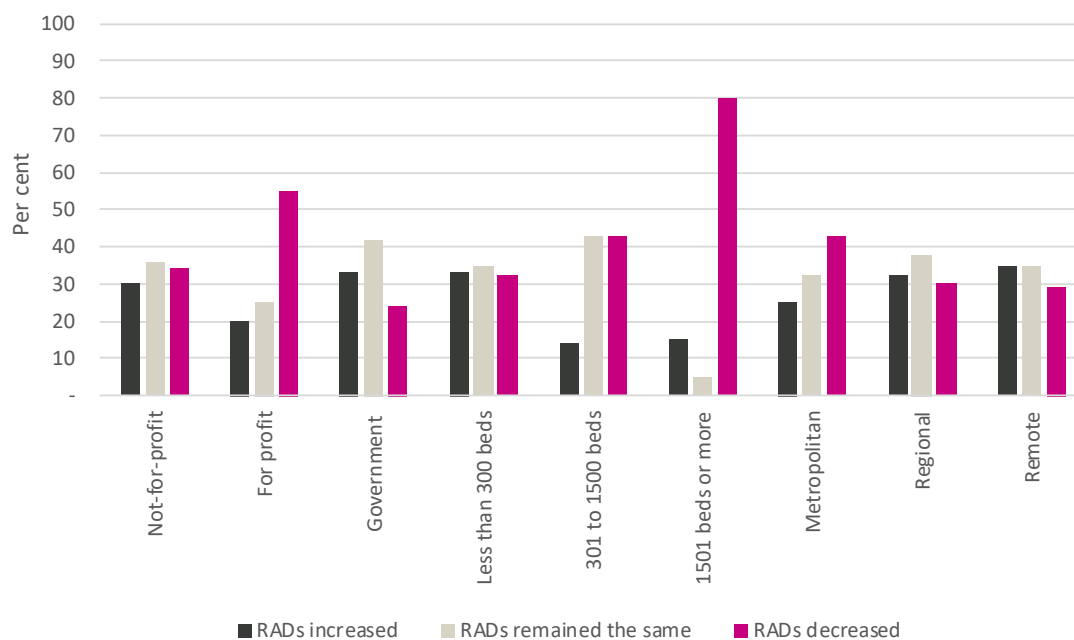
## Trends in RADs

Providers have experienced divergent trends in the proportion of their new consumers choosing RADs since 30 June 2017 (see Table 4.2). While 37 per cent of providers had experienced a shift away from RADs, 34 per cent had not experienced any significant shift in consumer payment choice. By contrast, 28 per cent of providers noted an increase in new consumers choosing RADs. The shift from RADs to DAPs was greater for for-profit providers, large providers, and providers with facilities mostly located in metropolitan areas (see Chart 4.1).

**Table 4.2: Change in new residents' choice of payment**

	No. of respondents	Per cent
RADs increased	85	28.3
RADs remained the same	103	34.3
RADs decreased	112	37.3

Note: n=300. Data relates to Q.11 in Appendix B.

**Chart 4.1: Change in the choice of payment by characteristic**

Note: n=300

The proportion of providers that experienced a decline in their RAD balances was 23 per cent (see Table 4.3). The magnitude of decline varied across provider types. While 25 per cent of providers that had experienced a decline noted it was between 6-10 per cent, around 13 per cent of providers experienced a decline of more than 25 per cent (see Table 4.4).

**Table 4.3: Decline in the total value of RADs**

	No. of respondents	Per cent
Total value of RADs has <u>not</u> declined	231	77.4
Total value of RADs has declined	69	22.6

Note: n=300. Data relates to Q.13 in Appendix B.

**Table 4.4: Proportion of decline in the total value of RADs**

	No. of respondents	Per cent
1-5%	8	11.6
6-10%	17	24.6
11-15%	15	21.7
16-20%	13	18.8
21-25%	7	10.1
More than 25%	9	13.0

Note: n=69. Data relates to Q.14 in Appendix B.

Survey responses suggest that the shift away from RADs has been compensated somewhat by increasing RAD values. An increase in the number of consumers paying a RAD, despite a decline in the proportion of new consumers paying a RAD, has also increased RAD balances, with 50 per cent of providers noting their total number of RADs has increased since 30 June 2017.

Around 65 per cent of providers attributed their RAD balance decline to a lower proportion of consumers choosing a RAD in full or within a combination accommodation payment (see Table 4.5). Around 20 per cent of providers noted that the decline was due to reduced occupancy rates. Around seven per cent of providers noted a decline due to more supported residents, and six per cent noted a decline due to lower accommodation prices.

**Table 4.5: Reasons for a decline in RAD balances**

List of reasons	Per cent
	41.7
Decline in the proportion of residents choosing to pay a RAD in combination with a DAP	23.3
Decline in occupancy rates	20.0
Decline in accommodation prices	5.8
Decline in the number of approved places held by the organisation	0.8
<b>Other reasons:</b>	
Increase in number of supported residents	6.7
Opening new facilities	0.85
Government Legislation has encouraged residents/families to pay a DAP	0.85

Note: n=69. Data relates to Q.15 in Appendix B.

Around 35 per cent of providers believed their decline in RAD balances would continue at approximately the same rate. Around 23 per cent of providers believed their declining trend would persist at a lower rate, while another 10 per cent believed their declining trend in RAD balances would persist, but at a faster rate. Around 22 per cent of providers believed the trend would not continue, while around 10 per cent believed their reduction would continue but only while Covid-19 remained a threat.

## Current use of RADs

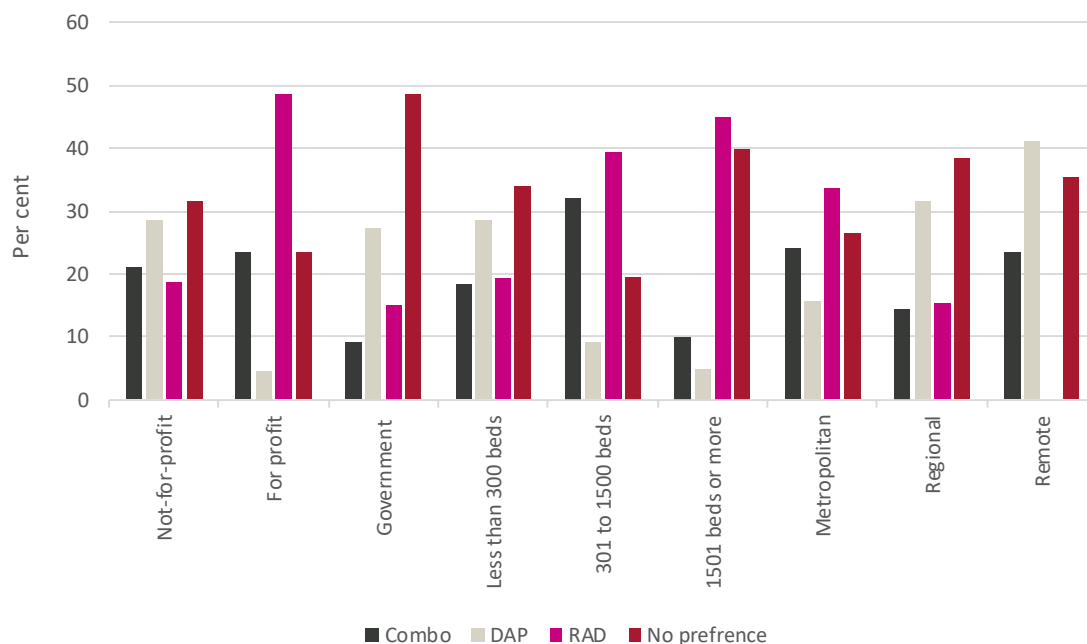
There was a relatively even distribution of providers expressing alternative preferences for accommodation payment types (see Table 4.6). Around 32 per cent of providers did not prefer an accommodation payment type, while 25 per cent preferred a RAD, 23 per cent preferred a DAP, and 20 per cent preferred a combination payment. Of those providers that expressed a preference for a combination payment, 28 per cent preferred more RADs in their combination and 13 per cent preferred more DAPs.

Preferences for accommodation payment types differed across provider characteristics (see Chart 4.2). Around 48 per cent of for-profit providers stated they preferred RADs, while the same proportion of government providers had no preference. Around 31 per cent of not-for-profit providers also had no preference for accommodation payment type, and only 19 per cent preferred RADs. Larger providers and those with facilities mostly located in metropolitan regions preferred a RAD.

**Table 4.6: Provider preference for accommodation payment types**

Choice of payment	No. of respondents	Per cent
Only RAD	74	24.7
Only DAP	70	23.3
Combination of RAD and DAP	61	20.3
No preference	95	31.7

Note: n=300. Data relates to Q.17 in Appendix B.

**Chart 4.2: Provider preference for accommodation payment type by provider characteristic**

Note: n=300. Data relates to Q.17 in Appendix B.

Around 65 per cent of providers noted they had only used between 1-20 per cent of their RAD balance for either capital expenditure or to repay a debt incurred for capital expenditure as at 30 June 2020 (see Table 4.7). In contrast, 15 per cent noted they had used 81-100 per cent of their RAD balance for these purposes.

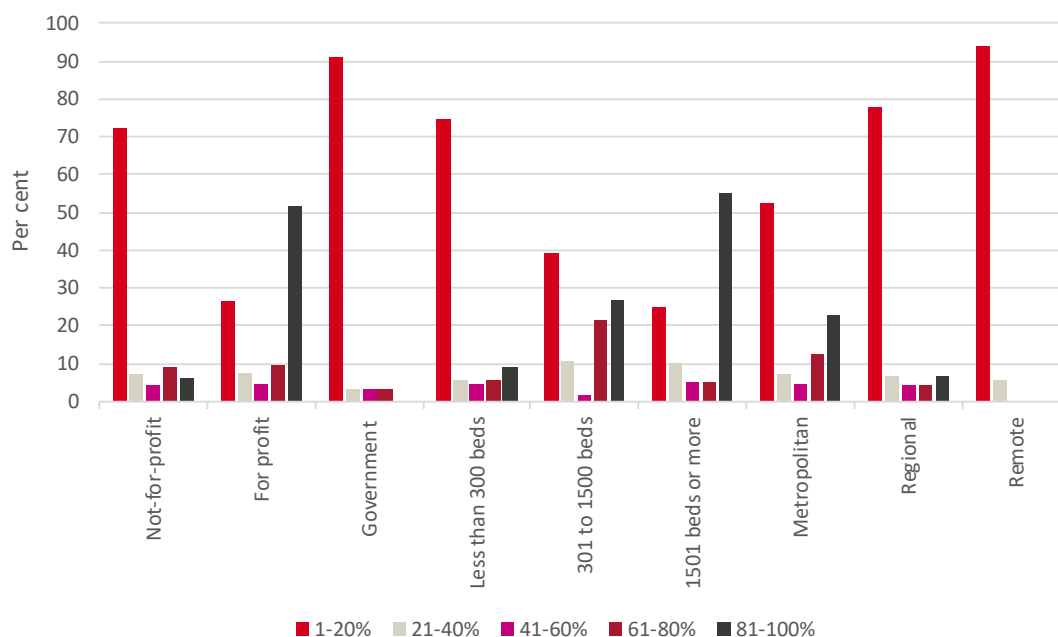
The use of RADs for capital expenditure differed significantly across provider types (see Chart 4.3). Around 52 per cent of for-profit providers used between 81-100 per cent of their RAD balances for either capital expenditure or to repay a debt incurred for capital expenditure. Similarly, 55 per cent of large providers used between 81-100 per cent of their RAD balances. In contrast, 91 per cent of government providers, and 72 per cent of not-for-profit providers, used between 1-20 per cent of their RAD balances for either capital expenditure or to repay a debt incurred for capital expenditure. Small providers and providers operating in regional and remote regions also used a lower proportion of their RADs for these purposes.

**Table 4.7: Proportion of RADs used for capital expenditure or repay related debt**

	No. of respondents	Per cent
1-20%	194	64.7
21-40%	21	7.0
41-60%	13	4.3
61-80%	26	8.7
81-100%	46	15.3

Note: n=300. Data relates to Q.19 in Appendix B.

**Chart 4.3: Proportion of RADs used for capital expenditure by provider characteristic**



Note: n=300. Data relates to Q.19 in Appendix B.

The large number of providers that do not use most of their RAD balances for capital expenditure suggests a significant RAD balance is invested elsewhere. Providers noted that around 80 per cent of RAD balances not used for capital expenditure are held in a deposit account (see Table 4.8). RADs are invested in other permitted uses but to a lesser degree, with around 7 per cent of balances held in managed funds. Providers noted around 8 per cent of RAD balances held in other purposes, listing investments such as a religious charitable fund deposit.

**Table 4.8: Proportion of RADs used for other purposes**

Investment type	Per cent
Held as cash in a deposit account	80.4
Other	7.7
Invest in managed funds	6.7
Invest in bonds	1.7
Invest in stocks	1.6
Invest in other securities	1.4
Invest in a debenture	0.4
Make a loan	0.2

Note: n=300. Data relates to Q.21 in Appendix B.

There was some variation among providers when asked whether RADs were used optimally for capital expenditure or financial performance (see Table 4.9). Around 53 per cent of providers noted they always or mostly used RADs optimally for capital expenditure. Around 52 per cent of providers noted they always or mostly used RADs optimally for financial performance. Around 20 per cent of providers and 17 per cent of providers believed they never use RADs optimally for capital expenditure or financial performance respectively. Nearly all providers (97 per cent) noted that they completely understood their prudential requirements.

**Table 4.9: Respondent views on whether RADs are used optimally within their organisation**

	Optimally used for capital expenditure	Optimally used for financial performance
	<i>per cent</i>	<i>per cent</i>
Always	31.7	24.7
Mostly	21.7	27.0
Sometimes	15.3	20.3
Rarely	11.0	11.0
Never	20.3	17.0

Note: n=300. Data relates to Q.23 and Q.24 in Appendix B.

## Future use of RADs

Many providers noted that their RAD balances were exposed to external events outside their control. Around 46 per cent noted that their future RAD balance is significantly exposed to a reduction in housing prices. Responses varied across provider characteristics, with most for-profit providers, providers mostly operating in metropolitan regions, and large providers holding this belief.

Nearly all providers noted that their future RAD balances were exposed to factors other than housing price reductions (see Table 4.11). Around 21 per cent of providers noted that their future RAD balances were exposed to a reduction in occupancy rates. Around 21 per cent believed a reduction in interest rates and 20 per cent believed an increase in consumers choosing a DAP would reduce their future RAD balances. Providers believe their future RAD balances were less exposed to reduced length of stay or reduced accommodation prices.

**Table 4.10: Is your RAD balance significantly exposed to a reduction in housing prices?**

	Yes	No
	<i>per cent</i>	<i>per cent</i>
<b>Organisation type</b>		
	47.8	52.2
	51.6	48.4
	21.2	78.8
	53.6	46.4
	35.0	65.0
	41.2	58.8
	40.6	59.4
	55.4	44.6
	75.0	25.0
	<b>45.7</b>	<b>54.3</b>

Note: n=300. Data relates to Q.26 in Appendix B.

**Table 4.11: Is your RAD balance significantly exposed to other events?**

	Per cent
Yes (Reduction in occupancy rates)	20.8
Yes (Reduction in interest rates)	20.5
Yes (Increase in residents choosing a DAP)	20.2
Yes (Reduced expected length of stay for residents)	18.7
Yes (Reduction in accommodation prices)	10.4
Yes (Discontinuation of the Aged Care Approvals Round)	6.3
No	3.1

Note: n=300. Data relates to Q.27 in Appendix B.

More than half of providers expected a shift from RADs to DAPs in the next five years. This belief was much stronger among large providers, with 95 per cent expecting a shift. Most for-profit providers and most providers operating mostly in metropolitan regions also expect a shift in consumer preference from RADs to DAPs. Of those providers that expect a shift, 88 per cent believed it would decrease the total value of their RAD balance.

Around 27 per cent of all providers noted that they have a strategy to maintain or increase RAD balances. Strategies included offering incentives for a consumer to pay a RAD, such as fee rebates and keeping accommodation prices low. Some providers noted that their strategy was to seek increased occupancy through marketing or applying for additional bed licenses. One provider noted they work with consumers on the potential financial benefits from a RAD. This could be contrary to legislation as direct financial advice can only be provided by a registered financial planner.

**Table 4.12: Will there be a shift from RADs to DAPs for your organisation?**

	Yes (%)	No (%)
<b>Organisation type</b>		
Not-for-profit	57.6	42.4
For-profit	67.2	32.8
Government	36.4	63.6
<b>Remoteness region</b>		
Metro	60.8	39.2
Regional	53.8	46.2
Remote	47.1	52.9
<b>Number of approved beds</b>		
1-300 beds	50.4	49.6
301-1500 beds	71.4	28.6
more than 1500	95.0	5.0
<b>All providers</b>	<b>57.3</b>	<b>42.7</b>

Note: n=300. Data relates to Q.28 in Appendix B.

Most providers (68 per cent) believed that a 10 per cent reduction in their RADs balance due to a shift to DAPs would not impact their capital investment decisions. Providers potentially impacted were mostly for-profit providers, providers operating mostly in metropolitan regions, and large providers. These types of providers are more reliant on RADs to undertake capital expenditure.

**Table 4.13: Would a 10 per cent reduction in RAD balances impact your capital expenditure?**

	Yes	No
	<i>per cent</i>	<i>per cent</i>
<b>Organisation type</b>		
Not-for-profit	26.6	73.4
For-profit	64.1	35.9
Government	3.0	97.0
<b>Remoteness region</b>		
Metro	44.0	56.0
Regional	17.9	82.1
Remote	11.8	88.2
<b>Number of approved beds</b>		
1-300 beds	22.8	77.2
301-1500 beds	57.1	42.9
more than 1500	65.0	35.0
<b>All providers</b>	<b>32.0</b>	<b>68.0</b>

Note: n=300. Data relates to Q.31 in Appendix B.



Around 15 per cent of providers noted there was another financing option available, besides equity or commercial debt, that could replace a decline in RADs. Several providers noted they were considering a sale and lease back arrangement with a REIT.

Other providers noted they could dispose of assets unrelated to residential aged care, such as an investment portfolio or surplus property, or receive funding from other business streams, such as retirement living. Some providers noted they had access to state government contributions, others noted they would seek funding from the Australian Government or through donations, while some providers noted they could raise funds through their Association members.

Around 53 per cent of providers noted that a 10 per cent reduction in their RAD balance would not impact other parts of their business. Around 65 per cent of providers noted the reduction could be covered by additional debt or equity.

Some providers thought a 10 per cent reduction in their RAD balances would impact their delivery of daily activities and care services. Around 15 per cent noted a potential impact on daily living activities, 14 per cent noted a potential impact on delivering care activities, and 10 per cent noted a potential impact delivering extra service activities.

It is unclear from survey responses why a reduction in RADs would impact daily activities and care services. One reason is that a reduction in RADs may increase interest expense, or dividend payments, if a provider covers the RAD reduction with increased debt or equity respectively. This would reduce the amount of EBITDA available for covering day to day activity costs. Another reason is that some providers may be using RADs to fund day to day activity costs, although this is not a permitted use and would therefore conflict with legislation.

## 5. Views from providers

This chapter presents key themes from five focus group discussions with 23 providers. Focus groups were conducted to gain a more detailed understanding of the role of RADs in residential aged care. Providers were purposefully selected based on their significant RAD balances, reflecting primarily large for profit and not-for-profit providers that owned facilities located across Australia. Government providers also participated. Focus group discussions were conducted using Zoom between 12<sup>th</sup>-23<sup>rd</sup> October 2020.

Providers were asked a set of questions within each focus group (see Appendix C) and were probed by the facilitator (a senior researcher) on their responses to ensure their thoughts and perspectives were fully understood. Focus groups were limited to six providers to promote equal contribution by all participants.

Each focus group discussion was recorded and transcribed. A thematic analysis was undertaken by coding and analysing discussion transcripts using the software NVivo. Thematic headings were chosen to reflect the original organisation of questions developed for the focus groups. Additional headings were created to reflect new themes that emerged from reading the transcripts. Themes were cross referenced to notes taken by at least two researchers within each focus group.

### Current use of RADs

RADs provide a reliable financing source for capital expenditure, allowing increased investment into building new facilities and refurbishment. The degree of reliance on RADs for capital expenditure varies depending on the provider, their debt and liquidity level, and the location of their facilities. Providers with facilities located in areas that contain relatively low house prices typically have less RAD balances.

Several providers stated they maintain a 10-15 per cent RAD balance in a liquid asset to comply with prudential requirements and use the rest to finance capital expenditure. Other providers noted they invest more of their RAD balance into capital to avoid paying a commercial debt to the greatest extent possible:

*“For us in recent times it’s been all of it [investment of RADs in capital]. If we’re developing two or three facilities... it’s been everything. You’ve put it in first before debt. So you know, it’s been all of it and, then incoming RADs pay down debt...” (A provider)*

RADs are mostly used to pay off debt for capital expenditure. Several providers use RADs to pay back commercial debt from banks, and if a RAD surplus remained, they would acquire land for their next development project. This effectively locks RADs into land where an equity return can be made from greater land valuation over time.

Not all providers use most of their RADs to finance capital expenditure. A government owned provider noted they accommodate a high proportion of supported residents in regional areas, which limits their ability to attract a large RAD balance. Instead their major construction projects were funded by government grants, and only 10-20 per cent of their RAD balance was used to finance capital expenditure.

Several providers noted they use their RAD balance to primarily generate income. In general, these providers hold their RADs in term deposits earning interest. Income generated is used to fund care services, daily activities, and facility administration. One provider stated that they invest their RADs into a managed fund with targeted returns. A few providers kept their RADs as cash to ensure they have enough liquidity to meet the outflow of RADs:

*“...early on LLLB it [RADs] was going to new developments. Probably the last two years it’s gone into significant refurbishment. So we’ve done a lot of – we don’t have really old sites – we’ve got a couple, but we’ve been using it to also upgrade and then get the supplement for supported. The rest of it’s gone to cash so then we have to hold investment funds and that’s a challenge in itself so we’ve got a fair bit out in different funding strains with different targets. So we do hold a cash haul” (A provider)*

## **RADs and organisational performance**

Providers held mixed opinions on whether their RADs were used to optimise their financial performance. A provider believed that treating RADs as a liability and restrictions on their use have limited investment in the sector. Several providers stated that due to prudential requirements, their surplus RAD balance is held in term deposits earning low returns, which limits their financial performance:

*“And I think capital markets now I look at them very much in that way. And there’s certainly a limit for even prior to Covid ...it’s been another factor in limiting capital markets willingness to invest in the sector when they look at this RAD liability. And with the restrictions around it, I think it has crowded out other sources of capital.” (A provider)*

One provider believed that REITs in the health and retail industries had provided access to cheaper capital. However, it also noted that RADs had imposed a barrier to exploring REITs in residential aged care as it heightened the investment risk, given RAD balances are dictated by consumer choice.

Other providers acknowledged that RADs had allowed them to optimise organisational performance. One provider was concerned that prudential requirements were too lax, and believed that significant RAD losses have occurred as a result. Another provider stated that prudential requirements are more crucial for smaller providers as they face greater business risk.

*“A couple of providers that went into liquidation... a voluntary liquidation and the government guarantee had to step in to save some of the resident monies. But knowing the transaction that actually happened behind there some of the regulatory controls were probably too relaxed in terms of the wide definitions in the Act particularly under the labelling of shares...And that’s where I saw a very, very significant RAD loss occur which was totally against the theme of what the permitted uses were. So the Act wording is a little bit probably correctly intended but not well worded ....and government probably starts to really wonder whether that guarantee system on twenty four billion dollars is a good idea.” (A provider)*

## **Providers’ preference**

Provider preferences for a RAD depended on their stage within their construction life cycle. When building new facilities or undertaking major refurbishment, providers must pay back commercial debt within a relatively short period. Conversely, providers generally preferred a DAP when not undertaking capital expenditure because it generated more operational cashflow and earnings compared to a return on investing RADs in low risk assets:

*“...it depends. There were about four or five years ago it was all about RADs. So when we basically renewed the majority of our assets and it really had a RAD focus and that was the pathway we’ve taken. We’re kind of at the end of that project at the end of that program we’ve build up a significant RAD balance. we’ve lost the appetite for new construction at the moment. And so there is a preference now to shift towards DAPs and boost profitability which is obviously struggling a little bit at the moment. So just my point is it just depends. And they’re the two sides of the equation coming out of that five year program now we’re shifting towards DAPs and I would say that let’s say post Royal Commission reform will go back and start to shift it again.” (A provider)*

Several providers valued RADs more than DAPs because they rely on RADs for capital expenditure, to access the initial debt from banks and to pay back that debt within the required time:

*“Yeah so our view is the opposite because we’re at a different stage in our program so have just kicked off a significant development program which is to get funded. And obviously that debt is predicated on having the RADs to pay it back as we go through the build process. So yeah our preference at the moment is definitely RADs.” (A provider)*

Other providers preferred DAPs because they were not planning on undertaking significant capital expenditure. Several noted this was due to a current unfavourable funding environment in residential aged care, particularly the low price from the Aged Care Funding Instrument (ACFI) for care services, and uncertainty generated by the Royal Commission into Aged Care Quality and Safety:

*“At the moment we don’t have any home in the pipeline to build – we’ve got more upgrades to do. And so therefore for us we’re looking at: do we want more DAPs because then it reduces the debtor risk given where the market’s possibly going as well.” (A provider)*

Some providers preferred to balance their RAD and DAP mix to reduce the operational and capital investment risk associated with relying on one type of accommodation payment. They saw DAPs as being more useful to fund operational activities. However, they also saw RADs as essential to capital investment:

*“..it’s a balanced approach you have to have. I don’t think you can have one or the other anymore. In [name of the provider] there’s not sufficient care funding to cover the underlying operating costs of the business anymore. So providers are being forced to supplement or compliment that cash flow from accommodation income which traditionally was used purely for refurbishment or a rebuild.....A simple DAP approach does help but one is harder than the other.. A pure RAD does make a financier nervous because they know the regulatory risk and RADs could change tomorrow. The government guarantee could just disappear that would change consumer sentiment towards it. And at the end of day cash flow is really what is most important it drives valuations for these sites that allows you to get borrowing. So you need to have a really balanced approach to it” (A provider)*

## Current RAD trends

Most providers experienced a significant increase in their RAD balance when the LLLB reform was introduced. Five years after the reform, providers had observed divergent trends in their RAD balances. Some had experienced substantial improvement in their RAD balances, resulting from the ability to charge high care residents a RAD. Other providers increased their RAD balances by building additional facilities or undertaken significant refurbishment, enabling them to attract new residents and to charge higher prices:

*So likewise, we've had a bit of a development program with about half a dozen new homes and some field extensions opening up. That has contributed to an increase in our net RAD balance. But on an underlying basis ignoring the new builds we've also seen an increase in our RAD balance. (A provider)*

Most providers noted they are currently experiencing a gradual shift from RADs to DAPs, albeit still with increased RAD balances. This was possible because accommodation prices have also increased. Providers stated that they felt more consumers are choosing a RAD / DAP combination accommodation payment, although Department of Health data suggests combination payments have only increased from 22 per cent to 24 per cent between 2016-17 and 2018-19: (1)

*"So even though the percentage of people paying RADs has declined from 80 to 75, our total RAD pool has grown. So the average RAD has grown to such an extent that its' offset the decline in the number of people paying RADs." (A provider)*

*"We've also seen the shift from the lump sum payment to DAP so we've definitely seen a shift. I couldn't give you an exact breakdown of that off the top of my head but it's material. So we have seen that occur particularly over the last three or four years. So there's a shift from more people wanting to pay the DAP." (A provider)*

Some providers noted that their proportion of consumers choosing a RAD has remained steady, however, they have started to observe a downtrend in their RADs balance due to declining occupancy rates:

*"... our RAD pool as a percentage between lump sum payments and DAPs has remained extremely steady... We've got roughly 80% of our RADs being paid as a lump sum, and 20% paid as a DAP. And we haven't really seen much change in that over the last five years. But more recently, our RAD pool ... has reduced primarily due to occupancy reductions." (A provider)*

Another provider noted they had recently experienced an increase in RAD balances and the proportion of consumers choosing RADs. The provider believed that their accommodation prices had encouraged consumers to choose a RAD:

*".....we do obviously have some very nice facilities. But we don't actually charge very high RADs....So what we've actually found is that if you pitch that RAD at a reasonable price people soon prefer to pay that..." (A provider)*

## Reasons for consumers' preference shift away from RADs

Most participants raised concerns about the gradual shift from RADs to DAPs. They believed that the recent MPIR reduction had made a DAP more attractive to consumers because the DAP was more affordable. This is despite the reduction in returns from investing a RAD elsewhere. They believed volatility within the MPIR creates uncertainty for providers as consumer behaviour also shifts:

*"Rates [MPIR] have been free falling for a fair bit of time now so the DAP is more affordable as well. So that obviously is an incentive. It's not great from a provider perspective because that's eroding your profitability...."(A provider)*

On the contrary, one provider believed that the MPIR reduction had not impacted consumer choice because the opportunity cost associated with RADs for a consumer is much lower than the cost associated with a DAP at the current MPIR:

*“I don’t think that there has been a significant change between RADs and DAPs because, even though the MPIR has come down to a point where it’s certainly affordable, it’s still significantly larger than what the loss of income would be for a person who made a lump sum payment. I think our consumers choose to pay a lump sum because they recognise that if they’ve got that money sitting in the bank they’re earning next to nothing. If they’re paying a DAP it’s costing them 4.1%. So they’d much rather give us a lump sum rather than a DAP” (A provider)*

Several providers noted their consumers are entering residential aged care later in life, thereby decreasing their average length of stay. They believed that a substantial increase in Home Care packages was one reason. They were concerned this would continue, resulting in a stronger preference for DAPs because it was challenging to sell the family home quickly to convert it into a RAD:

*“...we all notice in our business that not only has the average length of stay declined but the average age of admission has increased. It’s sometimes a lot easier for people to buy a DAP or a combination compared to before” (A provider)*

*“...occupancy has dropped somewhere between 2% and 10%, depending on what area you’re in. And that has had a significant impact on the RAD pools that you’re actually holding” (A provider)*

Providers also believed changes in the housing market impacted the consumer’s choice between a RAD and DAP. They noted that in times of housing price declines, it could become more challenging, or consumers become less willing to sell a home. This reduced consumer access to assets to pay a RAD. Several providers noted this scenario has recently resulted in more consumers choosing a DAP:

*“...my thought around the housing market was less around the price but around liquidity in the market. So we sort of had a correlation between people not being able to sell their houses or not willing to sell their houses.” (A provider)*

Several providers noted that consumers have a better understanding of the financial implications of choosing a RAD or DAP. They noted that improved access to financial advisors is one reason.

## Providers’ strategy to maintain the RADs balance

There was a consensus among providers that they had little control over accommodation payment choices. One provider argued that RADs were introduced to inject capital financing into the sector, but the potential benefit to providers had been diluted by allowing consumers to choose a DAP. Providers also argued that allowing consumers to choose freely creates increased uncertainty for providers in planning their future property development, and can reduce the sector’s attractiveness to equity investors. Many providers believed they should have more influence over the consumer’s accommodation payment choice, using a process of mutual agreement with consumers:

*“But currently it’s [ accommodation payment arrangement] swayed too much towards the consumer. I mean where else would you normally pay for accommodation in the broader sense and sort of say okay well you know what we’ll settle on a piece of accommodation but you actually have a choice to make it a lump sum buy out or rent it and it’s completely at your disposal....and there should be a fairer process whereby the provider and the I guess the client actually have a bit more of a conversation and come up with what works for both.” (A provider)*



Some providers noted there are possible strategies to encourage consumers to pay RADs. One provider suggested discounting fees to secure a RAD. Another provider suggested that the Australian Government introduce a minimum proportion of RAD that must be offered by the provider, but beyond that the provider should be able to dictate the accommodation payment type:

*“we’ve advocated for it to sort of say a bit more balance between how a provider and a client can negotiate in terms of that the RAD but also that maybe it could be that you actually have a RAD ratio also so that it gives us a chance to maybe do some modelling or stabilisation of that path and keeps that opportunity open at the consumer level” (A provider)*

Another provider stated that they are more concerned with a reduction in their occupancy rates compared to a shift towards DAPs. Some providers agreed that increasing accommodation prices for new and upgraded facilities located in wealthy suburbs is one strategy a provider can use to secure greater RAD balances.

## The potential impact from a reduction in RADs

Providers were asked several questions on the potential impact of a significant reduction in their RAD balances. Many providers suggested that RAD balances are one factor they consider when deciding to undertake capital expenditure. A stable or increasing RAD balance may not necessarily lead to increased capital expenditure. More critical to the investment decision was an adequate return for care services as this drove most of their revenue.

Several providers noted that a reduction in their RAD balances would limit their ability to undertake further capital investment and, in some cases, could force a provider to shut down a facility. Some providers suggested they could cover a small decline in RAD balances using debt. One provider mentioned that equity could replace RADs, but it would face difficulty attracting investors due to the regulatory environment and lack of profitability:

*“But the regulatory uncertainty and the margin erosion would have to be addressed in order to see significant equity capital come into replace that that RAD capital. Certainly the equity markets are not keen on bank gearing ratios going much above a sort of two to two and a half times EBITDA on pre AASB16 basis which does confuse things. So yeah it’d have to be replaced by equity capital which would either be partly by withholding dividends for being enabled to present to investors that this represents an attractive profitable proposition to invest in. So yeah it’d have to be replaced or you’d have to reduce scale shut operations and use the funds to repay the RADs.” (A provider)*

Several providers were concerned about their ability to cover a significant RAD outflow. If the shift to DAPs continues, some providers suggested they may face liquidity constraints:

*“[We] will be able to wear a gradual decline in RADs as we replace RADs with DAPs. But if it was a sudden, almost like a shock run on RADs, that will have an impact on our liquidity and having to repay RADs. And it is all about the timing, because you have to upfront refund cash, whereas your DAP income will come in over a period of time. And then you’d either have to tap into debt to be able to repay RADs.” (A provider)*

Some providers noted that a significant reduction in RADs would create solvency risk, which would be more pronounced for providers that had recently completed construction of a new facility and therefore still have substantial bank debts:

*“If there was a significant reduction on that capital base it’s going to expose the EBITDA lines of many, many providers very quickly...I think right now the fact that the industry has been able to hold itself capital wise and construction wise or refurbishment wise through RAD paid money or loans essentially from the consumers has been a saviour for the government being able to prop up the industry. If those RADs were to evaporate it would really expose the Stewart Brown statistics of how many providers are actually trading in an insolvent position. I think it’d be quite scary. So they’re a very important mechanism at the moment” (A provider)*

## Other financial arrangements to RAD

### Commercial debt and equity replacing RADs

Most providers thought it would be difficult to obtain debt or equity to replace RADs, especially now when there is significant uncertainty in the residential aged care sector:

*“I think, if you look at it from an investor’s perspective, they want to get a return that’s commensurate with the level of risk that they’re taking. We have nothing but uncertainty in this particular sector. We have policy uncertainty, and funding uncertainty. And that’s not particularly comfortable for either investors with the level of return that we have. And it’s not for the banks either.” (A provider)*

Some not-for-profit providers noted that increasing equity was not an option given their structure. Some suggested that providers with a strong balance sheet would be better placed to attract debt to replace RADs. However, this would need to be serviced by increased DAPs and other income sources. This suggests that reduced RADs from reduced occupancy rates would impact providers more than a reduction in RADs from a shift to DAPs.

Some providers noted that RADs are subordinated debt to bank debt, but only exist in a large quantum because of the Australian Government guarantee. This makes some providers leveraged to levels unseen in other sectors, with the Australian Government effectively subsidising RAD debt by holding onto the default risk:

*“RADs are unsecured subordinated debt that no one would ever hand over other than for the fact there’s a government guarantee on them. So the government is kind of credit wrapping in a sub-debt and that lets us take leverage up to eighty ninety hundred percent. That kind of government structure isn’t fixed with a small increase in revenue or earnings.” (A provider)*

Some providers noted that an increase in equity investment would require an increase in returns. They noted that equity investors are concerned about their claim over business assets, particularly whether RADs are an asset or liability. This uncertainty is making equity investment less attractive:

*“It’s been one of the perennially unanswered questions as to what exactly is a bond or a RAD or whatever it was called? Is it an asset – is it a liability? Is it some sort of working capital? Does it generate cash? Do you ever have to pay it back? All of which have got varied answered and I think as an industry and from an equity perspective point of view we’ve been somewhat comforted by that ambiguity whether rightly or wrongly. Were that to be as I said, translated*



*into much more traditional financing terms of debt and banks, I think it would make the industry less attractive for equity investors.” (A provider)*

There was consensus among providers that the current funding environment does not allow providers to generate enough return on investment to encourage further equity investment. Providers also noted that accessing commercial debt to replace RADs would be problematic because the earnings on DAPs could not meet the borrowing ratios banks require providers meet. Providers suggested that even if a decline in RAD balances were replaced by commercial debt, this would have a significant impact on their profitability given the increased borrowing cost. The quality of accommodation may also deteriorate.

*“I don’t think there’s a world where if there’s a significant move away from RADs you can have enough earnings to support replacing that capital with whether it’s equity or debt.” (A provider)*

*“... you’d want to make sure that the value of the assets that were supporting that debt were higher than the value of the debt otherwise it’s a non-starter for the banks. And then second you’ve got to service that debt. And whether 4% or 4.1% DAP rate effectively is going to be enough to service that debt – I don’t think it is. So that then goes to either higher prices or if the market can’t sustain those high prices then you start moving back in the world back to much lower quality accommodation.” (A provider)*

## **RADs and innovation in the delivery of accommodation**

There was no consensus among the providers on whether RADs encouraged accommodation innovation or imposed barriers. Some providers believed RADs encouraged innovation as they allowed providers to build high quality facilities to accommodate different care models:

*“...a lot of work and a lot of innovation did go into that [building project] and it was research based. And it was connected to our model of care specifically. So there was innovation I think the RAD system and that flow of capital definitely allowed us to spend more and still achieve a level of viability that allowed the project to proceed...” (A provider)*

Other providers felt RADs stifled innovation because they limited other types of accommodation ownership and funding structures, such as a strata model and made REITs riskier. One provider felt RADs limited the portability of beds in co-located retirement and residential aged care facilities. This meant that the provider could not allow residents to shift between retirement and residential aged care beds in the same facility:

*“So I’ve got an apartment building with two floors of resi [residential] and three floors of retirement. And it’d be really great if I could actually move a bed upstairs to the apartment and make that portable, and OK it frees up the physical room which I could possibly sell privately, but it’d be really good for somebody to be able stay in place in the building. Which to an extent they can do under a care package but it’s not always quite the same because you get more – better value out of a resi [residential] care bed. So I believe there should be some portability if you’ve got colocation to be able to – that will create more innovation I believe.” (A provider)*

Some providers felt that RADs did not stifle innovation, but accommodation pricing managed by the Aged Care Pricing Commissioner did because it reduced some provider’s ability to develop innovative facilities and models of care. One provider suggested RADs discouraged entrepreneurial spirit because

RADs did not generate enough return, while another suggested RADs did not allow providers to fail in pursuit of innovative practices.

*“...if you want to be innovative in built form, often that comes at a cost. And then you’ve got to be able to get a return on that investment of investing in that type of built form. And at the moment, the current RAD/DAP model is a bit – it’s a bit limited into how you can actually generate the appropriate income stream, or the appropriate return on that investment.” (A provider)*

*“So the query then becomes is the funding for that embedded somewhere in the system. So a RAD really doesn’t cover that, because you’ve, let’s say, guaranteed to be repaid loan. You actually need something a little bit more than that to make sure that you’ve got the capacity to cover innovative practises which may in fact fail in time. Not all of them will get up and earn the sort of income you’d expect.” (A provider)*

## **RADs and the MPIR**

Providers were asked whether the MPIR was an appropriate rate for converting RADs into DAPs, and whether the MPIR was relevant if RADs were removed. Some providers suggested that the MPIR was not fit for purpose. They noted that the MPIR does not ensure RADs and DAPs are equivalent from a provider perspective, as DAPs converted from a RAD using the MPIR does not allow the provider to seek the same level of debt.

Providers noted that the MPIR was volatile, which generated additional financial risk and tied providers more closely to economic cycles. Several providers noted that the historically low MPIR was causing financial strain because their DAP income had reduced significantly.

When probed on whether the impact from a decrease in the MPIR could be managed by increasing accommodation prices, some providers noted this had occurred and was facilitated somewhat by increased housing prices, although the extent of housing price increases had varied across regions. Other providers noted that increasing accommodation prices was not possible because of competition. Providers also noted that the need to get approval for accommodation prices above \$550,000 from the Aged Care Pricing Commissioner limited their capacity to manage an MPIR reduction.

Most providers agreed that an alternative to the MPIR should reflect the cost of providing accommodation. Some providers suggested that the weighted average cost of capital (WACC) should replace the MPIR. However, one provider suggested a WACC set at a sector average is unlikely to accurately reflect each provider’s cost of capital, which will depend on their ratio of debt and equity, along with their risk profile:

*“I found the discussion around the WACC just given the different profiles, the different mix of providers in the industry not for profits listed... I don’t think it’s that simple to just use a WACC. I think that’s a little more complicated. And I could also see it being used against the sector as well. So I’m not the biggest fan of using a WACC, others might have a different perspective I just think the industry is too complex and too diverse for it just to come up with a standard WACC.” (A provider)*

There are also differences in the cost of capital between providers in regional and remote areas compared to those in metropolitan areas, but the same MPIR is applied across all locations. Some providers suggested the MPIR was too blunt and should be adjusted to reflect differences across regions.

Several providers reflected on whether converting RADs to DAPs using the MPIR was fair to consumers. One provider noted that the MPIR does not achieve equivalence for either the consumer or the provider. The opportunity cost of providing a RAD is the return a consumer could get from investing the RAD elsewhere. The rate of return for a low risk asset, such as a term deposit, is lower compared to the MPIR. There is an incentive for consumers to pay a RAD. Alternatively, the rate of return for housing is can be higher than the MPIR, providing an incentive for consumers to keep the family home and pay a DAP.

Another provider noted that applying a fixed MPIR on accommodation when the consumer enters care is unfair, as subsequent consumers could enter the same accommodation and pay less because the MPIR reduced:

*“...there should be a rate which is benchmarked it works two ways you’ve got residents right now who might be a bit financially savvy and they realise that the MPIR is only four percent, four point one percent. And if they come in a couple of years ago, they’re still paying seven or eight percent. And because obviously it tags to the date that you enter. So it’s unfair to those people because in every other market industry these kind of rates fluctuate with time. And yet the MPIR is a fixed amount so you have winners and losers in either scenario.” (A provider)*

No providers believed an MPIR was relevant if RADs were removed. One provider suggested that a market based rental pricing approach should be used to determine the DAP in the absence of RADs.

## **RADs in a future aged care system**

Many providers believed that RADs should remain as no viable capital finance alternatives currently exist. However, providers also noted that the current framework could change to improve prudential requirements and to ensure there is more equivalence between a RAD and DAP for providers:

*“I think the RAD/DAP model works well. I think it needs a bit of tweaking to make it more favourable for the – well a better financial tool for the industry, or the sector, to operate with. But I think by and large, it’s worked so I wouldn’t be wanting to get rid of it in the short term.” (A provider)*

Some providers observed that the line between care and accommodation is sometimes blurred. One provider noted residential aged care should be treated like previous stages of life, where the consumer would have paid rent or mortgage for accommodation:

*“My take on all of this is that throughout your whole life you pay for accommodation. Right. Everyone does. I pay for accommodation. Now whether that’s a rental model, or whether it’s a purchase model, everyone pays for their accommodation. Aged care is just another stage of life, so why shouldn’t you pay for that accommodation. And I think that is the basic principle that needs to be applied for aged care. Now if you then keep on applying that principle – now whether that’s a rental model or whether it’s a purchase model – I don’t – I think both can exist. Which is not dissimilar to a RAD and DAP model that we’ve got now.” (A provider)*

Other providers suggested they should be free to design different payment mechanisms for accommodation, which would suit different types of residents. One provider indicated this could create more choice for consumers, with consumers able to seek advice from financial advisers when making their choice:

*“Well the government’s all about consumer-directed choice and care and information. I think provided the information is clear I don’t see a problem with that, particularly at the middle to higher end of the market – they are evermore aged care advisors who are working with*

*residents to help them make those choices... we're seeing evermore residents come through one of these advisors – in some cases the resident pays, in some cases we pay. But there's an overall shift happening there.” (A provider)*

Providers agreed that if a few operators take advantage of consumers in their accommodation payment choices, consumers and the Australian Government may lose trust in providers.

Some providers indicated that they would like to see RAD retentions reintroduced to help providers generate an appropriate rate of return. One provider suggested that consumers were happy to make retention payments, and removing them through the LLLB reforms had only increased accommodation prices. Another provider suggested they should structure accommodation payments in negotiation with consumers, which could include providing consumers with a property based return, like the retirement village model.

## Funding residential care accommodation in the future

Providers discussed several changes that could be made to accommodation funding. Several providers noted that when an incoming resident enters aged care, they do not immediately choose the payment method for the accommodation, which can create uncertainty. They suggested that consumers should be made to choose their accommodation payment type sooner, and there should be a greater capacity for providers to negotiate accommodation payment types with consumers:

*“But if there was a little bit more flexibility as between a provider and a consumer as to who can choose how things might be paid, I think that would benefit the providers and... get a bit more equality back into the relationship between the provider and consumer. I think under the Living Longer, Living Better arrangements, it just sort of went too hard and too fast for consumers. And I'm not talking about taking away protections. But I think there can just be a little bit of re-balancing, to create a bit more equality there between the provider's needs, in the context of everything else that's going on in the industry where we are struggling for compensation for our services delivered.” (A provider)*

Another issue raised by a provider was the penalty interest rate incurred by providers while waiting to repay a RAD to a consumer. It was argued that the interest rate is more than what providers can earn on investing the RADs while waiting to undertake the repayment. This cost is somewhat determined by the consumer's willingness to accept the RAD.

Some suggestions of potential future ways to fund accommodation included further unlocking home equity to fund residential aged care accommodation:

*“I think key to all of that is also just how you appropriately unlock the equity in people's homes...To be able to fund their accommodation and care for that fact, yeah.” (A provider)*

Providers believed that an alternative accommodation financing system to RADs must be sustainable and offers better returns to attract capital and equity. They noted that any transition away from RADs would need to be gradual, well planned out, supported by government, and built on solid foundations:

*“We probably started when I was involved looking at this probably four or five years ago and the whole approach was that needed to be done incrementally and not in one jump. And it needed to have some really solid KPIs or objectives and outcomes to actually progress to the next step. So we need to build that really rock solid bridge whatever it is should someone choose to do it.” (A provider)*

Other providers suggested any new financing system should be supported by an increased ability for consumers to unlock equity in their homes to make lump sum payments. The Pension Loans Scheme currently allows people to access the equity in their home, but payments are capped at 150 per cent of their maximum pension entitlement per fortnight. It cannot be used to pay RADs.

One provider noted that the government could potentially offer support to the sector in the short-term during the transition to a new system. This could include a role for the Australian Government to supply short term funding to providers who experience a liquidity problem in any transition phase away from RADs.

## 6. Views from other stakeholders

RADs work within an aged care financing ecosystem. They are relied upon by providers to increase capital expenditure, and increase the likelihood that providers can repay their commercial debt within a short period of time. This increases the amount banks are willing to lend and reduces financing costs.

This chapter presents key themes from semi-structured interviews with 14 aged care stakeholders representing banks, aged care peak bodies, consumer peak bodies, and valuers. Potential interviewees were identified to represent each sector by MUCHE, with comment on the penultimate list provided by the Aged Care Financing Authority.

Interviews were conducted between 14-28<sup>th</sup> September 2020 using Zoom. Respondents were asked a set of questions that differed across respondent type (see Appendix E). Respondents were probed on their responses to ensure their thoughts and perspectives were fully understood.

Responses were recorded and transcribed. A thematic analysis was undertaken by coding and analysing discussion transcripts using the software NVivo. Thematic headings reflected the original organisation of questions developed for the focus groups and any new themes that emerged from reading the transcripts. These were cross referenced to notes taken by at least two researchers within the focus groups.

### The value of RADs

#### Use of RADs

RADs have played a significant part in the residential aged care sector financing. RADs were considered a vital source of funding for capital investment and developing new buildings or refurbishment of existing facilities, from all stakeholders' perspectives. Most stakeholders saw RADs as interest free loans enabling the providers to offer more quality accommodation (i.e., single rooms vs shared rooms) and provide more consumer choice:

*"....the capital investment is absolutely essential, if it wasn't for the [LLL] reforms in 2014, then I would say we're still looking at a high proportion of old nursing homes with shared rooms." (A valuer)*

Interviewees had a mixed opinion on how providers use RADs. While larger providers invest RADs heavily to develop new buildings mostly in metropolitan areas with larger RADs, or can acquire a smaller provider and attract higher RADs by refurbishing rooms, there are fewer opportunities for small providers to use RADs for capital expenditure. To some extent this reflects the location of smaller providers. As rural and remote areas are characterised by lower RADs, and there is less opportunity to attract more residents, the use of RADs by smaller providers is often limited to financing their refurbishments.



Interviewees noted the residential aged care sector heavily relies on RADs for cashflow and asset returns. For many organisations RADs are sitting in their account to generate interest, to be either used to pay down commercial debt or held in cash to maintain liquidity.

There is disparity across the sector in the magnitude of reliance on RADs. Valuers mentioned that the not-for-profit organisations need more RADs as the price they charge for RADs is typically lower. They noted that not-for-profit providers also acquire facilities or make other investment decisions that might not be optimal for a return of investment, however, it serves a broader purpose of delivering social benefit to the community.

Provider peak bodies stated that provider reliance on RADs is increasing as the banks are currently reluctant to provide funding to the sector. This increases risk to the residential aged care sector:

*“...we’re almost entirely dependent upon RADs at the current situation and one of the issues now is the unavailability of commercial debt given the uncertainty of the near and longer term with the Royal Commission....” (A provider peak body )*

Interviewees noted that besides using RADs to pay off debt and finance capital expenditure, providers use income generated from RADs to cross subsidise care services and daily living activities. This is because the actual costs providers incurred are greater for some providers compared to the basic daily fees and ACFI prices they receive for their residents.

*“I would say that there are services out there who are using their RADs to cross-subsidise, so to keep afloat the care component of their business to fund the care component and the care delivery...”. (A peak body representing providers)*

Interviewees had differing views on whether RADs are being used efficiently to optimise providers’ financial performance. One valuer stated that providers only consider their short-term benefits in using and investing RADs, and they do not consider the long run effect of their decisions on RADs. Another valuer believed that RADs are invested efficiently and the development of new buildings in the last 10 years is due to the efficient use of RADs. There was a concern among valuers that, while larger for-profit providers are typically conscious of optimising the use of RADs, there is a lack of knowledge and education in smaller not-for-profit organisations about the permitted use of RADs, and they might not invest RADs wisely.

*“I think there’s been a lack of education about RADs and permitted uses. So, you’ve got a number of smaller not-for-profit, be it community or faith-based, that feel that they’ve got to have cash to equivalent of the RAD balance. So, they’re a small organisation. They’ve got seven million dollars’ worth of RAD balance that they feel that they should have seven million dollars sitting in cash, investments to match it. And we often say you don’t need to have it and you can have it in your permitted uses, you’ve used it. So, I think it is one of the big issues at the moment.” (A valuer)*

## Management of RADs

Most interviewees agreed that RADs create a more volatile capital structure so they require continual monitoring and management from providers. RADs are a current liability; however, they are being used to finance capital expenditure, which is a non-current asset. From the financiers’ perspective, the mismatch between a current liability and non-current asset imposes a potential risk to providers’ capital structure. Some financiers believed that RADs are a reasonably stable part of the sector’s funding strategy, but in the times of uncertainty when there is a rapid and substantial outflow of RADs, they could make the balance sheets unstable:

*“They are [RADs] a short term liability. And they are being used to provide assistance in funding the construction of a long term asset. So there is a mismatch between those two. And whenever you have a mismatch between a liability and an asset, it can create a potential risk to a capital structure” (A bank)*

Some interviewees acknowledged that RADs pose insolvency risk to providers, particularly when the outflow of RADs increases. This could occur from a decline in occupancy rates and a consumer preference shift from RADs to DAPs, which is currently occurring within the market. It was suggested that a sound prudential management strategy and adherence to liquidity requirements would help providers manage this risk.

## Prudential compliance

Interviewees were confident that larger providers are conscious of the permitted uses of RADs and their prudential obligations. Their size and scale enable them to develop strong governance frameworks. They have qualified staff in place to understand the prudential requirements and adhere to the regulations. On the contrary, interviewees noted that small providers might struggle with understanding the prudential standards and compliance with their obligations:

*“...for approved providers it was about 600 of them were single-site operators, relatively small businesses. I think it’s fair to say that it would vary ability with regards to the depth of understanding of the prudential requirements.” (A provider peak body)*

The other concern with prudential compliance raised by some interviewees was significant liquidity issues associated with RADs. One interviewee reported that in the year 2016-17, from 780 providers, around 180 providers had liquidity of less than 15 per cent, and 100 of them had liquidity less than eight per cent. Although the RADs are guaranteed for consumers under the Accommodation Bond Guarantee Scheme, this low level of liquidity poses a high risk to providers in meeting their outgoing RADs, and subsequently increase the risk to either the Australian Government or other providers, depending on whether the Australian Government imposes a levy on all other providers when a provider is unable to pay their RADs.

## Housing market and RADs

There was consensus among all interviewees that a consistent relationship between accommodation prices and housing prices exists. Facility location and local house prices were reflected in the price of RADs.

Interviewees all agreed that current uncertainty in housing prices has increased uncertainty in RAD balances. A reduction in housing prices could reduce RAD prices and reduce the willingness of consumers to sell their home upon entry into residential aged care. This could result in a drop in the number of RADs providers held:

*“Will RADs be able to continue to grow in the fashion they have for the last couple of years? I would say, ‘No’ RADs would actually probably have to decline to reflect downward trends in housing prices in particular regions” (A provider peak body)*

## RADs from a lenders perspective

Interviews with banks suggest they consider multiple factors when deciding whether to lend to an aged care provider. One critical area that providers are assessed against is management quality. There is an emphasis on the governance structure and the integrity and experience of the entire management team,



including the director of nursing, management team track records, history of adaptability to government regulation changes, and history of dealing with industry sanctions.

Banks noted they are more willing to provide funding to large and multi-site providers given their economies of scale and ability to spread the investment over several sites. Moreover, larger providers are more likely to have better governance systems in place. The views on the minimum number of beds to meet the lending criteria varied: a lender mentioned 200 beds as the minimum number, while another lender stated that their clients have 1,500 beds on average, and they do not provide funding to smaller providers.

Banks noted they place a strong emphasis on financial viability. Providers' profitability, liquidity, cashflow, assets quality, balance sheet strength, and EBITDA, and core debt capacity, are all considered in the assessment. Moreover, provider compliance with regulation is the requirement of any lending.

The other feature fundamental to lending propositions noted by banks is the providers' ability to attract RADs. This indicates the capacity of the provider to repay debt. When the providers borrow for capital investment, RADs are a key driver of valuation. The assessment will also consider the RAD/DAP ratio and the proportion of supported residents. The loan is structured around the loan to value ratio based on the forecasted incoming RADs:

*"And this is where the role of the RAD is really important [construction facilities] because the majority of times we will look for those RADs to be paying down the debt, or a portion of that. And usually we make it 90% because we want to keep – we want to allow them to keep 10% minimum from a liquidity point of view in the future..." (A bank)*

Moreover, the occupancy rate, the remoteness of providers' facilities, and general demographics of the areas where the facilities are located are also considered by banks when lending. This is because they impact the ability of providers to attract RADs.

## **RADs from a consumer perspective**

Consumer peak bodies noted that there had been a significant emphasis in the sector on engaging consumers in determining their aged care needs and empowering them to have an informed decision. However, they noted that complexity within the accommodation payment choice is a barrier to decision making. The decision is often made in uncertain and challenging situations, and people lack the financial literacy to fully understand their options. Moreover, consumer peak bodies observed that while most people are confused about RADs and DAPs, they refuse to consult with financial advisors. People are price sensitive and do not fully trust financial advisors. Also, there is limited transparency about their pricing:

*"...they're not willing to go to financial advisers because they don't trust financial advisers either. So trust is a really big factor for consumers I think" (A consumer peak body)*

One consumer peak body suggested that the Australian Government should help consumers build trust in financial advisors and provide more support and direction when consumers choose an accommodation payment type. This can be done by introducing authorised aged care financial advisors, subsidising the cost of consultations, providing a checklist of what the consumer should know, or the list of questions they need to ask of a financial advisor.

Consumer peak bodies stated that they do not have a position on which type of accommodation payment is best. They were aware that RADs are the primary source of capital funding for providers. Still, they believed the choice of payment should entirely depend on consumer preferences and should not be affected by providers' preferences.

A consumer peak body mentioned one barrier to making an informed decision is the lack of understanding by consumers of RADs. They believed consumers are not fully aware of how the Accommodation Bond Guarantee Scheme works, and they are hesitant to hand over their life savings to a provider. Also, the emotional attachment to the family home and issues surrounding inheritance further complicates the decision:

*“I think about handing over big loads of money to providers, particularly around the RADs, because even though there is a guarantee on that RAD, they don’t understand how it all works properly and they fear they’re not going to get the money back. And that kind of goes back into that inheritance side of things as well, so that complicates things” (A consumer peak body)*

Another interviewee suggested that the Australian Government could hold all RADs and offer them to providers as a low cost loan.

## Impact of a reduction in RADs

Interviewees had divergent views on the potential impact on providers from a shift from RADs to DAPs. Several interviewees believed that the current slow move away from RADs would not have a substantial impact on most providers. They noted that providers in major cities have already benefited from housing price increases and can charge higher RADs. Thus, some interviewees suggested the reduction in the number of RADs could be offset by an increase in RAD prices:

*“...what we would assume that if between 2015 and 2019, we had a 30, about a third decrease in RADs. We’d have a look at that over a period of time, and we would assume that the RADs would reduce in number, increase in value in line with property prices, but decrease in numbers.” (A valuer)*

Some interviewees noted that income from RAD would be replaced by DAPs. These interviewees noted that DAPs are sometimes considered more appealing than RADs by providers because DAP income is mostly greater than returns from investing RADs. This helped improve cashflow and increased provider EBITDA.

Other interviewees raised concerns about a shift from RADs to DAPs. They believed if the RADs balance drops under the sufficient level required to operate without commercial debt, it will limit their capital investment, their ability to pay down future debt, and their capacity to borrow. Interviewees also noted that it may reduce provider liquidity as some RADs are not replaced.

*“...we have the balance sheets of operators, and most importantly the cashflow statements of operators, starting to come under a bit of stress as we are seeing those RADs needing to be repaid, without a clear source to replace that RAD. Because it’s either a DAP, which we don’t really see the equivalent, and I think not many people would disagree with that, that the MPIR really isn’t equivalent to a RAD. And so those DAPs – that increasing level of DAPs, sure it’s great for cashflow and profit and the EBITDA, but it’s by no means to an equal effect to that RAD going out.” (A bank)*

There was also a notable amount of uncertainty for small providers and providers in remote and regional areas with limited access to RADs. Some interviewees noted that these types of providers already struggle to finance their capital expenditure, and a shift from RADs to DAPs would impose higher risk on their liquidity and ultimately on the community they serve.

A few interviewees expressed their concern that if the current shift from RAD to DAPs persists, the Australian Government will not be able to provide the required level of capital investment for the sector.

*“You know the RAD pool itself couldn’t be replaced or supported by the Commonwealth; the Commonwealth doesn’t have that level of billions of dollars actually sitting within it to do that in the service. So, I am actually grasping at straws of what would a viable alternative be to a RAD. Without RADs the traditional channels that we have for investment, equity and debt would disappear overnight.” (A bank)*

Valuers also expressed concern about the future profitability of the residential aged care sector. A provider’s ability to attract RADs has a vital role in lending assessments and a continual shift from RADs to DAPs will increase the reluctance of banks to lend to the sector, especially when profitability is currently strained.

*“They’re [banks] concerned about future profitability. Concerned about what policy may be. So, they’re very conservative with lending. And this is a constraint. This is where RADs are very important because banks aren’t lending to that extent.” (A valuer)*

## Other financial arrangements to RADs

### Commercial debt and equity replacing RADs

RADs are intrinsically linked to capital finance as often providers use their RADs to attract commercial debt and equity:

*“RADs are so integral to actually getting either equity or commercial debt approved that with a continued downward trend in RADs it’s becoming significantly harder for services to borrow if they don’t have those RADs essentially as collateral against those services.” (A provider peak body)*

Most interviewees agreed that equity and commercial debt are not easily obtained and could not cover a significant reduction in RADs. Some interviewees saw RADs as a relatively cheap form of debt. Debt and equity are more expensive and was therefore not seen as an equivalent replacement for capital investment:

*“...the benefit of the RAD being that it has no interest cost, therefore it is a cheap form of funding for an operator versus other potential forms of funding. So, the end result is if I have to replace a cheaper form of funding with a more expensive form of funding, my capacity for capital investment will reduce.” (A bank)*

Some interviewees noted that even if commercial debt and equity could be obtained by providers to replace RADs, these will need to receive fair returns relative to their risk. Banks believed that providers could not generate enough sustainable earnings to repay commercial debt in a timeframe suitable for lenders:

*“Because as a bank we can’t put facilities out there if we aren’t comfortable that they’re going to be able to service that debt.” (A bank)*

One peak body noted that banks are only willing to lend to top residential aged care performers, thus it would be difficult to directly substitute RADs for commercial debt or equity:

*“I don’t think there’d be sufficient commercial debt there to be able to replace the RAD pool. So, I think it would reduce any capital investments. And likewise, I don’t envisage any equity to replace the RAD pool, so it would reduce any capital investment.” (A bank)*

*Yes, so I think there’s very little ability to replace RADs with commercial say bank debt. I know Frontier Economics was talking about the MPIR and possibly just making it equivalent to like a long run debt price. But I think that assumes that there would be debt investors willing to step into that breach. And I know for a fact that’s not the case, particularly from [the bank]’s point of view. I know people have talked about WACC and that’s probably more appropriate because it wouldn’t need to be met by debt and equity. And I would say a fair bit more equity. But then how do you attract equity investors when you have the liquidity issue that this would cause.” (A bank)*

When asked how much it would cost providers to replace RADs with commercial debt, interviewees agreed that the commercial debt rate needed to be lower than the MPIR. Providers need to have some funds remaining from using a DAP to service debt:

*“Generally, I would assume that most major banks would be lending under MPIR to most bankable providers. And it needs to be because you need buffer. So if I’m replacing a RAD – if we’re providing liquidity funding to replace RADs, the DAP flows have to be greater than the cost of the finance to replace them. If they’re not, that’s not going to work.” (A bank)*

## **RADs impose barriers to equity investment in the market**

One bank questioned whether categorising RADs as a current liability could reduce equity investment in the sector:

*“I guess the other thing to think about is the structure of a RAD as a liability on the balance sheet. It’s a short term liability. Notwithstanding they’re interest free. But does that have an impact in terms of their capacity to provide equity?” (A bank)*

Bankers and valuers largely agreed that RADs are not well understood in the market especially in foreign markets where there is no comparable system. This creates a barrier for foreign investors as they must become familiar with RADs and how they are treated:

*“Australian operators have RADs, UK operators don’t have RADs and therefore the comparability issue becomes a big issue at that point and ends up being noise and, potentially, a deterrent for people to effectively invest in the sector.” (A valuer)*

*“It [RADs] does discourage investment. So, we represent overseas acquirers. And large groups that are interested in investing in Australia. And the two things that are challenging is that it takes a long time for us to get their heads around RADs because they don’t exist anywhere else in the world.... So, it’s very hard to sell that concept to someone from overseas” (A valuer)*

One interviewee noted there was limited publicly available information on the residential aged care sector for equity research. This was further complicated by the lack of understanding of the structure of RADs by many investors. It was suggested that better information is important to create a more efficient equity market:

*“...what you really need is for there to be sufficient companies that are large enough on the stock exchange to be followed by credible equity research analysts who then present back appropriate analysis on what’s going on in the business. How to look at RADs, all of those sorts of things that creates better information dissemination and, therefore, creates for a more*

*efficient equity capital market. And that doesn't quite exist at the moment for Australia aged care businesses and one of those reasons is the complications that RAD create." (A valuer)*

## Alternative options to RADs

Interviewees noted that there are currently no alternatives to replace RADs if there was a large decrease in RAD balances. All banks noted that there was not enough lending capacity to replace a significant reduction in RADs, and many small providers would not gain access to debt to replace their RADs because they would be considered too risky.

Multiple banks also noted they are restricted in their lending practices due to capital requirements, so even if interest rates on debt were increased and could be paid for by the provider, the bank could still not lend because it would create an unacceptable liquidity risk rating:

*"...there isn't a hell of a lot more debt capacity the sector could currently take on. Like I think bank debt capacity is almost exhausted, particularly given the margin erosion we're seeing, and the emerging liquidity issue through a change to DAPs." (A bank)*

*"It goes back to the capital requirements. And so there is a premium put on liquidity and so as a result of that, lending outside a certain point becomes challenging because we need to maintain a fair bit of liquidity in our funding base, in our funding sources, to meet the capital requirements." (A bank)*

A number of possible financial alternatives were raised by interviewees. One bank indicated that private equity investors are interested in the residential aged care sector as the ageing of the Australian population offers potential growth opportunities. One bank noted that equity investors are reluctant to enter the market due to low profitability and uncertainty around regulation:

*"...private equity is actually very interested in the sector as we speak...I've had conversations with all of them in the last three to six months...They're trying to take a counter-cyclical view that you might be able to get some value at this point with the hope that the Aged Care Royal Commission will fix these funding issues we're talking about." (A bank)*

Another option suggested by a bank was the use of mezzanine debt, where it is a hybrid of debt and equity and subordinate to debt but senior to shares. However, the bank noted this would have to be at a holding company level without affecting the day to day operation of the aged care facilities. The bank noted that such risky debt would not be widely accepted in the market:

*"...it may be some sort of mezzanine instrument that had payment in kind interest... But what operator, what capital provider, would be comfortable in doing that. I suggest they would be limited." (A bank)*

Several interviewees noted that REITs are common in aged care markets overseas. According to banks, healthcare REITs are keen to enter the sector if the MPIR is at the right level. However, the current MPIR would not generate enough yield for healthcare REITs to invest as they could get better returns investing in other healthcare properties:

*"It's very difficult to happen – it would be very difficult to institute at the minute, given the declining margins or the operational margins we're seeing in the sector, to embed a rent cost at a CPI escalation. I would suggest that most operators would not be able to bear that. Particularly at the yields these REITs, or health REITs would be looking for." (A bank)*

One valuer noted some issues with REITs in the US. The federal government was not allocating enough funding to providers to allow them to keep up with their rents. REITs were also finding it difficult to

respond because it was politically challenging to ask frail consumers to move out because their provider could not pay the rent.

Some interviewees expressed concerns with REITs due to insolvency risk and large loan to value ratios due to the provider holding the RADs as current liabilities but not holding the assets on the other side of the balance sheet.

*“I think the last ten years over 99 per cent of calls on the Bond Guarantee Scheme have been by opco/propco arrangements, so where the operating company and the property company are two different entities, so if one collapses you can’t then go after the capital in those other industries... Having enhanced regulatory monitoring compliance and prudential requirements in opco/propco arrangements, so those providers that operate the facilities that lease them from a third party.” (A provider peak body)*

*“If there was one thing that I would regulate – and here I am sponsoring regulation – in this sector, it would be that if a provider is going to have RADs and build the pool of RADs, you must own your property.” (A bank)*

Lastly, the option for the Australian Government to invest in the residential aged care sector was discussed. Some interviewees suggested the possibility for an Australian Government backed loan facility to providers, or as an investor of last resort if providers could not obtain commercial debt.

## The relevance of the MPIR in the absence of RADs

Many interviewees agreed that the MPIR was developed to interconnect RADs and DAPs and if RADs cease to exist, then DAPs calculated using an MPIR should not exist. Instead another accommodation rental system should be implemented:

*“MPIR is only there as an alternative to the DAP to help you determine the Daily Accommodation Payment. If there are no RADs then the MPIR calculation would disappear because you’d never have the opportunity to ask for a RAD so why would you need a Daily Contribution to reflect that?” (A provider peak body)*

Interviewees commented that the current MPIR is too low, which has created issues for providers who are building new facilities because it limits their ability to cover the cost of accommodation:

*“If you look at the MPIR back five years ago, you were getting nine percent. Now, you’re getting four percent. If you built a nursing home based on the nine percent, you’re not looking good at four percent. So, you need to know what your return is going to be. So, the fundamentals are we need to have a number that people can build against.” (A valuer)*

Several interviewees noted that the MPIR does not accurately reflect the cost of capital. One suggested there needs to be an equivalent rate which reflects an appropriate return for providers:

*“Providers and investors need a return on investment. They need to get a return which is sufficient to incentivise investment into the sector. So the best way that MPIRs are – or other mechanisms – are used to ensure appropriate or adequate returns on investment...” (A provider peak body)*

*“I just think that an MPIR or something equivalent should be now used as a vehicle to say this is what we think an appropriate return that an approved provider can get.” (A valuer)*

Some interviewees agreed that an alternative rate to the MPIR must be market based to better reflect the cost involved:



*“I ultimately just think it’s a market-based product. I mean accommodation here is – it should cover market price. What is the market prepared to pay.” (A bank)*

Most interviewees indicated that a weighted average cost of capital (WACC) was an appropriate alternative to an MPIR. The WACC represents the minimum return a provider must generate to provide equity and debt providers with an appropriate return.

Interviewees noted that a WACC is more relevant than an MPIR because it accounts for the cost of capital. Different providers have different WACCs as it is based on the capital structure of the organisation and their risk profile. One bank noted that using a WACC would have challenges and could introduce perverse incentives if an average sector WACC was used:

*“WACCs are challenging, as you’d probably no doubt know very well, in that everyone has a different WACC. And then some organisations would be penalised for having essentially stronger WACCs or lower WACCs.” (A bank)*

## The future of accommodation funding

There was no consensus among interviewees regarding whether RADs are appropriate to fund accommodation in a future aged care system. Some felt that the residential aged care sector should be without RADs due to the volatility they can create for providers:

*“I think that for all the reasons mentioned, the volatility that’s created, all of those factors, I think that the industry would be better off without RADs... Overall, I would say to you that there is definitely an argument to say that for the sake of comparability, for the sake of more efficient markets and better understanding of aged care providers and how they generate cashflows and all of those sorts of factors, I do think that RADs at the moment create a lot of noise and uncertainty.” (A valuer)*

Some interviewees felt RADs are not sustainable due to the potential liability created for the Australian Government. Other interviewees were in favour of RADs, noting they facilitate capital expenditure and their absence may cause financial pressures:

*“I don’t think RADs are an appropriate way of funding aged care in the longer term. I think they’ve been a helpful vehicle in getting the quality of our infrastructure up to a better standard in the absence of government funding. And I’m not saying the government should have funded it. Or in the absence of allowing people’s contribution themselves, I think it’s been really instrumental. But it’s left the government with this 30-billion-dollar elephant to now try and deal with. So, I don’t think RADs will feature in the future. I don’t think it works.” (A valuer)*

*“So, I think if we just woke up tomorrow and we said no more RADs,..., it would cause considerable damage to the sector and the investment in the sector. I think that they’ve been, the concept I think is good. I think the concept now needs to be rethought and refined. But to eliminate RADs, I think would cause some significant financial pressures and change the landscape. Not necessarily in a good way for residential aged care.” (A valuer)*

Interviewees noted that if RADs were replaced, then there needs to be a sustainable alternative and a detailed long term transition plan developed in consultation with all stakeholders. Interviewees noted that the Australian Government has a potential role to play in transitioning to an alternative.

Although the idea of the Australian Government offering capital to replace RADs was mentioned, one bank believed that the Australian Government would be unwilling to provide capital to the aged care sector:

*“I don’t think the government is into providing free capital to the sector and that, you know this has been a long term and purposeful shift to engaging the private sector in outsourcing effectively the care provision in the sector.” (A bank)*

One interviewee suggested that a future residential aged care sector could have consumers buy and sell their accommodation like buying property outside residential aged care, but this would require a complete overhaul of the system:

*“... so alternatives to the RAD, a new system where consumers would need to buy and sell their accommodation like traditional residential markets, this would require a complete system rethink and overhaul; and potentially leading to a development profit or profit-share arrangement like RVs [retirement villages] .” (A provider peak body)*

Interviewees also suggested some possible interventions to arrest the shift from RADs to DAPs. One option noted included influencing or restricting consumer choice. Another option mentioned was to allow providers to use RAD and DAP quotas and allocate residents to rooms depending on the accommodation payment type they choose. It was thought this would increase cashflow certainty for providers:

*“I guess this is a RAD bed or this is a DAP bed and let the market sort that out. That would create a little less volatility because then the operator’s not sitting there having to guess whether they get a RAD or a DAP and having to wait for that cash inflow.” (A bank)*

Another suggestion was to incentivise the consumer to choose RADs by offering more, or better, services attached to RADs. When residents want certain services, they would have to pay using RADs. This is to encourage the uptake of RADs:

*“I think currently within our system and our market that we have that not only can you choose which home you want to go into, you agree to a RAD, you then elect how you’re going to pay for that. It would be removing that last line of choice but having people be fully informed and transparent about this so everybody coming to that home would know “If you choose this home you’re electing to pay a RAD through that service.” So, it’s just moving where the choice is and I’d just say pushing it further down the line.” (A provider peak body)*

A few stakeholders agreed the Australian Government has a role in financing a future residential aged care system, whether to continue to subsidise providers to ensure people with limited means can access aged residential aged care places (i.e., act as a safety net), or to provide more regulatory certainty and transparency to boost consumer and investor confidence and trust in the residential aged care sector and in RADs:

*“The sector needs policy and regulatory certainty. They need to be funded to a point where we’re no longer talking about viability and sustainability. Because viability and sustainability pressure will disincentivise investment. It will make investment more difficult and more challenging.” (A provider peak body)*



# 7. RADs and provider financial performance

Responses to the provider survey, along with responses to the provider and other stakeholder focus groups, suggest many providers rely on RADs for capital expenditure. This depends on whether a provider seeks to redevelop or build. Trends in RADs are expected to impact capital expenditure trends, but little else is known at the sector level about how trends in RADs impact provider financial performance.

This chapter presents a detailed analysis of provider financial statement data on the relationship between RADs and profitability, capital expenditure, liquidity, and solvency. It provides some indication of the potential impact on provider financial performance from a significant reduction in RADs.

## Methodology

Provider financial statement data derived from the Annual Prudential Compliance Statement and Aged Care Financial Reports were obtained from the Department of Health for 2016-17 to 2018-19. The analysis started with 2,662 provider-year observations from 941 unique providers. However, observations with missing variables essential for the analysis (e.g., RADs, income, capital expenditure, and assets) were dropped from the sample. The final sample size for the analysis was determined by the financial metrics being evaluated.

Initial data analysis was undertaken in consultation with the Department of Health. A set of financial metrics were calculated from the sample and compared to those presented in the annual report on funding and financing of the aged care industry produced by ACFA. (1) This ensured that the data used for this analysis was consistent with data previously used by the Department of Health to assess the residential aged care sector.

Alternative measures of RADs were derived. The number of accumulated RADs was converted using the natural logarithm to examine how financial ratios vary with this RAD measure. However, this metric would capture the effect of provider size, with larger providers likely to hold more outstanding RAD balances. This would confound the effects of RADs on financial metrics.

An additional scaled RAD measure was developed to reduce the confounding effect by dividing the accumulated RAD balance by the number of operational beds. This scaled RAD measure reflected the reliance on RADs relative to provider size.

These two metrics were used to categorise all providers into tercile groups (i.e., three equal groups). The effects of RADs on financial metrics were assessed across groups to understand how financial metrics vary from providers with the most RAD balances to providers with the least RAD balance. However, this represents a univariate approach, and the relationship between RADs and financial metrics does not suggest causation. Results may be biased from other factors correlated with RAD balances but not included in the analysis.

A multivariate regression approach using ordinary least squares modelling was used to counter this potential bias. It included several controls that may affect financial metrics. Models included the natural logarithm of total assets and natural logarithm of the number of facilities to control for providers' size effect. Property plant and equipment scaled by total assets were included to account for the effect of asset tangibility on the financial metrics.

Although leverage allows providers to undertake more capital investment, providers with more leverage are exposed to greater default risk. Therefore, financial leverage was controlled for within the analysis. Retained earnings scaled by total assets was included to control for the life cycle stage of providers. Providers with different maturity are likely to have different levels of capital investment, liquidity, and solvency.

The effect of operating in a metropolitan region was controlled for by scaling the provider's number of operational beds within a metropolitan region compared to the total number of beds operational. The models also include dummies to control for ownership type, the jurisdiction where most facilities were located, and year effects.

While the multivariate approach aimed to account for characteristics besides RADs that may impact financial metrics, some unobservable factors could not be included. For example, management expertise is not measured, nor what objectives management is trying to maximise. This 'missing variable' problem may bias the multivariate results, although the direction and size are uncertain.

## Financial metrics assessed

A total of 16 financial metrics was used to assess the relationship between RADs and provider finances across four domains, including profitability, capital expenditure, liquidity, and solvency (see Table 7.1). A description of each financial metric is presented in Appendix E. Several metrics were used for each domain to capture alternative components of financial performance. This allowed the analysis to assess a consistent relationship between RADs and the four domains.

Sample trends across the four financial domains reflect those reported by ACFA. (1) Provider profitability has declined since 2016-17. Capital expenditure has been relatively stable, while provider liquidity has generally followed a 'U-shape' pattern. Provider solvency has also declined since 2016-17.

**Table 7.1: Provider financial statistics**

	2016-17	2017-18	2018-19
RAD (million)	26.411	29.155	31.795
Number of Bed	218.797	226.532	231.593
For-profit Provider	301	291	278
Non-profit Provider	502	495	487
Government Provider	103	101	100
Number of Facilities	3.043	3.048	3.010
<b>Profitability</b>			
NPBT/TI	0.032	-0.009	-0.001
EBITDA/TI	0.090	0.049	0.058
NPBT/TA	0.017	-0.004	0.001
EBITDA/TA	0.041	0.020	0.024

	2016-17	2017-18	2018-19
NPBT/BED	0.004	0.001	0.001
EBITDA/BED	0.009	0.006	0.007
<b>Capital expenditure</b>			
CAPX/TA	0.038	0.032	0.032
CAPX/BED	0.009	0.008	0.008
CAPX/PPE	0.110	0.102	0.092
<b>Liquidity</b>			
LIQ/TL	0.518	0.474	0.517
LIQ/TA	0.253	0.249	0.268
EXL/CL	0.315	0.262	0.319
EXL/TL	0.283	0.246	0.296
<b>Solvency</b>			
EBIT/INT	131.3	50.1	46.8
EBITDA/INT	250.0	142.6	119.0
Z-SCORE	-0.301	-0.865	-0.712

Note: Descriptions of each metric are presented in Table E.1 of Appendix E.

Source: Department of Health.

## RADs and profitability

Profitability is one yardstick to understand the efficiency and potential success or failure of a provider. While profit is essential to ensure for-profit providers can provide a return on investment, there are sometimes objectives more important than profitability for not-for-profit and government providers, such as caring for the most vulnerable or in areas with low access to residential care. Nevertheless, a provider is less able to provide good quality care, or maintain their capital stock, if profitability is low, regardless of ownership type.

Univariate profitability analysis suggests that providers with more RADs are more profitable (see Table 7.2). When providers are categorised by their accumulated RAD balances, NPBT/TI is 1.6 per cent for providers in T3 and -0.9 per cent for providers in T1, resulting in a 2.7 per cent difference. Similarly, when ranking providers by accumulated RAD balances divided by operational beds, the difference between T1 and T3 is 2.3 per cent. The same pattern is observed for other profitability measures, indicating a strong positive association between RADs and profitability.

Subgroup analysis suggests that the relationship between RADs and profitability is somewhat weaker when providers are divided into ownership type (see Table E.2 in Appendix E). The relationship between RADs and profitability is stronger for for-profit providers compared to not-for-profit providers when using EBITDA/TI. RADs do not significantly impact any profitability measure for government providers.

The positive relationship between RADs and profitability persists for large and small providers (see Table E.3 in Appendix E). However, the relationship is stronger for large providers than for small providers. For instance, the difference in profit margin (NPBT/TI and EBITDA/TI) between T3 and T1

providers when sorted by accumulated RAD balance is 11.8 per cent and 13.6 per cent for large providers respectively, while only 1.8 per cent and 3.8 per cent for small providers.

More RADs allow providers to develop better rooms and can lower financing costs, not only from the RADs but through greater access to cheaper debt. However, the positive relationship between RADs and profitability found within the univariate analysis does not mean more RADs causes an increase in profitability. The relationship may be driven by other observable and unobservable factors, which are not controlled for within the univariate analysis.

Multivariate analysis assessing the relationship between RADs and profitability suggests that RADs do not significantly impact profitability when accounting for other provider characteristics (see Table 7.3). The type of ownership does, with profit margins (NPBT/TI and EBITDA/TI) decreasing for not-for-profit and government providers. The years 2018 and 2019 were also associated with a significant reduction in profitability, which was previously identified by ACFA as resulting from reductions in ACFI prices. (1)

**Table 7.2: Univariate profitability analysis**

	Overall mean	T3 (High RAD balances)	T1 (Low RAD balances)	T3-T1	t-value
<b>Providers sorted by accumulated RAD balances</b>					
NPBT/TI	0.008	0.016	-0.009	0.027	3.01***
EBITDA/TI	0.066	0.085	0.038	0.047	6.10***
NPBT/TA	0.005	0.01	-0.004	0.014	2.96***
EBITDA/TA	0.028	0.033	0.022	0.011	2.35**
NPBT/BED	0.002	0.003	0.001	0.002	2.26**
EBITDA/BED	0.007	0.009	0.005	0.004	4.23***
<b>Providers sorted by accumulated RAD balances / operational beds</b>					
NPBT/TI	0.008	0.018	-0.005	0.023	2.63***
EBITDA/TI	0.066	0.085	0.046	0.039	4.87***
NPBT/TA	0.005	0.009	0.002	0.007	1.68*
EBITDA/TA	0.028	0.028	0.029	-0.001	0.22
NPBT/BED	0.002	0.003	0.001	0.002	2.28**
EBITDA/BED	0.007	0.009	0.005	0.004	4.47***

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1 of Appendix E.

**Table 7.3: Multivariate profitability analysis**

	NPBT/TI	S.E.	EBITDA/TI	S.E.
RAD_LN	-0.006	[0.009]	-0.008	[0.008]
TA_LN	0.003	[0.014]	0.024**	[0.012]
CAPX/PPE	-0.014	[0.010]	-0.024**	[0.010]
LEV_X_RAD/TA	-0.101***	[0.036]	-0.028	[0.031]
RE/TA	1.583***	[0.115]	1.415***	[0.099]
FACILITY_NO_LN	0.007	[0.011]	-0.011	[0.009]
METRO/TOTAL	0.014	[0.009]	0.004	[0.008]
Organisation (Govt.)	-0.086***	[0.023]	-0.070***	[0.021]
Organisation (non-profit)	-0.030***	[0.011]	-0.014	[0.010]
State (NSW)	0.029	[0.049]	0.018	[0.044]
State (QLD)	0.046	[0.049]	0.033	[0.044]
State (SA)	0.045	[0.049]	0.021	[0.044]
State (TAS)	0.035	[0.049]	0.015	[0.045]
State (VIC)	0.043	[0.048]	0.028	[0.044]
State (WA)	0.043	[0.050]	0.027	[0.045]
Year 2018	-0.019***	[0.006]	-0.022***	[0.006]
Year 2019	-0.014**	[0.006]	-0.018***	[0.005]
Constant	0.061	[0.136]	-0.184*	[0.112]
Observations	1,980		1,980	
Adj. R-squared	0.385		0.381	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1 of Appendix E. State coefficients are relative to ACT. There were no observations for NT.

Multivariate analysis across ownership type suggests RADs have a statistically significant and negative relationship with profit margins for not-for-profit providers (see Table E.4 in Appendix E), although this relationship is relatively weak. This suggests that not-for-profit providers with more RADs may generate less profit on average. The impact of RADs on profitability remained insignificant for for-profit and government providers. Multivariate analysis across size suggests RADs do not have a statistically significant relationship with profitability (see Table E.5 in Appendix E).

## RADs and capital expenditure

Capital expenditure is considered one of the most critical decisions for a provider given its long-term impact on profitability and sustainability. Capital expenditure is crucial for maintaining and upgrading existing facilities and equipment, investing in new technology, and building new facilities to expand bed capacity.

Many providers rely on RADs for capital expenditure, with some providers use more than 90 per cent of their RADs to finance capital expenditure. Providers not undertaking significant redevelopment or

building new facilities are more likely to keep most RADs in a liquid, low risk asset earning income. In general, providers with more RADs are expected to undertake more capital expenditure, given that providers seek RADs for capital expenditure and to enhance their access to commercial debt.

Univariate capital expenditure analysis suggests that providers with more RADs undertake more capital expenditure (see Table 7.4). When providers are categorised by their accumulated RAD balances, CAPX/TA is 5.0 per cent for providers in T3 and 1.8 per cent for providers in T1, resulting in a 3.2 per cent difference. This result is statistically significant. A similar pattern exists when providers are categorised by their accumulated RAD balances divided by operational beds. This positive relationship is consistent and statistically significant across all three capital expenditure measures used within the univariate analysis.

Subgroup analysis suggests the relationship between RADs and capital expenditure persists when assessed across ownership status (see Table E.66 in Appendix E). RAD's positive effect on capital expenditure appears to be stronger for not-for-profit providers compared to for-profit providers. For example, an increase of RADs from T1 to T3 is associated with a 4.2 per cent increase in CAPX/TA for not-for-profit providers, while it is associated with a 1.4 per cent increase in CAPX/TA for for-profit providers.

**Table 7.4: Univariate capital expenditure analysis**

	Overall mean	T3 (High RAD balances)	T1 (Low RAD balances)	T3-T1	t-value
<b>Providers sorted by accumulated RAD balances</b>					
CAPX/TA	0.034	0.050	0.018	0.032	8.80***
CAPX/BED	0.008	0.013	0.003	0.010	10.38***
CAPX/PPE	0.101	0.159	0.044	0.115	8.14***
<b>Providers sorted by accumulated RAD balances / operational beds</b>					
CAPX/TA	0.034	0.036	0.026	0.010	2.80***
CAPX/BED	0.008	0.011	0.004	0.007	7.74***
CAPX/PPE	0.101	0.111	0.074	0.037	2.76***

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1 of Appendix E.

The relationship between RADs and capital expenditure for government providers is weak, with coefficients for five out of six capital expenditure metrics not having any statistical significance. This is consistent with major construction projects for government providers being funded by government grants. Government providers do not typically have large RAD balances, and only a relatively small proportion of RADs is typically used to finance their capital expenditure.

Subgroup analysis across provider size suggests the positive relationship between RADs and capital expenditure is consistent (see Table E.7 in Appendix E). Large providers seemingly rely on RADs for capital investment more than small providers. For large providers, the difference in the effects of RADs on CAPX/TA for T3 compared to T1 providers when organised by accumulated RAD balances is 3.1 per cent, but 1.7 per cent for small providers. Small providers may find it more difficult to access debt for large capital expenditure projects, despite their access to RADs. However, this relationship is not statistically significant across all capital expenditure metrics.

Multivariate analysis assessing the relationship between RADs and capital expenditure, while accounting for other provider characteristics, suggests RADs have a positive and statistically significant impact on capital expenditure (see Table 7.5). This result is consistent across all three capital expenditure metrics.

Multivariate analysis across ownership type suggests RADs have a statistically significant and positive relationship for for-profit providers and not-for-profit providers, but a statistically significant relationship for government providers was not found (see Table E.8 to Table E.10 in Appendix E). These results are consistent with the univariate analysis results. Multivariate analysis across provider size was also consistent, with large providers more reliant on RADs for capital expenditure than small providers (see Table E.11 to Table E.12 in Appendix E).

**Table 7.5: Multivariate capital expenditure analysis**

	CAPEX/TA	S.E.	CAPEX/PPE	S.E.	CAPX/BED	S.E.
RAD_LN	0.011***	[0.003]	0.024***	[0.007]	0.001**	[0.001]
TA_LN	-0.010**	[0.005]	-0.008	[0.013]	0.002***	[0.001]
PPE/TA	0.053***	[0.007]	-0.186***	[0.041]	0.011***	[0.002]
LEV_X_RAD/TA	0.047***	[0.013]	0.111**	[0.049]	0.015***	[0.003]
RE/TA	0.051*	[0.026]	0.006	[0.082]	0.007	[0.005]
FACILITY_NO_LN	0.018***	[0.005]	0.040**	[0.017]	-0.001	[0.001]
METRO/TOTAL	0.005	[0.004]	0.003	[0.015]	0.001	[0.001]
Ownership (govt.)	-0.022***	[0.008]	-0.049**	[0.025]	-0.002	[0.002]
Ownership (not-for-profit)	0.004	[0.005]	-0.013	[0.022]	0.002**	[0.001]
State (NSW)	0.028**	[0.011]	0.047**	[0.021]	0.009***	[0.003]
State (QLD)	0.027**	[0.012]	0.070**	[0.032]	0.007**	[0.003]
State (SA)	0.014	[0.011]	0.03	[0.022]	0.006**	[0.003]
State (TAS)	0.022*	[0.013]	0.060**	[0.027]	0.006**	[0.003]
State (VIC)	0.034***	[0.012]	0.075***	[0.024]	0.010***	[0.003]
State (WA)	0.033**	[0.013]	0.130***	[0.037]	0.009***	[0.003]
Year 2018	-0.004	[0.003]	-0.01	[0.013]	-0.001	[0.001]
Year 2019	-0.003	[0.004]	-0.017	[0.012]	-0.001	[0.001]
Constant	-0.044		-0.179		-0.069***	
Observations	2,087		1,980		2,013	
Adj. R-squared	0.128		0.096		0.159	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1 of Appendix E. State coefficients are relative to ACT. There were no observations for NT.

## RADs and liquidity

Liquidity reflects a provider's short-term financial health. The more liquid assets a provider has, the faster they can convert assets into cash, reducing their likelihood of facing a short term financial challenge.

Measuring liquidity within residential aged care is somewhat atypical given legislative restrictions on using RADs for permitted uses only. One type of liquidity is associated with a provider's ability to cover the costs or repay debt associated with daily operational activities. This is the usual interpretation of liquidity. Another type of liquidity specific to residential aged care is associated with the provider's ability to repay RADs.

The effect of RADs on liquidity is not straight forward. More RADs will increase cash in financial statements, which will increase liquidity. However, more RADs allow providers to gain greater access to debt, and can encourage capital expenditure. Liquidity will decrease if RADs are used for capital expenditure. There is consequently no *a priori* expectation on whether RADs should increase or decrease liquidity.

Univariate liquidity analysis suggests that providers with more RADs are less liquid (see Table 7.6). When providers are categorised by their accumulated RAD balances, LIQ/TL is 27.7 per cent for providers in T3 and 68.2 per cent for providers in T1, resulting in a -40.5 per cent difference. This result is statistically significant. A similar pattern exists when providers are categorised by their accumulated RAD balances divided by operational beds. This negative relationship is consistent and statistically significant across nearly all liquidity measures used within the univariate analysis.

**Table 7.6: Univariate liquidity analysis**

	Overall mean	T3 (High RAD balances)	T1 (Low RAD balances)	T3-T1	t-value
<b>Providers sorted by accumulated RAD balances</b>					
LIQ/TL	0.503	0.277	0.682	-0.405	15.32***
LIQ/TA	0.256	0.191	0.286	-0.095	9.16***
EXL/CL	0.299	0.149	0.365	-0.216	7.42***
EXL/TL	0.275	0.147	0.328	-0.181	7.04***
<b>Providers sorted by accumulated RAD balances / operational beds</b>					
LIQ/TL	0.503	0.384	0.588	-0.204	7.21***
LIQ/TA	0.256	0.251	0.245	0.006	0.5
EXL/CL	0.299	0.245	0.327	-0.082	2.63***
EXL/TL	0.275	0.226	0.293	-0.067	2.49**

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1 of Appendix E.

One possible reason for this relationship is that large amounts of RADs allow providers to undertake more significant capital investment. Providers convert their RADs into long term assets, thereby reducing liquidity. A provider with fewer RADs may find it difficult to leverage their RADs to access



debt, particularly if the RADs do not cover most of the build cost. A provider may be limited in their capital expenditure activity, instead holding their RADs as a current asset.

Subgroup analysis across ownership types suggests the negative relationship between RADs and liquidity persists for for-profit and not-for-profit providers (see Table E.1313 in Appendix E). Overall, for-profit providers are less liquid compared to not-for-profit providers.

However, the negative relationship between RADs and liquidity is greater for not-for-profit providers compared to for-profit providers. When providers are categorised by their accumulated RAD balances, the difference between T3 and T1 for not-for-profit providers using LIQ/TL is -62.7 per cent, while only -22.5 per cent for for-profit providers. This pattern is consistent across nearly all liquidity metrics.

Subgroup analysis across provider size suggests that while large and small providers have similar liquidity levels if they are in T3, but small providers have much greater liquidity than large providers if they are in T1. This means the impact of more RADs reducing liquidity is larger for small providers (see Table E.14 in Appendix E). When providers are categorised by their accumulated RAD balances, the difference between T3 and T1 for small providers using LIQ/TL is -41.8 per cent, while only -12.2 per cent for large providers.

Multivariate analysis assessing the relationship between RADs and liquidity, while accounting for other provider characteristics, suggests RADs have a negative and significant impact on liquidity (see Table 7.7). This result is consistent across three out of four metrics used to measure liquidity. Results suggest that ownership status may also impact liquidity, with not-for-profit providers more likely to be liquid and government providers less likely to be liquid than for-profit providers. Having most facilities located in a metropolitan region also suggests less liquidity, which was statistically significant.

Multivariate analysis across ownership type suggests RADs have a negative and significant impact on liquidity across all ownership types, although this relationship is strongest for not-for-profit providers and weakest for government providers (see Table E.15 to Table E.18 in Appendix E). These results are consistent with the univariate results. Multivariate analysis across provider size was also consistent, with the negative relationship between RADs and liquidity greater across small providers (see Table E.19 and Table E.20 in Appendix E).

**Table 7.7: Multivariate liquidity analysis**

	LIQ/TL	S.E.	LIQ/TA	S.E.	EXL/CL	S.E.	EXL/TL	S.E.
RAD_LN	-0.375***	[0.036]	-0.003	[0.008]	-0.369***	[0.039]	-0.313***	[0.034]
TA_LN	0.332***	[0.042]	-0.027**	[0.012]	0.424***	[0.047]	0.355***	[0.040]
PPE/TA	-0.712***	[0.061]	-0.352***	[0.026]	-0.578***	[0.068]	-0.535***	[0.060]
LEV_X_RAD/TA	-0.927***	[0.082]	-0.099***	[0.036]	-0.617***	[0.102]	-0.644***	[0.083]
RE/TA	0.426**	[0.199]	0.222***	[0.073]	0.773***	[0.200]	0.693***	[0.173]
FACILITY_NO_LN	-0.039	[0.028]	-0.018	[0.012]	-0.129***	[0.035]	-0.104***	[0.030]
METRO/TOTAL	-0.103***	[0.034]	-0.040***	[0.015]	-0.144***	[0.039]	-0.129***	[0.033]
Ownership (govt.)	-0.099*	[0.051]	0.022	[0.022]	-0.332***	[0.069]	-0.300***	[0.059]
Ownership (not-for-profit)	0.394***	[0.036]	0.223***	[0.020]	0.308***	[0.044]	0.292***	[0.038]
State (NSW)	-0.441***	[0.096]	-0.188***	[0.036]	-0.232***	[0.086]	-0.274***	[0.081]
State (QLD)	-0.470***	[0.102]	-0.212***	[0.038]	-0.252***	[0.090]	-0.269***	[0.086]

	LIQ/TL	S.E.	LIQ/TA	S.E.	EXL/CL	S.E.	EXL/TL	S.E.
State (SA)	-0.508***	[0.102]	-0.194***	[0.038]	-0.275***	[0.093]	-0.294***	[0.089]
State (TAS)	-0.584***	[0.115]	-0.224***	[0.047]	-0.470***	[0.130]	-0.467***	[0.117]
State (VIC)	-0.482***	[0.097]	-0.194***	[0.036]	-0.274***	[0.086]	-0.302***	[0.082]
State (WA)	-0.475***	[0.100]	-0.162***	[0.040]	-0.298***	[0.097]	-0.321***	[0.090]
Year 2018	-0.025**	[0.013]	-0.003	[0.004]	-0.033**	[0.015]	-0.020*	[0.012]
Year 2019	0.013	[0.014]	0.020***	[0.006]	0.011	[0.017]	0.02	[0.013]
Constant	1.762***	[0.316]	1.035***	[0.124]	-0.243	[0.353]	-0.02	[0.304]
Observations	2,410		2,411		2,410		2,410	
Adj. R-squared	0.487		0.391		0.37		0.391	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1 of Appendix E. State coefficients are relative to ACT. There were no observations for NT.

## RADs and solvency

Solvency reflects a provider's long term financial health. The more solvent a provider is, the more able a provider can pay back its long term financial commitments. RADs may impact solvency in several ways. RADs represent a low cost capital financing option for providers. It reduces their interest payments but also reduces their income from DAPs not otherwise received.

RADs can substitute and complement debt, given banks favour lending to providers that can repay debt with RADs. From this perspective, more RADs leads to greater solvency because providers can repay more debt. However, more RADs can encourage providers to seek more debt for more capital expenditure. The impact of RADs on solvency is therefore dependent on the relationship between interest payments and the MPIR, along with EBITDA. There is no *a priori* expectation on whether RADs should increase or decrease solvency.

Univariate solvency analysis suggests that providers with more RADs are less solvent (see Table 7.8). When providers are categorised by their accumulated RAD balances, EBIT/INT is 45.6 per cent for providers in T3 and 142.5 per cent for providers in T1, resulting in a -96.8 per cent difference. This result is statistically significant. A similar pattern exists when providers are categorised by their accumulated RAD balances divided by operational beds. This negative relationship is consistent and statistically significant across nearly all solvency measures used within the univariate analysis.

These results suggest that providers with more RADs generate less income relative to their interest payment obligation. This is likely because the income generated from investing RADs in permitted uses is less than income generated from DAPs. While more RADs may lower interest payments, making a provider more solvent, it seems the impact on solvency from lost DAP income is greater.

Subgroup analysis across ownership type suggests the negative relationship between RADs and solvency is stronger for not-for-profit providers compared to for-profit providers (see Table E.2121 in Appendix E). When providers are categorised by their accumulated RAD balances, the difference between T3 and T1 for not-for-profit providers using EBIT/INT is -168.5 per cent, while only -126.8 per cent for for-profit providers. This pattern is consistent across all solvency metrics.

**Table 7.8: Univariate solvency analysis**

	Overall mean	T3 (High RAD balances)	T1 (Low RAD balances)	T3-T1	t-value
<b>Providers sorted by accumulated RAD balances</b>					
EBIT/INT	76.3	45.6	142.5	-96.8	2.74***
EBITDA/INT	170.8	94.7	324.3	-229.5	4.18***
Z-SCORE	-0.624	-2.467	0.866	-3.333	20.35***
<b>Providers sorted by accumulated RAD balances / operational beds</b>					
EBIT/INT	76.3	61.3	102.0	-40.6	1.18
EBITDA/INT	170.8	109.0	252.5	-143.5	2.69***
Z-SCORE	-0.624	-2.1	0.755	-2.855	16.79***

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1 of Appendix E.

Subgroup analysis across provider size suggests the negative relationship between RADs and solvency persists, although the relationship is less consistent (see Table E.22 in Appendix E). For example, when providers are categorised by their accumulated RAD balances, the difference between T3 and T1 for large providers using EBIT/INT is -58.7 per cent, while it is -89.7 per cent for small providers, but only the latter difference is statistically significant.

When providers are categorised by their accumulated RAD balances divided by operational beds, the relationship becomes positive for large providers, although statistical significance is only weak for EBIT/INT and not significant for EBITDA/INT. The negative relationship between RADs and solvency remains for small providers, suggesting that small providers are more likely to increase borrowings when they hold a large amount of RADs relative to the number of their operational beds.

Multivariate analysis assessing the relationship between RADs and solvency, while accounting for other provider characteristics, suggests RADs have a negative and significant impact on solvency (see Table 7.9). This result is consistent across all three solvency metrics. Results suggest that ownership status may impact solvency, with government and not-for-profit providers less likely to be solvent compared to for-profit providers. However, the result for not-for-profit providers is statistically weak.

Multivariate analysis across ownership type suggests RADs have a negative and significant impact on liquidity across for-profit and not-for-profit providers, although this relationship is weak for government providers, with only one solvency metric (the Z-Score) having a statistically significant relationship (see Table E.23 to Table E.25). These results are consistent with the univariate results.

Multivariate analysis across provider size was also consistent, with the negative relationship between RADs and liquidity greater, and more consistent, for small providers (see Table E.26 and Table E.27 in Appendix E). Only one solvency metric (the Z-Score) showed a statistically significant negative relationship between RADs and solvency for large providers.

**Table 7.9: Multivariate solvency analysis**

	EBIT/INT	S.E.	EBITDA/INT	S.E.	Z-SCORE	S.E.
RAD_LN	-139.801***	[46.767]	-253.660***	[77.238]	-3.631***	[0.170]
TA_LN	93.106**	[40.685]	142.456**	[65.594]	3.660***	[0.208]
PPE/TA	-87.673	[62.275]	-113.476	[102.466]	-3.020***	[0.302]
LEV_X_RAD/TA	-476.270***	[119.764]	-792.855***	[178.017]	-7.075***	[0.478]
RE/TA	1,438.760***	[293.500]	1,211.919***	[338.253]	9.356***	[1.062]
FACILITY_NO_LN	51.166*	[28.245]	141.426***	[52.970]	-0.399**	[0.158]
METRO/TOTAL	14.006	[36.994]	51.357	[64.801]	-0.617***	[0.140]
Ownership (govt.)	-400.028***	[86.569]	-432.377***	[118.518]	0.642**	[0.289]
Ownership (not-for-profit)	-89.265*	[45.473]	-63.076	[72.744]	0.908***	[0.174]
State (NSW)	-96.378	[65.608]	-125.875	[100.196]	-0.802	[0.825]
State (QLD)	-88.772	[82.711]	-39.903	[129.539]	-1.264	[0.834]
State (SA)	-154.013**	[72.576]	-281.084**	[113.139]	-0.997	[0.832]
State (TAS)	-139.649*	[84.317]	-217.788	[149.818]	-1.068	[0.854]
State (VIC)	-84.192	[70.675]	-102.625	[110.705]	-1.008	[0.823]
State (WA)	6.666	[89.169]	-23.702	[129.889]	-0.802	[0.835]
Year 2018	-52.271	[32.103]	-78.346	[49.719]	-0.258***	[0.074]
Year 2019	-47.229	[31.232]	-93.582*	[48.065]	-0.207***	[0.076]
Constant	1,017.789***	[327.811]	2,122.153***	[503.640]	-0.289	[1.676]
Observations	1,792		1,792		2,460	
Adj. R-squared	0.074		0.061		0.685	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1 of Appendix E. State coefficients are relative to ACT. There were no observations for NT.

## Impact on providers from a reduction in RAD balances

A scenario analysis was undertaken using coefficient estimates derived within the multivariate analysis to assess the potential impact on financial metrics from a 10 per cent reduction in RADs. The analysis is at the sector level, and results represent the potential impact on average. Impacts are likely to vary across providers based on their characteristics, and in some instances the direction of impact may differ. Nevertheless, this scenario analysis provides some indication of an impact from reduced RAD balances on the residential aged care sector.

A reduction in RAD balances is estimated to decrease capital expenditure, increase liquidity, and increase solvency (see Table 7.10). Insignificant probability coefficients found within the multivariate analysis suggests a reduction in RADs would not significantly impact profitability.

The magnitude of the impact differs across metrics within the financial domains. For example, a 10 per cent reduction in RADs is estimated to reduce CAPEX/TA by 3.3 per cent, but estimated to reduce CAPEX/PPE by 30 per cent, and CAPX/BED by 0.1 per cent. Similar impact heterogeneity exists for liquidity and solvency metrics.

An increase in liquidity from reduced RAD balances is counterintuitive to views held by providers and stakeholders. For example, if the scenario analysis were extended to a 100 per cent reduction in RADs, it would suggest liquidity would increase substantially.

RADs can impact liquidity in different ways. For example, LIQ/TL can increase from an increase in cash and financial assets, a reduction in total liabilities, or a combination of changes to both. Reduced RAD balances will decrease cash and financial assets, along with total liabilities. However, total liabilities will reduce more than cash and financial assets, considering most RADs are held as long term assets. This means LIQ/TL will increase.

Focus group discussions clearly suggested a reduction in RAD balances from a shift to DAPs would reduce liquidity as providers would find it more difficult to repay RADs. Banks also suggested that it has limited capacity to cover a shift from RADs to DAPs.

**Table 7.10: Scenario analysis of a RAD reduction**

	Coefficient (RAD_LN)	10 per cent reduction	Relative to sample mean	20 per cent reduction	Relative to sample mean
NPBT/TI	N/A				
EBITDA/TA	N/A				
<b>Capital expenditure</b>					
CAPEX/TA	0.011	-0.001†	-3.33%‡	-0.002	-6.67%
CAPEX/PPE	0.024	-0.002	-30.00%	-0.005	-60.00%
CAPX/BED	0.001	0.0001	-0.10%	-0.0002	-0.20%
<b>Liquidity</b>					
LIQ/TL	-0.375	0.038	7.37%	0.075	14.73%
LIQ/TA	N/A				
EXL/CL	-0.369	0.037	12.18%	0.074	24.36%
EXL/TL	-0.313	0.031	11.26%	0.063	22.52%
<b>Solvency</b>					
EBIT/INT	-139.801	13.980	19.02%	27.960	38.03%
EBITDA/INT	-253.660	25.366	14.76%	50.732	29.52%
Z-SCORE	-3.631	0.363	61.86%	0.726	123.71%

Note: This analysis is based on the multivariate analysis conducted for each financial domain. It presents results for the RAD\_LN coefficients that are statistically significant at 5 per cent. Coefficients that are not significant are represented by N/A. † calculated as  $0.011 * -10\%$ , where 0.011 is the regression coefficient and -10% is the reduction in RAD\_LN. ‡ calculated as  $(0.011 * -10\%) / 0.033$ , where 0.011 is the regression coefficient, -10% is the reduction in RAD\_LN and 0.033 is the sample mean of CAPEX/TA.

The discrepancy between the multivariate results and views from providers and stakeholders results from an implicit assumption within liquidity metrics that a provider can reduce their liabilities. In the case of residential aged care providers, RADs are tied up in capital expenditure, so reducing RAD

liabilities can be difficult for some providers. Many providers may need to dispose of their long term assets, such as buildings, thereby potentially reducing consumer access to residential aged care services.

## 8. International financial arrangements

RADs are a unique feature of the Australian residential aged care system. They were introduced to significantly increase capital expenditure in residential aged care. The Australian Government believed the sector could not rely on traditional debt and equity for this purpose due to poor economic conditions at the time of their introduction. This chapter provides an overview of residential aged care financing in other countries. It explores the use of commercial debt and government lending, along with equity such as real estate investment trusts (REITs).

### Financing capital expenditure abroad

A literature review was undertaken to explore potential alternative financing options for capital expenditure in Australia. It concentrated on seven developed countries, including the United States of America (USA), Canada, United Kingdom (UK), Italy, France, Germany, and Japan.

Each country has a different long-term care (LTC) system designed to support home care, community care or institutional care or a combination of the three. The literature review concentrated on residential care accommodation payment policies: the payments made by residents towards accommodation and the funding sources of capital expenditure in aged care homes.

The literature review found that no other country uses a similar product to RADs to fund capital expenditure. In most countries, residents pay accommodation fees, with returns used to support capital expenditure funded by equity and commercial debt.

#### USA

In the US, LTC is not considered 'medical care', and is thus not automatically covered by Medicare nor private health insurance. Board and lodging costs in US nursing homes are treated as 'other LTC costs' and all institutional costs are expected to be covered by users, unless they are low income earners with limited savings. In this case, their care and lodging is covered by Medicaid. (29)

Total expenditure for long-term services and supports (LTSS) includes spending on residential care facilities, nursing homes, home health services and home and community-based services waivers (HCBS waivers): 52 per cent was funded by Medicaid (federal and state levels), 20 per cent by other public and private funding, 16 per cent was out-of-pocket, and 11 per cent through private insurance. (30)

Private equity firms in the US regard the health care sector as an attractive investment area, including the US nursing home industry, where 4 out of the 10 largest for-profit nursing home chains were purchased by a private equity firm in the 2003-08 period. (31) Approximately 70 per cent of nursing homes in the US are run for-profit. Not-for-profit and public nursing homes tend to reinvest their revenues into their facilities to undertake capital expenditure. (32)

Capital expenditure on US nursing home facilities is also undertaken by REITs, which purchase property and build facilities to lease over a long term to nursing home operators. Some REITs invest only in nursing homes, while others include nursing home stock in combination with capital expenditure in other healthcare services, such as hospitals and assisted living facilities, to diversify risk.

REITs are exchange traded, thereby providing access to private investors while ensuring liquidity. They are considered low risk over the long term given the non-discretionary nature of health and aged care services, along with their strong underlying demand. This makes them attractive for investment by pension funds, particularly given they provide the bulk of their return through dividends. There are 18 healthcare REITs in the US, totalling around \$110 billion in market value on 21 April 2020. Of these, eight have invested in nursing homes.<sup>15</sup>

US nursing homes can also access the Department of Housing and Urban Development's (HUD) Section 232 program. This program was established in 1959 to provide mortgage insurance to finance the purchase, refinance, new construction, or substantial rehabilitation of nursing home facilities. This encourages private lenders to increase capital expenditures in nursing homes.<sup>16</sup> The Program allocated 314 commitments totalling \$4.2 billion in the fiscal year 2019, while the portfolio totalled 3,782 loans worth \$31.2 billion at 30 September 2019. (33)

## Canada

The LTC system in Canada is decentralised with the provinces designing and administering their own LTC system with federal block funding. (34) All provinces, except Nunavut, charge residents accommodation costs. (35) However, accommodation charges differ across provinces as they are fixed by the provincial government as a maximum or standard rate. (35)

Provinces also subsidise the accommodation costs based on the user's ability to pay. Means testing criteria vary by provinces: gross income, after-tax income, total assets or total liquid assets have been used. (35) There is an agreement that residents should be left with some discretionary income and the payments should also account for the needs of other family members. (35)

In the last two decades, financial operators, including REITs, institutional investors and private equity firms, have consolidated ownership of Canadian seniors housing (including nursing homes and retirement villages). (36) Currently, the biggest owners in Canada are the largest US healthcare REITs with major interests in 225 homes. (36) In recent times, in response to the impact of the COVID-19 pandemic, Canada's biggest province Ontario has implemented the Long Term Care Home Capital Development Funding policy to support the development of new LTC homes or redevelopment of existing LTC homes. This policy offers construction subsidy, development and planning grants. (37)

## United Kingdom

For countries with safety net systems, all institutional care costs are to be paid by the user unless they are eligible for subsidies based on assets and/or income tests. (29) Fees for long term care homes are means tested in the UK and are inclusive of accommodation costs if the resident meets the eligibility criteria, otherwise they are self-funded. (29)

---

<sup>15</sup> <https://seekingalpha.com/article/4338801-healthcare-reits-back-on-life-support>

<sup>16</sup> Maximum loan amounts are dictated by a 80 per cent loan to value ratio for for-profit providers and 85 per cent for not for profit providers, with a minimum debt service coverage ratio of 1.45



Around 41 per cent of UK care home residents are self-funded, 10 per cent are NHS-funded and the remaining are local authority funded. The average fee for residential care is GBP 588 per week with nursing care higher averaging GBP 741 per week. (38) Fees are also higher for self-funded residents than for local authority funded residents. In recent years, a two-tier market has emerged with operators whose income is mainly derived from local authority or NHS funded residents earning less profit than those whose income come from self-funded residents. (39)

The market structure of LTC homes in the UK is dominated by private operators with the 10 largest for-profit providers capturing around 35 per cent of the market. Around 38 per cent of capacity is provided by smaller groups with the remaining being operators of one or two homes. (39)

The dominance of private operators in the market sees reliance on banks and financial markets for funding with three of the five biggest operators in the UK being private equity backed and another being a public listed company with shareholders. (40) Sizeable REITs have also invested in the UK, which has been supported by tax advantages for REITs provided by the UK government,

## EU countries

The Italian LTC system is highly fragmented where the funding, governance, and management responsibilities for LTC are spread over local and regional authorities. Board and lodging costs for care homes in Italy are treated separately from the LTC costs and residents from low socio-economic backgrounds can apply for social assistance to help in the costs. (41) Other costs of institutional care are covered by municipalities and residents with co-payments which depend on the residents' economic circumstances and level of physical impairment. (42) In terms of the market, 45 per cent are publicly provided beds, 34 per cent are not-for-profit and 21 per cent are private for profit. (43)

In France, there are the three components of costs for residential care: lodging price (60 per cent) which covers administration services such room and food, dependency price (10 per cent) which is for care and support services, and healthcare (30 per cent) covering nursing care services. (44) For room and board costs, users are expected to pay themselves unless they benefit from social assistance: 81 per cent are paid out-of-pocket (paid out of private long term care insurance, savings retirement income or family funds), 13 per cent local government general revenue, 4 per cent from *Caisse nationale de solidarité pour autonomie* (National Solidarity Fund for Autonomy), which supports programs for older people. (45)

The care home sector in France was primarily government controlled, with 53 per cent being owned by the state. (46) After a 2010 healthcare reform, tight controls were placed on authorisation of nursing home capacities. The Agences Régionales de Santé (ARS), which is the territorial administrations responsible for health care, estimates the needs of the elderly and issue calls for tenders if they deem additional capacity is required. This resulted in a fall in nursing home expansion. The government has limited capacity to fund new beds in public nursing homes. At the same time, public nursing homes require high cost renovations and overhaul to their facilities in the coming years. (47) As a result, there has been opportunities for private operators to expand in France. (46)

In Germany, the LTC insurance scheme partially funds home care and institutional care. However, LTC insurance does not cover all costs associated with institutional care, such as everyday living and accommodation including rent, meals, utilities, and housekeeping. These costs are expected to be covered by the resident. (29)

Often, residents are left to rely on social assistance to help with the cost of room and board. (48) Residents are required to pay the 'room and board' charges in addition to at least 25 per cent of the cost of care. Many residents also pay for a share of the investment costs of building or modernising care facilities.

While these capital expenditures are the responsibility of the Lander (federal states in Germany), regulations about the amounts of subsidies differ. Often, costs are passed onto residents. (49) The care home market in Germany consists of 55 per cent not-for-profit operators, 40 per cent for profit operators (where some are international operators) and 5 per cent public operators. (46)

## Japan

While Japan has a well-established compulsory LTC insurance scheme that covers facility services, residents are required to pay lodging costs for residential care and a contribution to meals. (50) However, these costs are means-tested and capped for low-income residents. (51) Public nursing homes in Japan are mostly financed by LTC insurance with uniform prices. For private nursing homes, LTC insurance only covers the care component. (52)

Private nursing homes have two types of payment system: monthly fee and initial payment or monthly fee only. (52) The monthly fee covers costs of daily needs. The initial payment, called *Nyuukyo kin*, is a lump sum forward payment of rent until an expiration period as determined by the nursing home. If the resident leaves the home before the expiration date, the rent for the remaining period is refunded (less depreciation) but if they remain beyond the date, they do not have to pay additional rent. (52) Capacity in private senior housing market (which includes private nursing homes) has expanded by over 160 per cent since 2011 while public senior housing grew by 19 per cent. (53)

## 9. Conclusions

The residential aged care sector will be required to undertake significant additional capital expenditure over the next decade to meet the increased demand for care. RADs are relied upon for capital expenditure because they provide access to relatively cheap debt. This chapter describes the role of RADs and the potential implications of a significant reduction in RAD balances. It discusses whether the Australian Government should intervene if RAD balances significantly reduced and what options it could explore to safeguard residential aged care access.

### The role of RADs

RADs were introduced to increase capital expenditure within the residential aged care sector when the Australian Government believed access to commercial debt and equity was limited. RADs allowed providers to meet more stringent building codes set by the Australian Government. They also allowed providers to shift from facilities with multi-bed rooms and shared bathrooms, to single bed rooms with an ensuite, thereby better meeting consumer preferences.

RADs are used directly by providers to fund capital expenditure and to gain commercial debt for capital expenditure. Banks interviewed within this study highlighted the critical role RADs play in reducing lending risk, allowing them to lend more at lower financing costs. Banks have suggested that RADs fill a gap in capital expenditure financing, noting that a significant reduction in RAD balances could not be replaced by debt.

Some providers cannot access commercial debt despite holding significant RAD balances. These providers may be small, have an inexperienced management team, or weak financial position. These providers must rely on RADs to directly fund capital expenditure, which requires a large proportion of residents to choose a RAD. Providers that operate in areas with low housing prices, such as those in regional and remote regions, also have limited access to commercial debt and large RADs.

Continued access to a substantial amount of RADs is relied upon for two types of providers. A provider with most of their RAD balances invested in capital expenditure must continue to replace RADs when consumers leave. Otherwise, these providers may need to sell their assets, such as buildings, to avoid any liquidity problems.

Providers also require a substantial amount of RADs to redevelop facilities and build new ones. As facilities depreciate over time, all providers will need to redevelop their facilities at some point. The value of RADs is therefore contingent on when a provider expects to undertake significant capital expenditure. In periods of little capital expenditure, most providers would prefer DAPs because their income is often more than investment returns from RADs.

### Will there be a significant reduction in RAD balances?

Total RAD balances within the residential aged care sector have grown by approximately 94 per cent between 2013-14 and 2018-19 despite a shift from RADs to DAPs. (1) This growth was initially from

allowing providers to charge high care consumers a RAD. More recently, increased RAD balances have resulted from more consumers entering residential aged care and increased average RAD values.

Trends in RAD balances differ across provider characteristics. Providers with most facilities located in metropolitan regions experienced a 27.4 per cent increase in their RAD balances between 2016-17 and 2018-19, which is the largest increase across rurality. This was driven by increased average RAD volumes and increased RAD values. Providers in regional areas also experienced a 25 per cent increase in their RAD balances, while providers in remote regions only experienced a 16.2 per cent increase in their RAD balances.

The growth in RAD balances between was similar for not-for-profit and for-profit providers, increasing by 20.6 per cent and 20.7 per cent respectively, despite for-profit providers experiencing a greater increase in average RAD values. However, government providers experienced the greatest RAD balance growth at 22.4 per cent, which was driven by increased RAD volumes.

RAD balances also increased across all provider sizes, although there were some significant differences in growth rates. Medium size providers had the most robust growth in RAD balances between 2016-17 and 2018-19, increasing by 30.7 per cent. Small providers increased their RAD balances by 19.8 per cent, while large providers increased their RAD balances by 14.8 per cent. Large providers have also experienced the slowest growth in RAD volumes and average RAD values.

The increasing trend in RAD balances across all provider characteristics suggests a significant reduction in total RAD balances is unlikely to occur soon. Whether a shift from RADs to DAPs will create a significant reduction in RAD balances in the long term depends on whether consumer preference trends remain and the provider's response to counter a RAD balance reduction. These are discussed below.

### ***Consumer preferences***

Consumer preferences for RADs will ultimately determine whether a significant reduction in RAD balances will occur in the long term. It is unclear whether the recent shift from RADs to DAPs will continue. Trends in factors that impact accommodation payment choice (see Chapter 3) suggest some will continue to reduce the demand for RADs, while others will increase the demand.

A consumer's reported assets when entering residential aged care is the most significant predictor of choosing a RAD. Asset values primarily comprise housing and superannuation wealth. Long term trends of increased housing prices, and increased superannuation balances of those entering residential aged care, suggest that increases in asset values will positively impact the demand for RADs in the long term.

While reduced health of consumers when entering residential aged care will reduce the likelihood of choosing a RAD, the effect is likely to be minor in the short term. Coefficients attached to ACFI domain scores were relatively small. Furthermore, the average health of consumers entering care has been relatively stable over the last five years, which is likely to continue.

Similarly, a reduction in the actual and expected length of stay will reduce the likelihood of choosing a RAD. However, length of stay at the sector level has been consistent over the last decade at around three years. (1) Some providers may have experienced a more rapid decline in the average length of stay for their consumers. These providers are more exposed to a continued shift from RADs to DAPs, although this will unlikely be rapid given the relative stability in the average length of stay at the sector level.

One factor that may have significantly driven the recent shift from RADs to DAPs is a reduction in the MPIR. The MPIR was set at 6.6 per cent on 31 December 2014, while the MPIR was set at 4.1 per cent

on 31 December 2020. (54) Estimates within this study suggest that a smaller MPIR reduces the likelihood of a consumer choosing a RAD, and increases their likelihood of choosing a DAP.

The future MPIR trend is difficult to predict because it relies on interest rates. However, there is limited scope for the MPIR to decline much further, given the Reserve Bank of Australia's target cash rate is currently 0.1 per cent. This suggests that any further impact from a declining MPIR on choosing a DAP is potentially limited.

While there may not be a significant reduction in RAD balances at the sector level soon, individual providers may experience a significant reduction in their RAD balances. The Covid-19 pandemic amplified a reduction in RAD balances for some providers in 2020, particularly in Victoria. Providers closed their doors to new residents to better manage their Covid-19 response, and consumers shifted to DAPs given increased economic uncertainty. (27)

A decline in occupancy rates can reduce RAD balances. Average occupancy rates have consistently declined in recent years to 90 per cent, (53) although alternative estimates suggest that the average occupancy rate is 94 per cent when only operational beds are counted. (54) Further reductions in occupancy rates may occur for some providers if the Australian Government allocates bed licenses to consumers rather than to providers. (55)

Additional Home Care packages funded by the Australian Government may increase the shift from RADs to DAPs. This would occur if a Home Care package reduces the actual and expected length of stay, or if the consumer enters residential aged care in worse health than would have otherwise occurred.

The potential impact of additional Home Care packages on residential aged care demand is somewhat unknown. One study found consumers who waited for more than six months for their Home Care package had a 10 per cent increased risk of entering permanent residential aged care, and an 18 per cent increased risk of death, compared to consumers who received their Home Care package within 30 days. (55) Consumers entering residential aged care who waited for more than six months for a Home Care package had a higher mortality rate, suggesting they were less healthy and had a shorter length of stay. These results were driven by wait times for Home Care packages between consumers. A small reduction in wait times had a weaker impact on mortality risks and entering residential aged care.

While the Australian Government has significantly increased funding for Home Care packages recently, demand has also increased. Waiting times for consumers to receive their first Home Care package and waiting times for consumers to receive their approved Home Care package has not decreased between 30 September 2018 and 30 September 2020. (56, 57)

An increase in Home Care packages has unlikely reduced the actual or expected length of stay in residential aged care, or consumer's health when entering residential aged care. It is therefore unlikely that Home Care packages have impacted accommodation payment choice. Even if additional Home Care packages reduce waiting times in the future, this would unlikely lead to a substantial reduction in RAD balances, given the relatively small impact of actual and expected length of stay, and consumer health, on the probability of choosing a RAD.

### ***Potential provider response to a reduction in RAD balances***

Providers have increased their RAD balances by increasing their accommodation prices. This was facilitated by rising housing prices and high occupancy rates afforded by the Aged Care Approvals Round (ACAR) and the National Aged Care Planning Ratios (NACPR). The restrictions on the supply of bed licenses have muted providers' need to compete vigorously on accommodation prices.

Continuing to increase accommodation prices is viable for many providers, although this will depend on whether housing prices continue to grow. There is some uncertainty given the continued risk of diminished economic performance from the Covid-19 pandemic. However, low interest rates are positively related to housing price increases, and Australia is currently experiencing a record low interest rate environment. This may continue for an extended period as the Reserve Bank of Australia seeks to support an economic recovery. (58)

However, there will be some constraints on providers that will not allow them to continue increasing accommodation prices. Providers must seek approval from the Aged Care Pricing Commissioner to charge an accommodation price above \$550,000. This effectively caps accommodation price increases without commensurate improvements to accommodation quality, and could limit a provider's ability to counteract a reduction in RAD balances due to a continued shift from RADs to DAPs.

## The potential impact from a significant reduction in RAD balances

A significant reduction in RAD balances would impact residential aged care providers differently, depending on their reliance on RADs. Providers most negatively affected would be those with most of their RADs used for capital expenditure, or providers that require RADs for significant future capital expenditure. In general, these are large, for-profit providers with most of their facilities located in metropolitan regions.

A significant reduction in RADs would reduce provider liquidity as they struggle to cover their RAD outflow with alternative finance. Banks may not offer additional debt because it would unlikely be repaid quickly, particularly within a market with less access to RADs. Providers could sell assets by closing facilities, but this would displace some consumers.

A greater reliance on RADs by a subset of the residential aged care sector is evident within RAD preferences. Only 24.7 per cent of providers in the survey preferred to receive only RADs. Preferences for RADs were much stronger for for-profit providers, large providers, and those providers with most facilities located in metropolitan regions. Similarly, the survey found the proportion of RADs used for capital expenditure was much greater for these types of providers.

A reduction in RADs may benefit some providers not looking to undertake significant capital expenditure. Given the low returns on permitted uses for RADs, a shift to DAPs would increase these providers' income. This would provide additional income to fund daily living activities and care services.

Some providers would not be substantially negatively affected by a significant reduction in RAD balances. These providers have little reliance on RADs. They are typically government owned, small, or located in remote regions.

A significant reduction in RAD balances may increase profitability for not-for-profit providers, but it may have little impact on profitability for for-profit providers or government providers. A statistically significant relationship between RADs and profitability was not found for these types of providers.

A significant reduction in RAD balances would reduce capital expenditure for all types of providers. Estimates suggest the effects are likely to be slightly greater for not-for-profit providers, but much greater for large providers. These providers rely on RADs more for capital expenditure. Indeed, good access to RADs has allowed them to become large providers.

A significant reduction in RAD balances may increase liquidity within the residential aged care sector over the long term, given this would reduce access to commercial debt and reduce the ability to undertake further capital expenditure. However, it would also significantly reduce liquidity in the short term for some providers as they struggle to replace RADs. Several providers noted within the focus groups that they were concerned about liquidity problems from any swift and significant reduction in RAD balances.

A significant reduction in RAD balances is likely to improve solvency so long as the MPIR is greater than the interest cost associated with commercial debt. A reduction in RADs reduces providers' ability to accumulate commercial debt, which means fewer interest payments. A reduction in RADs also increases income because DAPs can generate more income. Not-for-profit providers and small providers are likely to become more solvent from a significant reduction in RADs.

## Should the Australian Government intervene?

RADs essentially subsidise provider's capital expenditure given the Australian Government guarantees their return to consumers. The guarantee reduces the return providers must pay consumers for holding the RAD, and reduces commercial debt costs. If the guarantee did not exist, consumers would be more likely to choose a DAP to avoid provider default risk. Similarly, banks would lend less and require additional compensation for lending to a provider that relied more on DAPs.

Whether the Australian Government should intervene if there were a reduction in RAD balances depends on the size and timing of that reduction. The sector could most likely absorb a small reduction in RAD balances over a long period. There would be an opportunity for the sector to reconfigure its capital expenditure and seek additional equity, so long as the sector could generate an appropriate return.

A significant reduction in RADs would negatively impact some providers, positively impact other providers, while some providers will be little impacted. RADs also have several advantages and disadvantages across stakeholders (see Table 9.1). The Australian Government would need to consider the benefits and costs of a sector shifting towards DAPs before deciding whether to intervene.

The Australian Government may feel compelled to intervene if there were a significant reduction in RAD balances. Providers benefiting from more DAPs are not necessarily able to undertake the bulk of the capital expenditure required over the next decade. A significant reduction in RAD balances would curtail the ability of providers to undertake capital expenditure. This could lead to increased occupancy rates and reduced access to residential aged care for some consumers. Any liquidity problems from a significant reduction in RADs could lead to facility closures and consumer distress from having to move.





**Table 9.1: Advantages and disadvantages of RADs across stakeholders**

Perspective	Advantages	Disadvantages
Consumers	<ul style="list-style-type: none"> <li>• RADs are not treated as an asset in the pension assets test, nor subject to deeming, potentially increasing the pension amount if converting a RAD from an asset included in the pension asset test.</li> <li>• The Australian Government guarantee means there is no risk to the consumer of not receiving back the entire RAD amount upon leaving the facility. This means a RAD is effectively a risk free investment, with a return equivalent to the MPIR.</li> </ul>	<ul style="list-style-type: none"> <li>• The family home may need to be sold to pay for a RAD. Proceeds from the sale remaining after paying a RAD are treated as an asset in the pension assets test, potentially reducing the pension amount.</li> <li>• Choosing between RADs and DAPs can be complex from a financial perspective. Many consumers have limited understanding of the financial implications of their choice, and many consumers do not access financial planners. This increases the likelihood that a consumer will make a sub-optimal accommodation payment choice.</li> </ul>
Providers	<ul style="list-style-type: none"> <li>• RADs provide some access to debt that would not otherwise be obtainable from a financial institution. This potentially provides greater capacity for providers to undertake capital expenditure.</li> <li>• RADs provides access to cheaper debt compared to commercial debt for providers that cannot access debt at rates lower than the MPIR.</li> </ul>	<ul style="list-style-type: none"> <li>• The benefit from RADs is beholden to investment returns and interest rate movements, which are outside provider's control.</li> <li>• Provider capital expenditure, liquidity, and solvency is exposed to shifting consumer preferences for RADs.</li> <li>• Providers are limited in their ability to manage consumer preferences for RADs, thereby introducing potential financial risk</li> <li>• RADs incur administration costs for providers as they must actively monitor and manage their RAD balance to ensure adequate liquidity.</li> </ul>
Lenders (banks)	<ul style="list-style-type: none"> <li>• RADs allow lenders to offer a greater quantum of commercial debt to providers knowing that the commercial debt can be repaid relatively quickly once RADs are collected by the provider.</li> <li>• RADs allow banks to offer commercial debt at cheaper interest rates knowing the risk of not being able to pay back the debt is significantly reduced once RADs are collected by the provider.</li> </ul>	<ul style="list-style-type: none"> <li>• A consumer shift away from RADs could potentially reduce provider liquidity, making it riskier for banks to provide debt.</li> </ul>
Equity investors	<ul style="list-style-type: none"> <li>• RADs allow providers to invest more in capital expenditure, thereby potentially increasing income and generating a greater return on equity.</li> </ul>	<ul style="list-style-type: none"> <li>• RADs exposes equity investor return to changes in consumer preferences for RADs through the exposure of RAD income to investment returns.</li> </ul>





		<ul style="list-style-type: none"> <li>• RADs expose equity investors to fluctuations in interest rates through changes to the MPIR and associated income generated through DAPs.</li> <li>• RADs are potentially making it challenging for alternative financial products to significantly enter the market, such as REITS.</li> <li>• RADs are potentially making it more complicated for international equity investors to enter the market given they are unique types of loans, with investors potentially unsure how to treat them when valuing a provider.</li> </ul>
Australian Government	<ul style="list-style-type: none"> <li>• RADs allow providers to increase and improve their capital stock to better meet consumer preferences.</li> <li>• RADs reduce the need for the Australian Government to allocate capital expenditure grants.</li> </ul>	<ul style="list-style-type: none"> <li>• RADs potentially expose the Australian Government to provider financial risk through the Australian Government guarantee. The extent will depend on whether the Australian Government invokes a levy to recoup any financial loss from providers associated with lost RADs.</li> <li>• RADs potentially Increases administration costs for the Australian Government from needing to monitor and manage provider prudential risk.</li> </ul>

Many providers believe a significant reduction in RADs should be avoided as no viable financing alternative exists. Banks noted that a significant reduction in RAD balances could not be covered by bank debt. Other stakeholders noted that it would be difficult to attract a significant amount of equity into residential aged care to replace RADs due to low returns associated with daily living and care activities.

It would be politically challenging for the Australian Government not to intervene if a significant reduction in RADs risked many facilities closing. The Australian Government is responsible for ensuring consumers can access residential aged care when needed, now and into the future. A sector unable to return RADs to consumers also exposes the Australian Government to additional costs under its guarantee.

There are many ways the Australian Government could intervene. These could either be direct intervention, whereby the Australian Government funds any shortfall of RADs or restricts accommodation payment choice. The Australian Government could also intervene indirectly, by supporting the sector to attract debt and equity. Alternative intervention options within direct and indirect approaches are discussed below.

## Direct Australian Government intervention

### Increasing capital grants to providers

The Australian Government provides funding to providers for capital expenditure through grants administered through the Aged Care Approvals Round. Facilities must be in rural, regional or remote regions, deliver to special needs groups or concessional, assisted or low means residents, or located in an area that needs extra services.

The 2020 ACAR round will provide up to \$150 million in capital grants. The Department of Health will prioritise grant allocations to providers looking to shift away from shared rooms, offering dementia services in rural and remote regions, improving infection control. It will also support providers in financial distress struggling to bring their allocated bed licenses online. (59)

Providing capital grants to cover a significant reduction in RAD balances is one option the Australian Government could pursue. This could be developed around prioritising providers that demonstrate their RAD balance had significantly reduced and was leading to some financial difficulty that threatened access to care for consumers.

However, providing capital grants is effectively a transfer of money from Australian taxpayers to providers. While this can be justified in exceptional cases given the expected benefits to society may outweigh the costs (e.g., ensuring consumers in rural and remote regions have access to residential aged care), it would not be appropriate when an alternative provider with access to commercial debt or equity is willing to expand its market to ameliorate a potential reduction in access to care.

The other disadvantage with capital grants is the expected cost to the Australian Government. For example, a 10 per cent decline in RAD balances would equate to approximately \$3.0 billion based on the total RAD balances held by providers on 30 June 2019. The Australian Government would also be exposed to further reductions in RAD balances, which would be difficult to judge on an annual basis given RAD balances could fluctuate up and down. It may be considered unfair that a

provider receives a capital grant to replace a significant reduction in RADs for one year, only to experience an increase in their RAD balances the following year.

## **Developing a loan facility for providers**

The Australian Government could develop a loan facility to help providers replace a significant reduction in RAD balances. This could operate parallel to bank financing, with the Australian Government lending to providers that cannot access commercial debt or equity. Like capital grants, this could be limited to providers where a significant reduction in RAD balances led to a financial difficulty that threatened access to care for consumers.

An Australian Government loan facility could be funded by various means. The Australian Government has relatively cheap access to debt funding due to its AAA credit rating, which could be passed onto providers by borrowing from the market.

An alternative option is for the Australian Government to require providers to invest RADs not used for capital expenditure into a loan facility established by the Australian Government. Residential aged care providers that experience a significant reduction in RAD balances could apply to borrow any shortfall from the loan facility.

Providers that have invested their surplus RADs would receive a return from the loan facility, generated from interest payments from providers, and from investing surplus funds. Many providers may receive a greater investment return from their RADs than what they currently receive from investing their RADs in cash deposit accounts.

A significant reduction in RADs is unlikely to be ubiquitous across the sector. Using surplus RADs to establish a loan facility would pool the risk of a significant reduction in RADs across the sector. Providers that experience an increase in their RAD balances would effectively lend through the loan facility to providers that experience a significant reduction in their RAD balances.

There would be other benefits from having the Australian Government hold RADs within a loan facility. Lending RADs back to providers could shift some RADs from current liabilities to non current liabilities if the loans were drawn over an extended period, therefore better matching RADs with capital expenditure. The risk of providers using RADs other than for permitted uses, and consequently the risk to the Australian Government having to repay RADs on behalf of an insolvent provider, could also be reduced.

Some providers may complain that they could receive greater returns from investing their surplus RADs, rather than receiving a return from the Australian Government. This is unlikely for most providers given 80 per cent of respondents in the provider survey noted they held their surplus RADs in cash deposit accounts. Many providers may welcome the Australian Government managing their surplus RADs as it may reduce their administration and monitoring costs.

The Australian Government could be less conservative than banks when lending to providers, thereby increasing access to loans that would not otherwise be available to some providers. A loan facility funded by surplus RADs would also mean a greater proportion of RADs are used to support capital expenditure, thereby better aligning RADs to their original intent.

## **Providing commercial debt insurance**

The Australian Government could guarantee commercial debt to providers to cover a significant reduction in RADs. This would increase a banks' ability to lend to providers, potentially over a

longer period, and may provide more generous access to commercial debt for some providers that could not otherwise access commercial debt.

This option is not without precedent, as the Australian Government currently guarantees business loans. It introduced the coronavirus small and medium enterprises (SME) guarantee scheme, guaranteeing 50 per cent of new loans issued by participating lenders to SMEs. The Scheme supports up to \$40 billion of loans, either secured or unsecured and up to \$1 million over five years. Lenders determine interest rates up to a 10 per cent cap.

Guaranteeing commercial debt by the Australian Government would increase provider access to commercial debt to cover a significant reduction in RAD balances. It would utilise established bank debt facilities and administration frameworks, allowing experienced financiers within the banking sector to assess loan applications. Clear lending criteria would need to be established by the Australian Government, given the risks of lending decisions made by banks would not be fully captured by them.

The Australian Government may not need to guarantee the entire amount of commercial debt required to cover a significant reduction in RAD balances. Banks would still benefit from a partial guarantee because the Australian Government would share some default risk. However, providers may still be excluded from commercial debt if a significant risk to the bank remains.

## **Allowing providers to restrict a consumer's accommodation payment choice**

The risk associated with RADs to providers primarily results from the provider's inability to influence accommodation payment choices. While some providers try to manipulate this choice by offering discounts on fees, data collected within this study suggests the practice is not widespread, although the true extent is unknown.

A consumer is more likely to choose a RAD if their assets are greater. While this is outside the providers' control, many providers locate new facilities in high house price areas to attract higher value RADs. A consumer is less likely to choose a RAD the higher the accommodation price. Some providers have kept their accommodation prices lower to attract RADs.

Some providers rely on RADs for capital expenditure, while other providers primarily derive income from their RADs. RADs potentially disadvantage providers with a small proportion of their RADs tied up in capital expenditure, because they could earn more revenue if they received DAPs. Consequently, there is a financial trade-off between providers that prefer RADs and providers that prefer DAPs when preferences for accommodation payment choice shifts.

Consumers choosing a RAD may increase the provider's ability to undertake capital expenditure but reduce its income. These providers may be less able to cover daily living activities and care services or may experience a lower investment return. Cross subsidising care costs with accommodation payments should be avoided, although many providers struggle to cover the full cost of daily living activities and care services. (60)

Some providers within the focus groups noted they would like some control over the accommodation payment choice. Allowing providers to choose which type of accommodation payment a consumer provides is attractive from a provider perspective. It would help providers match their funding streams to their strategic objectives. Providers seeking to undertake capital expenditure, or have a significant proportion of their RADs invested in capital expenditure, would

be more likely to offer RADs to consumers, while other providers would be more likely to offer DAPs.

However, allowing providers to dictate accommodation payments to consumers reduces consumer choice. It restricts the consumer's ability to match their accommodation payment choice to their financial circumstances. Allowing providers to limit the consumer's accommodation payment choice would sit uncomfortably within a consumer focused residential aged care sector.

Limiting accommodation payment choices for consumers may also reduce access to care. Many consumers may not be able to afford a RAD or DAP if their assets or income are low, respectively. A market that contains providers seeking mostly RADs or DAPs may force some consumers to move further away from their homes to access residential aged care. This would be particularly problematic for rural and remote regions where provider choices are already limited.

## Indirect Australian Government intervention

### **Attracting REITs into residential aged care**

There are two primary ways a REIT could help residential aged care providers cover a significant reduction in RADs. Providers could sell a facility to a REIT, with an agreement to lease back the facility for a defined period. Alternatively, a REIT could develop a new facility at the provider's request and lease it back to the provider. This second approach requires an additional margin from the provider to cover the additional development risk.

The potential advantage of using a REIT for a provider is greater access to equity for capital expenditure. This is particularly useful for a provider with limited access to commercial debt and RADs. It can allow providers to offer better facilities and increase bed capacity. Providers also offload administrative responsibility for the property to the REIT, allowing it to concentrate on providing care.

There are some risks for a provider when entering a REIT, although these could be mitigated somewhat through contractual arrangements. There is potential for a significant rent increase and, subsequently, default and eviction. Providers may also have little opportunity to refurbish the facility when desired and no right to renew the lease once it expires. Reduced flexibility in managing property to meet changing market needs potentially reduces the property value to providers.

Providers may also be excluded from capital gains associated with the property and therefore the opportunity to build equity. However, capital gains could be shared between a REIT and a provider. For example, the REIT could pay the provider a lump sum at the end of the agreement reflecting the capital gains share, or the REIT could reduce rent as the property value increases.

While there is an established REIT market in Australia, REIT investment in residential aged care is small. This contrasts with other established aged care markets, such as the US, Canada, and the UK, where substantial REIT funding helps providers refurbish and build additional capacity.

REITs are not a viable alternative to a substantial reduction in RAD balances in the current market. Many providers would struggle to deliver the required rates of return for REITs given their low EBITDA. Profitability in the residential aged care sector has declined by 24 per cent from its peak in 2016-17, averaging \$8,523 in 2018-19. (1)

REITs require a healthy EBITDA to reduce default risk. This requires an appropriate accommodation payment to cover the cost of capital. It also requires a reasonable return for care, daily living activities, and other services to avoid the need to cross subsidise these activities from accommodation payments.

The existence of RADs may also reduce the ability for REITs to thrive. As the REIT covers the accommodation costs, providers cannot use their RADs to reduce their capital expenditure costs. Their only option is to use their RADs to generate income from permitted uses. A significant shift from RADs to DAPs may therefore make REITs more viable.

RADs also add complexity to REIT transactions. A REIT requires a split between the accommodation asset and the RAD liability. While the accommodation asset sits on the REIT balance sheet, the RAD liability sits on the provider balance sheet. The RAD is typically used as a current asset, such as a short term cash deposit, but if the provider enters bankruptcy and RADs have been misappropriated, there is no accommodation asset to draw upon for collateral.

The use of REITs may also be limited by low levels of financial sophistication in some providers, the unwillingness to shift towards an unfamiliar financial product, and the inertia associated with RADs. RADs are endemic within residential aged care. They are relatively simple to understand and allow the provider to purchase their property. Historically, providers have always owned their property. There is some comfort for providers from knowing that property can be relied upon for capital gains to leverage debt or build equity.

Provider returns would need to substantially increase for REITs to cover a significant reduction in RAD balances. This could be done through increased returns on daily living activities and care services for providers, or reintroducing retentions from RADs. An alternative is to provide tax advantages to REITs to encourage investment in the residential aged care sector.

The Australian Government would also need to educate the residential aged care sector on the use of REITs given the little experience with this financial product within the sector.

## **Attracting more commercial debt**

One option to reduce the impact of a significant reduction of RAD balances on providers is to attract more commercial debt in the residential aged care sector. This could be achieved by increasing provider returns to allow them to pay off commercial debt quicker. This approach would also complement an increase in income from receiving more DAPs.

Increasing returns is unlikely to increase access to commercial debt to cover a significant reduction in RAD balances. Lending from banks is restricted by their own requirements, and banks noted within the focus groups that the banking sector could not significantly increase its lending to the residential aged care sector, particularly if that were core debt.

## Replacing the MPIR

Aged care legislation requires providers to use the MPIR to convert RADs to DAPs. Some providers suggested the MPIR be replaced by another rate, such as the WACC, to remove interest rate volatility and ensure the revenue from a DAP covers the cost of capital. This view was expressed within submissions to the Royal Commission into Aged Care Quality and Safety, (21) and was reiterated by several providers within the focus groups conducted within this study.

The MPIR was not designed to ensure DAPs cover the cost of capital. When bonds were introduced, the *Aged Care Act 1997* stated that the conversion of bonds to periodic payments consider the income that a provider could have derived from investing the bond, plus the retention amounts that would have been permitted.

The MPIR was therefore designed to create an equivalent income to providers between a RAD and DAP. However, this equivalence no longer holds as the Australian Government removed retention amounts within the Living Longer Living Better (LLLB) reform package.

The intent of ensuring an equivalent income to providers between a RAD and DAP still seems appropriate if a provider perspective is taken. The available rate of return for permitted use of RADs is consistent across providers. That provides a level playing field for providers and therefore justifies a homogenous MPIR.

Replacing the MPIR with an average WACC would make the playing field uneven as providers have different WACCs. It would provide windfall gains for providers with a lower WACC (typically large providers operating in metropolitan regions), and not meet the needs of providers with a higher WACC (typically smaller providers operating in rural and remote regions).

The playing field could be somewhat levelled by creating a set of WACCs based on provider characteristics, or letting providers convert their RADs to DAPs using their own WACC. However, these approaches would be administratively burdensome. It would be difficult for the Australian Government to monitor and audit, and may reduce a provider's incentive to seek a lower WACC.

Using a WACC to convert RADs to DAPs also seems controversial when considering how accommodation prices are established. Accommodation prices are not a direct reflection of building and finance costs as providers also include some margin. For example, the average cost of a new single bed room is between \$200,000 and \$250,000, while the average agreed accommodation price was between \$320,000 and \$380,000 in 2018-19. (1)

Applying a WACC to the accommodation price would generate a DAP covering the cost of capital and some additional margin above what is required to attract capital investment. This seems inappropriate from a consumer perspective. The consumer would be paying more than required to ensure sustainable investment in accommodation, and providers would receive margins greater than required to provide a sustainable residential aged care sector.

The intent of ensuring an equivalent income to providers between a RAD and DAP seems inappropriate if a consumer perspective is taken. From a consumer perspective, the MPIR should ensure that the opportunity cost of choosing a RAD is equivalent to the cost of choosing a DAP. This is not currently the case because the rate of return from low risk investments is currently lower than the MPIR. That means paying a RAD would cost a consumer less in terms of income lost compared to the cost of paying a DAP.

Differences in investment returns and the MPIR leads to inequalities within the accommodation payment choice. The accommodation cost for two consumers with the same assets and income,



and the same room, will differ if one chooses a RAD and the other chooses a DAP. This could be considered unfair within a consumer-focused aged care system, which would be exacerbated if the MPIR were replaced with a higher WACC.

## Reducing the need for intervention

The Australian Government would face pressure to intervene if there was a significant reduction in RAD balances. Large for-profit providers would be in greatest need given their liquidity levels are lowest on average. Other providers would also experience liquidity issues. An analysis of liquidity ratios among providers in 2017-18 suggests around 25 per cent of providers had a liquidity ratio of less than 15 per cent and 8 per cent of providers had a liquidity ratio of less than 1 per cent. (16)

The need to intervene could be reduced if adequate liquidity and capital adequacy requirements were enforced on providers. This has been recommended by the Royal Commission into Aged Care Quality and Safety to ensure providers can pay back RADs when required. (19)

Many providers (mostly for-profit) would be required to increase their liquidity and capital adequacy requirements. There may be some initial reduction in capital expenditure growth as providers hold their new RADs rather than invest them. However, this reduction in growth would be temporary until providers meet the requirements or RAD balances increase again.

Using liquidity and capital adequacy requirements to reduce the need for intervention would only be useful if a reduction in RAD balances was temporary. It would not stop a significant decrease in capital expenditure from a permanent reduction in RAD balances. Access to care would decline over time given providers would have less access to debt for capital expenditure. The Australian Government would be required to intervene if consumers were unable to access care when needed.

Ultimately, reducing the need for intervention requires a greater return on investment and reduced uncertainty within the residential aged care sector to attract more equity and commercial debt. Without those characteristics, the residential aged care sector will continue to rely on RADs and providers will continue to be exposed to the financial risk from a significant reduction in RAD balances.

# References

1. Aged Care Financing Authority (ACFA). Eighth report on the funding and financing of the aged care industry. Canberra: Australian Government; 2020.
2. Australian Bureau of Statistics (ABS). 8731.0 Building Approvals, Australia. Canberra: Australian Government; 2020.
3. The Treasury. 1996-97 Budget Statement 3 Canberra: Commonwealth of Australia; 1996.
4. Senate Community Affairs Reference Committee. Report on funding of aged care institutions. Canberra: Commonwealth of Australia; 1997.
5. The Treasury. 1996-97 Budget Speech. Canberra: Commonwealth of Australia; 1996.
6. Parliament of Australia. Accommodation bonds for residential aged care. Will we need to sell our homes. Canberra: Commonwealth of Australia; 1997.
7. Parliament of Australia. Proposed changes to institutional residential aged care in Australia. Canberra: Commonwealth of Australia; 1997.
8. Parliament of Australia. Aged Care Act 1997. Canberra: Commonwealth of Australia; 1997.
9. Australian Government. Final response to the Review of pricing arrangements in residential aged care. Canberra: Commonwealth of Australia 2007.
10. Australian Government. Fees and payments principles (No. 2). Canberra: Commonwealth of Australia; 2018.
11. The Auditor General. Protection of residential aged care accommodation bonds. Canberra: Commonwealth of Australia; 2009.
12. Ernst and Young (EY). Review of Aged Care legislation which provides for the regulation and protection of Refundable Accommodation Payments in Residential Aged Care. Sydney: Ernst and Young; 2017.
13. Tune D. Legislated review of aged care 2017. Canberra: Commonwealth of Australia; 2017.
14. Aged Care Financing Authority (ACFA). The protection of residential aged care lump sum accommodation payments Canberra: Australian Government 2016.
15. Department of Health. Managing prudential risk in residential aged care. Canberra: Australian Government; 2019.
16. StuartBrown. Review of prudential framework for refundable accommodation deposits Sydney: Australian Government; 2019.
17. Royal Commission into Aged Care Quality and Safety. Capital financing for residential aged care. Canberra: Commonwealth of Australia; 2020.
18. Counsel Assisting the Royal Commission into Aged Care Quality and Safety. Counsel Assisting's Final Submissions. Canberra: Commonwealth of Australia; 2020.
19. Royal Commission into Aged Care Quality and Safety. Final report: Care, dignity, and respect. Canberra: Commonwealth of Australia; 2021.
20. Thorley IR. Witness statement of Ian Roland Thorley. Canberra: Royal Commission into Aged Care Quality and Safety; 2020.

21. Mellors L. Witness statement of Linda Mellors. Canberra: Royal Commission into Aged Care Quality and Safety; 2020.
22. Westpac Banking Corporation. Witness statement of Westpac Banking Corporation. Sydney: Royal Commission into Aged Care Quality and Safety; 2020.
23. ANZ Banking Group. Witness statement of Australia and New Zealand Banking Group Limited Sydney: Royal Commission into Aged Care Quality and Safety; 2020.
24. Commonwealth Bank of Australia. Commonwealth Bank of Australia's response to the Royal Commission into Aged Care Quality and Safety Section 2(3C) Notice dated 24 April 2020. Sydney: Royal Commission into Aged Care Quality and Safety; 2020.
25. National Australia Bank. Voluntary witness statement of National Australia Bank. Sydney: Royal Commission into Aged Care Quality and Safety; 2020.
26. The Treasury. Treasury's response to notice to give information or a statement in writing no NTG-0797. Canberra: Australian Government; 2020.
27. Ansell C. Witness statement of Campbell George Ansell. Sydney: Royal Commission into Aged Care Quality and Safety; 2020.
28. Aged Care Financing Authority (ACFA). Understanding how consumers plan and finance aged care. Canberra: Australian Government 2018.
29. Productivity Commission. Caring for Older Australians: Appendix D International Experience. Canberra: Commonwealth of Australia; 2011.
30. Watts M, Musumeci M, Chidambaram P. Medicaid home and community-based services enrollment and spending. The Henry J. Kaiser Family Foundation.  
<https://www.kff.org/medicaid/issue/>; 2020.
31. Bos A, Harrington C. What happens to a nursing home chain when private equity takes over? a longitudinal case study. INQUIRY: The Journal of Health Care Organization, Provision, and Financing. 2017;54:1-10.
32. Amirkhanyan AA, Kim HJ, Lambright KT. Does the public sector outperform the nonprofit and for-profit sectors? Evidence from a national panel study on nursing home quality and access. Journal of Policy Analysis and Management. 2008;27(2):326-53.
33. Federal Housing Administration. Annual management report. Fiscal year 2019. Washington: US Department of Housing and Urban Development; 2020.
34. Banerjee A. An overview of long-term care in Canada and selected provinces and territories. Toronto: Women and Health Care Reform Group; 2007.
35. MacDonald M. Regulating individual charges for long-term residential care in Canada. Studies in Political Economy. 2015;95(1):83-114.
36. August M. The coronavirus exposes the perils of profit in seniors' housing. The Conversation. 2020.
37. Ministry of Long-Term Care. Long-term care Home Capital Development Funding Policy 2020 [Available from: <https://www.ontario.ca/page/long-term-care-home-capital-development-funding-policy-2020>].
38. Competition & Markets Authority. Care Home Market Study Final Report. London: Crown; 2017.
39. Grant Thornton. Care homes for the elderly: Where are we now? Sydney: Grant Thornton Australia; 2018.
40. Blakely G, Quilter-Pinner H. Who cares? The financialisation of adult social care. London: Institute for Public Policy Research; 2019.

41. Colombo F, Llana-Nozal A, Mercier J, Tjadens F. Help wanted? Providing and paying for long-term care: Organization for Economic Cooperation and Development (OECD) Publishing; 2011.
42. Tediosi F, Gabriele S. Long-term Care in Italy. European Network of Economic Policy Research Institutes; 2010.
43. Knight Frank Research. European Healthcare. Care Home Report 2014. Knight Frank; 2014.
44. Joel M-E, Dufour-Kippelen S, Duchene C, Marmier M. Long-term care in France. European Network of Economic Policy Research Institutes; 2010.
45. Doty P, Nadash P, Racco N. Long-term care financing: lessons from France. *The Milbank quarterly*. 2015;93(2):359-91.
46. Knight Frank Research. European Healthcare Elderly Care Market 2020. Knight Frank; 2020.
47. Sergent A, Hovsepian S, Ben Rekassa N. Changing beds: French nursing homes and opportunities for the private sector. 2014.
48. Nadash P, Doty P, von Schwanenflügel M. The German long-term care insurance program: evolution and recent developments. *The Gerontologist*. 2018;58(3):588-97.
49. Gibson MJS, Redfoot DL. Comparing long-term care in Germany and the United States: what can we learn from each other?: AARP Public Policy Institute Washington (DC); 2007.
50. Curry N, Schlepper L, Hemmings N. What can England learn from the long-term care system in Germany? London: nuffieldtrust; 2019.
51. Rhee JC, Done N, Anderson GF. Considering long-term care insurance for middle-income countries: comparing South Korea with Japan and Germany. *Health policy*. 2015;119(10):1319-29.
52. Sugawara S. Firm-Driven Management of Longevity Risk: Analysis of Lump-Sum Forward Payments in Japanese Nursing Homes. *Journal of Economics & Management Strategy*. 2017;26(1):169-204.
53. Savills. Japan healthcare: New opportunities in an ageing society. 2018.
54. Department of Health. Base interest rate (BIR) and maximum permissible interest rate (MPIR) for residential aged care. Canberra: Australian Government 2020.
55. Visvanathan R, Amare AT, Wesselingh S, Hearn R, McKechnie S, Mussared J, et al. Prolonged Wait Time Prior to Entry to Home Care Packages Increases the Risk of Mortality and Transition to Permanent Residential Aged Care Services: Findings from the Registry of Older South Australians (ROSA). *J Nutr Health Aging*. 2019;23(3):271-80.
56. Department of Health. Home care packages program. Data report. 1st quarter 2018-19. Canberra: Australian Government; 2018.
57. Department of Health. Home care packages program. Data report. 1st quarter 2020-21. Canberra: Australian Government; 2020.
58. The Treasury. Mid-Year Economic and Fiscal Outlook 2020-21. Canberra: Australian Government; 2020.
59. Department of Health. 2020 Aged Care Approvals Round. Essential guide. Canberra: Australian Government; 2020.
60. StuartBrown. Aged Care Sector Report. Sydney: StuartBrown; 2020.

# Appendix A. Analysing consumer choice

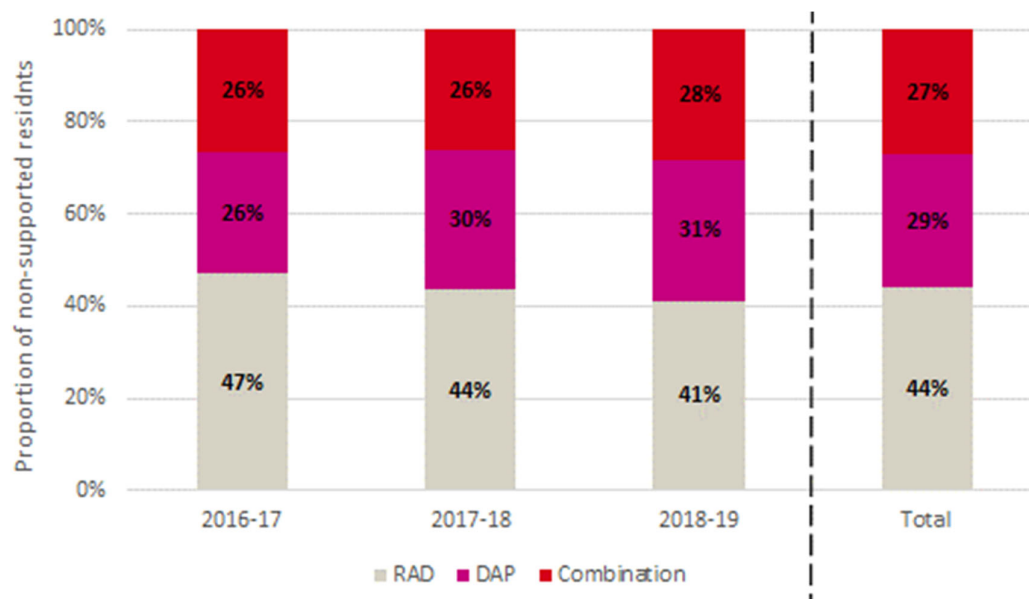
A merged dataset containing 57,475 non-supported residents and 18,148 partially-supported residents was developed based on two administrative datasets provided by the Department of Health. This appendix provides summary statistics for accommodation payment choice and its predictors (individual and facility characteristics), along with a summary of the modelling methodology.

## Non supported residents

### Accommodation payment choice

The proportion of each payment type, within each year and the whole sample, is illustrated in Chart A.1. Overall, the RAD is the most popular payment type, accounting for around 40 per cent of accommodation payments. The DAP is slightly preferred over the combination payment, each accounting for around 30 per cent. There is a gradual shift from RADs to DAPs between 2016-17 to 2018-19.

**Chart A.1: Non-supported residents' choice of payment**

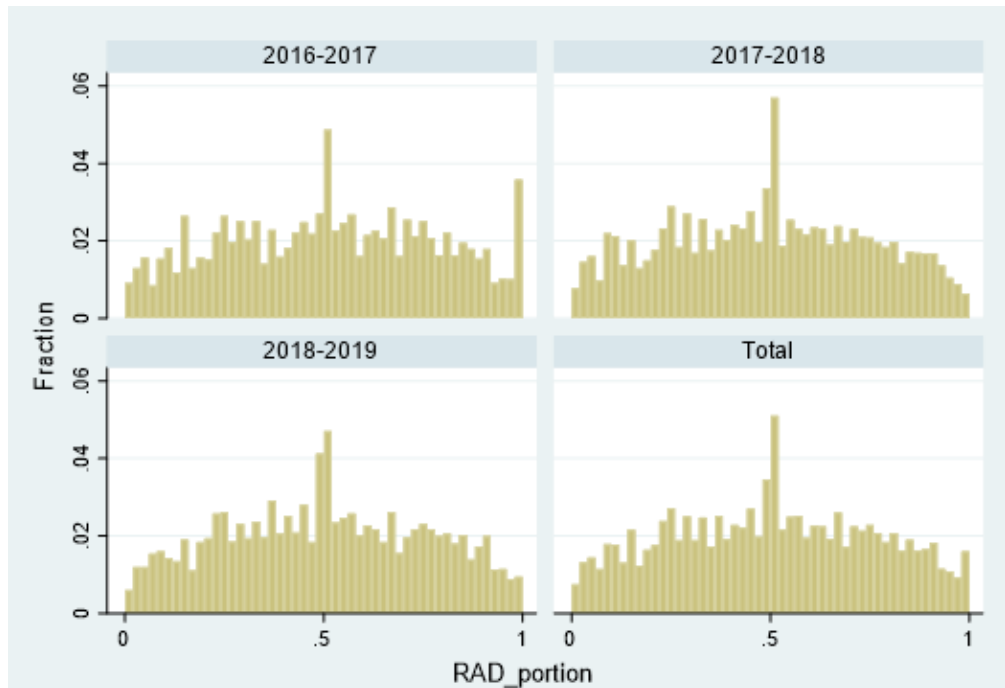


Note: n=57,508

Source: Department of Health

The proportion of the RAD component in combination payments is illustrated in Chart A.2. There is a spike at around 0.5 in each year, suggesting many residents split their payment into RAD and DAP equally. Year 2016-2017 has more data massed near 1 than the other two years, suggesting the proportion of RAD component in the combination may have declined from year 2016-2017.

**Chart A.2: Non-supported residents: proportion of RAD in the combination**



Source: Department of Health

A zero-one-inflated beta regression with only time dummy variables was undertaken to estimate the average impact of each year on accommodation payment choice against the reference year represented by 2016-2017 (see Table A.1).

**Table A.1: Non-supported residents: testing time trend**

	Probability of choosing RAD		Probability of choosing DAP		RAD percentage in the combination	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Year: 2016-2017 (ref)						
Year: 2017-2018	-0.0729***	[0.0254]	0.1382***	[0.0282]	-0.1553***	[0.0230]
Year: 2018-2019	-0.1943***	[0.0254]	0.0902***	[0.0281]	-0.1075***	[0.0230]
Constant	0.5732***	[0.0187]	-0.0040	[0.0212]	0.1221***	[0.0187]
Ln(phi): Constant	0.9369***	[0.0122]				

Note: N=57,508. S.E. = Standard Error. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively.

The analysis of probability of choosing a RAD suggests that year 2017-2018 and year 2018-2019 both have statistically significant negative effect on the outcome. The analysis of probability of choosing a DAP suggests that year 2017-2018 and year 2018-2019 both have statistically significant positive effect on the outcome. These are consistent with data presented in Chart A.1.

The analysis of the RAD percentage in the combination payment suggests that year 2017-2018 and year 2018-2019 both have statistically significant negative effect, confirming data within Chart A.2 that the proportion of the RAD component in the combination payments declined from 2016-2017.

## Accommodation payment choice predictors

Several variables were selected as potential predictors of the payment choice. (see Table A.2). There was data missing for the asset variable which reduced the sample size by 16.5 per cent in the regression analysis. The remaining sample size was still reasonably large, but the concern is that the data missing may not be random (see Table A.3).

It is unclear why some asset information was missing. Table A.3 was reproduced using the sample excluding all the observations with the asset information missing (see Table A.4). By comparing these two tables, the sample reduction seems to have little impact on the descriptive statistics of all the variables including income, suggesting the data missing is most likely to be random.

**Table A.2: Definition of the predictors**

Variables	Definition and levels
<b>LOS (days)</b>	Length of stay at the facility. For those who still remained at the aged care facility on 30 June 2020, their exit date is set as 30 June 2020 (and thus creates the right censoring issue).
<b>LOS censored</b>	=1 if a person still remained at the facility on 30 June 2020; =0 otherwise
<b>ACFI-ADL Score</b>	Aged Care Funding Instrument: activities of daily living – a score (0~100) measuring residents' activities of daily living including nutrition, mobility, personal hygiene, toileting, and continence.
<b>ACFI-BEH Score</b>	Aged Care Funding Instrument: behaviour – a score (0~100) measuring residents' behaviour including cognitive skills, wandering, verbal behaviour, physical behaviour and depression.
<b>ACFI-CHC Score</b>	Aged Care Funding Instrument: complex health care – a score (0~4) measuring residents' complex health care needs including medication and complex health care.
<b>Agreed accommodation price (1,000 AUD)</b>	The agreed price for accommodation on entry. It is calculated as $RAD + (DAP \times 365) / MPIR$ .
<b>Asset amount on entry (10,00 AUD)</b>	Value of deemed assets upon entry
<b>Income per fortnight (AUD)</b>	Each resident undertook income tests (often more than once). These tests suggest the resident's pension income and ordinary income per fortnight at the testing time. The variable is the total income averaged across all income tests by individual.
<b>MPIR</b>	Maximum permissible interest rate
<b>Age at admission</b>	The age of the resident upon entry
<b>Gender</b>	Male and female



Variables	Definition and levels
	Married (registered/de facto); Never married; Separated; Divorced; Widowed; Unable to determine. In the regression analysis the latter four levels are grouped as “not currently married”.
	Eight states and territories of Australia: ACT, NSW, NT, QLD, SA, TAS, VIC, WA
	Major cities; Inner regional; Outer regional; Remote; Very remote. In the regression the last two levels are grouped as “Remote”.
	Ownership type of the facility: No for profit; For profit; Government

**Table A.3: Non-supported residents: descriptive statistics by payment type**

Variables	RAD	DAP	Combination	Total
<b>LOS (days)</b>				N = 57,508
Mean	468.4	349.4	433.7	424.2
SD	315.8	301.7	313.8	315.2
Median	417.0	271.0	372.0	361.0
<b>Uncensored LOS</b>				N = 32,739
Mean	465.0	325.1	433.8	411.6
Median	403.0	222.0	365.0	335.0
<b>Censored LOS</b>				N = 24,769
Mean	472.4	390.8	433.5	441.0
Median	439.0	368.0	383.0	398.0
<b>ACFI-ADL Score</b>				N = 57,508
Mean	77.0	80.0	77.4	78.0
SD	19.0	17.8	18.7	18.6
Median	83.4	90.3	83.6	90.1
<b>ACFI-BEH Score</b>				N = 57,508
Mean	45.5	46.9	44.7	45.7
SD	20.7	20.4	20.8	20.7
Median	51.0	52.0	50.0	51.1
<b>ACFI- CHC Score</b>				N = 57,508
Mean	2.1	2.1	2.1	2.1
SD	0.8	0.8	0.8	0.8
Median	2.0	2.0	2.0	2.0
<b>Agreed accommodation price (1,000 AUD)</b>				N = 57,508
Mean	418.3	384.2	420.3	408.9
SD	152.6	138.8	126.7	142.9

Variables	RAD	DAP	Combination	Total
Median	400.0	373.8	400.0	400.0
<b>Asset amount on entry (10,00 AUD)</b>				N = 48,018
Mean	570.3	322.3	380.0	448.7
SD	627.3	392.3	338.8	512.9
Median	364.1	228.1	287.0	290.2
<b>Income per fortnight (AUD)</b>				N = 57,508
Mean	1199.9	1062.7	1094.7	1131.3
SD	829.3	484.6	583.5	682.0
Median	1005.5	957.2	987.2	986.5
<b>MPIR</b>				N = 57,508
Mean	5.8354	5.8352	5.8392	5.8364
SD	0.1134	0.1086	0.1118	0.1116
Median	5.77	5.78	5.77	5.77
<b>Age at admission</b>				N = 57,508
Mean	85.9	84.5	85.8	85.5
SD	7.4	8.3	7.4	7.7
Median	87.0	86.0	87.0	87.0
<b>Gender</b>				N = 57,508
Female	67.8%	62.4%	67.9%	66.3%
Male	32.2%	37.6%	32.1%	33.7%
<b>Marital status</b>				N = 57,508
Never married	6.3%	8.3%	6.4%	6.9%
Married (registered/de facto)	26.2%	27.3%	24.9%	26.2%
Separated	0.2%	0.3%	0.3%	0.2%
Divorced	6.0%	8.7%	6.7%	6.9%
Widowed	59.3%	52.9%	60.0%	57.6%
Unable to determine	2.0%	2.5%	1.9%	2.1%
<b>Facilities' States and Territories</b>				N = 57,508
ACT	1.5%	1.4%	1.2%	1.4%
NSW	34.4%	34.3%	24.7%	31.8%
NT	0.1%	0.1%	0.1%	0.1%
QLD	15.5%	17.9%	21.5%	17.8%
SA	7.9%	7.9%	10.9%	8.7%
TAS	2.5%	2.6%	2.4%	2.5%

Variables	RAD	DAP	Combination	Total
	31.5%	28.4%	27.2%	29.4%
	6.7%	7.6%	11.9%	8.4%
				N = 57,508
	73.7%	68.3%	69.1%	70.9%
	21.1%	23.7%	23.0%	22.4%
	4.9%	7.7%	7.7%	6.5%
	0.3%	0.3%	0.2%	0.3%
	0.0%	0.0%	0.0%	0.02%
				N = 57,508
	48.2%	57.8%	56.3%	53.2%
	49.0%	37.8%	40.1%	43.3%
	2.8%	4.4%	3.6%	3.5%

Note: LOS=Length of Stay; ACFI-ADL score=Aged Care Funding Instrument- activities of daily living; ACFI-BEH Score=Aged Care Funding Instrument- behaviour (BEH); ACFI- CHC Score= Aged Care Funding Instrument- complex health care.

Source: Department of Health

**Table A.4: Non-supported residents: descriptive statistics by payment type (excluding all observations with the asset information missing)**

Variable	RAD	DAP	Combination	Total
<b>LOS (days)</b>				N = 48,018
Mean	472.7	357.5	438.3	430.7
SD	315.2	301.8	312.7	314.5
Median	423.0	283.0	379.0	370.0
<b>Uncensored LOS</b>				N = 26,808
Mean	474.6	336.9	441.9	422.6
Median	415.0	236.0	375.0	350.0
<b>Censored LOS</b>				N = 21,210
Mean	470.7	390.9	434.1	440.8
Median	436.0	368.0	383.0	397.0
<b>ACFI-ADL Score</b>				N = 48,018
Mean	76.9	79.8	77.3	77.8
SD	19.0	17.8	18.7	18.6
Median	83.4	90.3	83.6	84.5
<b>ACFI-BEH Score</b>				N = 48,018
Mean	45.4	46.8	44.7	45.6
SD	20.6	20.4	20.8	20.6
Median	51.0	52.0	50.0	51.1



Variable	RAD	DAP	Combination	Total
<b>ACFI- CHC Score</b>				N = 48,018
Mean	2.1	2.1	2.1	2.1
SD	0.8	0.8	0.8	0.8
Median	2.0	2.0	2.0	2.0
<b>Agreed accommodation price (1,000 AUD)</b>				N = 48,018
Mean	422.2	387.0	424.7	412.8
SD	152.8	139.4	128.9	143.9
Median	400.0	375.0	400.0	400.0
<b>Asset amount on entry (10,00 AUD)</b>				N = 48,018
Mean	570.3	322.3	380.0	448.7
SD	627.3	392.3	338.8	512.9
Median	364.1	228.1	287.0	290.2
<b>Income per fortnight (AUD)</b>				N = 48,018
Mean	1206.7	1066.2	1094.2	1136.5
SD	846.2	491.8	616.4	703.6
Median	1004.7	959.1	982.4	985.6
<b>MPIR</b>				N = 48,018
Mean	5.8363	5.8358	5.8399	5.8371
SD	0.1134	0.1083	0.1119	0.1116
Median	5.77	5.78	5.78	5.78
<b>Age at admission</b>				N = 48,018
Mean	85.8	84.4	85.6	85.4
SD	7.4	8.3	7.4	7.7
Median	87.0	86.0	87.0	87.0
<b>Gender</b>				N = 48,018
Female	67.3%	61.9%	67.6%	65.8%
Male	32.7%	38.1%	32.4%	34.2%
<b>Marital status</b>				N = 48,018
Never married	6.4%	8.5%	6.4%	7.0%
Married (registered/de facto)	27.1%	28.4%	26.1%	27.2%
Separated	0.2%	0.2%	0.3%	0.2%
Divorced	5.8%	8.5%	6.5%	6.8%
Widowed	58.5%	51.9%	58.9%	56.7%
Unable to determine	2.1%	2.5%	1.9%	2.1%

Variable	RAD	DAP	Combination	Total
<b>Facilities' States and Territories</b>	N = 48,018			
ACT	1.5%	1.3%	1.2%	1.4%
NSW	34.2%	34.4%	25.1%	31.8%
NT	0.1%	0.1%	0.1%	0.1%
QLD	15.5%	17.4%	21.1%	17.5%
SA	7.9%	7.7%	10.8%	8.6%
TAS	2.6%	2.8%	2.5%	2.6%
VIC	31.9%	29.1%	27.6%	29.9%
WA	6.4%	7.2%	11.6%	8.0%
<b>Facility remoteness</b>	N = 48,018			
Major cities	74.0%	68.2%	69.6%	71.2%
Inner regional	20.8%	23.8%	22.9%	22.2%
Outer regional	5.0%	7.6%	7.4%	6.4%
Remote	0.3%	0.3%	0.1%	0.3%
Very remote	0.0%	0.0%	0.0%	0.02%
<b>Organisation type</b>	N = 48,018			
No for profit	47.6%	57.4%	55.9%	52.6%
For profit	49.6%	38.1%	40.7%	44.0%
Government	2.8%	4.4%	3.4%	3.4%

Note: LOS=Length of Stay; ACFI-ADL score=Aged Care Funding Instrument- activities of daily living; ACFI-BEH Score=Aged Care Funding Instrument- behaviour (BEH); ACFI- CHC Score= Aged Care Funding Instrument- complex health care.

Source: Department of Health

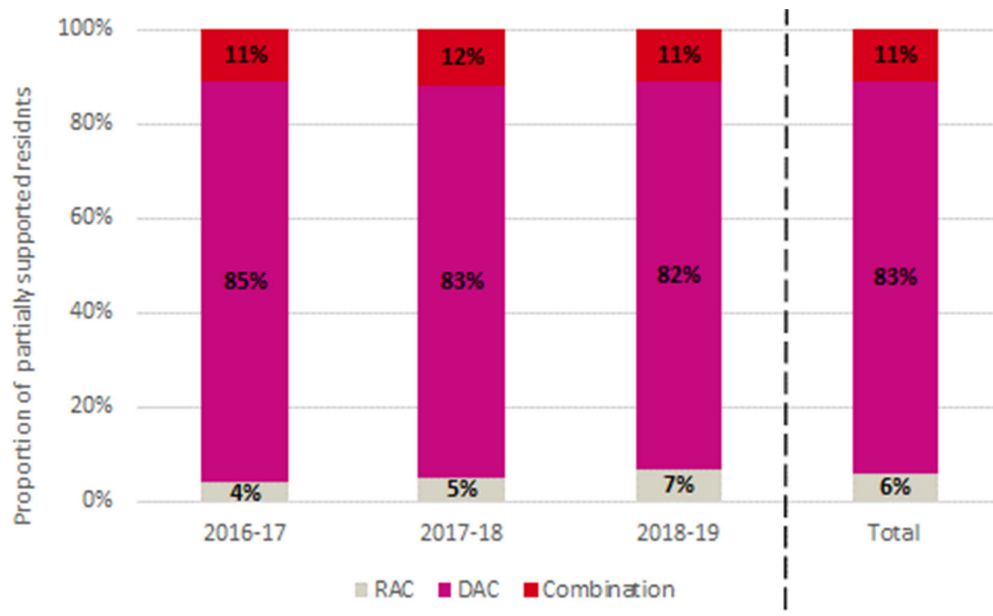
## Partially supported residents

### Accommodation payment choice

The proportion of each accommodation payment type for partially supported residents is illustrated in Chart A.3. Overall, the DAC is the dominant payment type (accounting for 83 per cent of accommodation payments), followed by the combination payment (11 per cent) and the RAC (6 per cent). There has been a small but gradual shift from DACs to RACs between 2016-17 and 2018-19, while the proportion of the combination payment has remained stable.

The proportion of the RAC component in the combination payments is illustrated in Chart A.4. In 2016-2017, there was a spike at around 0.5, suggesting many residents split their payment into RAC and DAC equally. However, this spike disappeared in the next two years.

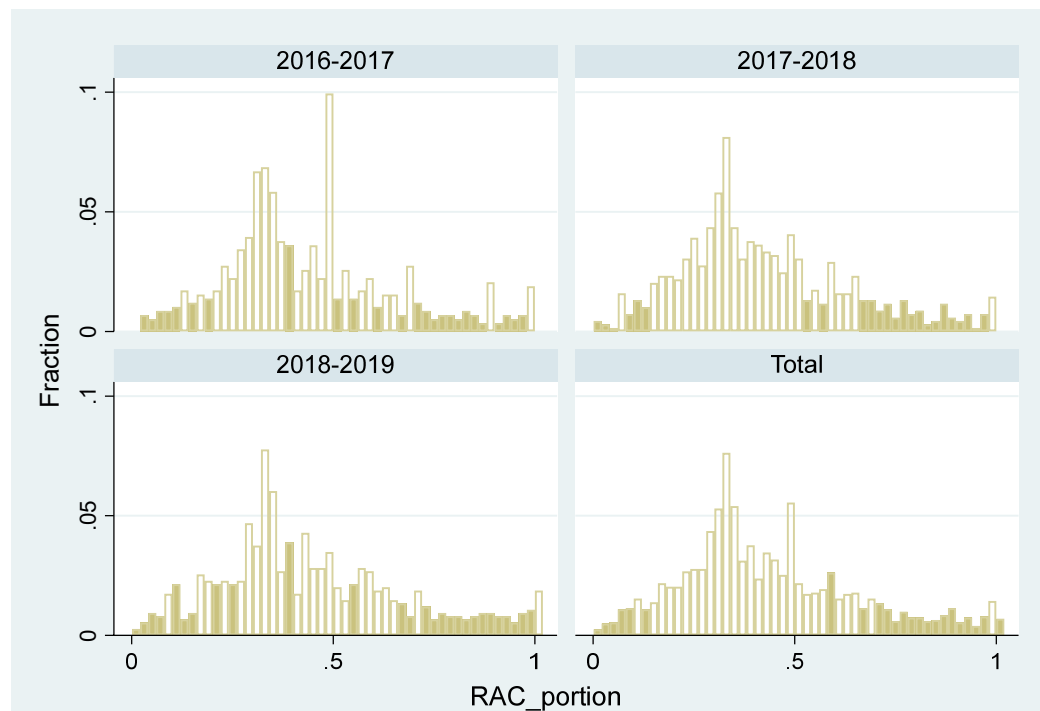
**Chart A.3: Partially supported residents' choice of payment**



Note: n=18,129

Source: Department of Health

**Chart A.4: Partially supported residents: proportion of RAC in the combination**



A zero-one-inflated beta regression was undertaken with only time dummy variables to estimate the average impact of a year on accommodation payment choices against the reference year (2016-2017). The results are documented in Table A.5.

**Table A.5: Partially supported residents: testing time trend**

	Probability of choosing RAC		Probability of choosing DAC		RAC percentage in the combination	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Year: 2016-2017 (ref)						
	0.1279	[0.1044]	-0.0793	[0.0599]	-0.0885*	[0.0487]
	0.5345***	[0.0975]	-0.0399	[0.0587]	0.1843**	[0.0748]
	-0.9494***	[0.0783]	2.0514***	[0.0440]	-0.1292***	[0.0379]
	1.0261***	[0.0645]				

Note: N=18,129. S.E. = Standard Error. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively.

The analysis of the probability of choosing a RAC suggests that year 2017-2018 and year 2018-2019 both have positive effect, but the former effect is not statistically significant. The analysis of the probability of choosing a DAC suggests that year 2017-2018 and year 2018-2019 both have negative effect but both effects are not statistically significant. These are consistent with the conclusions from Chart A.3.

The analysis of the RAC percentage in the combination payment suggests that year 2017-2018 and year 2018-2019 have negative and positive effect on the outcome respectively (with only the latter statistically significant at 5 per cent level), implying a significant increase in the proportion of the RAC component in the combination payments between the reference year and year 2018-2019.

## Accommodation payment choice predictors

The same set of predictors as those used in the non-supported residents were considered in the regression analysis of partially supported residents. The descriptive statistics are presented in Table A.6 for different payment types and for the whole sample. Again, there is data missing for the asset variable which reduced the sample size by 26.2 per cent in the regression analysis.

Table A.6 was reproduced using the sample excluding all the observations with the missing asset information (see Table A.7). By comparing these two tables, the sample reduction seems to have little impact on the descriptive statistics of all the variables including income, suggesting the missing data is likely random.

**Table A.6: Partially supported residents: descriptive statistics by payment type**

Variable	RAC	DAC	Combination	Total
<b>LOS (days)*</b>				N = 18,129
Mean	378.8	392.3	440.9	396.9
SD	294.0	310.5	309.8	309.9
Median	311.0	320.0	376.0	325.0
<b>Uncensored LOS</b>				N = 11,098
Mean	387.7	373.9	442.6	381.8



Variable	RAC	DAC	Combination	Total
Median	317.0	290.0	374.0	302.0
<b>Censored LOS</b>				N = 7,031
Mean	365.8	422.1	438.4	420.6
Median	293.0	366.0	387.0	361.0
<b>ACFI-ADL Score</b>				N = 18,129
Mean	78.9	80.0	77.4	79.7
SD	18.8	17.9	19.6	18.2
Median	90.3	90.3	83.6	90.3
<b>ACFI-BEH Score</b>				N = 18,129
Mean	47.8	47.9	45.0	47.6
SD	20.9	20.7	21.2	20.8
Median	52.2	52.6	50.4	52.2
<b>ACFI- CHC Score</b>				N = 18,129
mean	2.1	2.1	2.1	2.1
sd	0.8	0.8	0.8	0.8
median	2.0	2.0	2.0	2.0
<b>Agreed accommodation price (1,000 AUD)</b>				N = 18,129
Mean	122.7	126.7	209.5	135.6
SD	97.2	95.2	87.8	98.1
Median	100.0	108.6	217.7	121.4
<b>Asset amount on entry (10,00 AUD)</b>				N = 13,378
Mean	110.5	87.2	123.5	92.8
SD	82.3	95.7	63.6	92.6
Median	97.5	78.0	118.7	84.1
<b>Income per fortnight (AUD)</b>				N = 18,129
Mean	974.6	994.3	972.7	990.8
SD	174.5	205.2	150.2	198.3
Median	931.9	941.0	934.5	939.1
<b>MPIR</b>				N = 18,129
Mean	5.8640	5.8430	5.8434	5.8442
SD	0.1095	0.1116	0.1143	0.1119
Median	5.94	5.78	5.78	5.78
<b>Age at admission</b>				N = 18,129
Mean	83.6	83.1	84.6	83.3

Variable	RAC	DAC	Combination	Total
SD	8.2	8.5	7.6	8.4
Median	85.0	84.0	86.0	85.0
<b>Gender</b>				N = 18,129
Female	54.8%	53.8%	57.1%	54.2%
Male	45.2%	46.2%	42.9%	45.8%
<b>Marital status</b>				N = 18,129
Never married	6.5%	7.2%	5.2%	6.9%
Married (registered/de facto)	57.3%	51.1%	54.9%	51.9%
Separated	0.0%	0.4%	0.2%	0.3%
Divorced	5.3%	7.3%	5.5%	7.0%
Widowed	29.1%	31.6%	32.3%	31.5%
Unable to determine	1.8%	2.4%	1.8%	2.3%
<b>Facility location</b>				N = 18,129
ACT	0.8%	1.5%	0.5%	1.4%
NSW	34.6%	28.4%	23.1%	28.1%
NT	0.2%	0.2%	0.1%	0.2%
QLD	16.5%	22.8%	25.0%	22.7%
SA	6.8%	9.9%	12.7%	10.1%
TAS	2.6%	3.0%	3.6%	3.0%
VIC	33.3%	25.2 %	24.3%	25.6%
WA	5.2%	8.9%	10.6%	8.9%
<b>Facility remoteness</b>				N = 18,129
Major cities	66.5%	66.7%	57.4%	65.6%
Inner regional	25.2%	23.4%	31.6%	24.4%
Outer regional	8.0%	9.4%	10.8%	9.5%
Remote	0.3%	0.5%	0.2%	0.4%
Very remote	0.0%	0.1%	0.0%	0.1%
<b>Organisation type</b>				N = 18,129
No for profit	45.7%	59.9%	65.5%	59.7%
For profit	50.3%	35.2%	28.9%	35.4%
Government	4.1%	4.9%	5.5%	4.9%

Note: LOS=Length of Stay; ACFI-ADL score=Aged Care Funding Instrument- activities of daily living; ACFI-BEH Score=Aged Care Funding Instrument- behaviour (BEH); ACFI- CHC Score= Aged Care Funding Instrument- complex health care.

Source: Department of Health

**Table A.7: Partially supported residents: descriptive statistics by payment type (excluding all observations with the asset information missing)**

Variable	RAC	DAC	Combination	Total
<b>LOS (days)*</b>				N = 13,378
Mean	378.2	391.1	436.3	395.7
SD	289.3	309.1	304.3	307.8
Median	311.0	318.0	375.0	325.0
<b>Uncensored LOS</b>				N = 8,092
Mean	389.6	374.9	440.5	383.1
Median	322.0	291.0	375.0	303.5
<b>Censored LOS</b>				N = 5,286
Mean	363.5	416.7	430.6	415.0
Median	293.0	360.0	376.0	355.0
<b>ACFI-ADL Score</b>				N = 13,378
Mean	78.5	80.3	77.8	79.9
SD	19.1	17.7	19.5	19.1
Median	90.3	90.3	90.1	90.3
<b>ACFI-BEH Score</b>				N = 13,378
Mean	47.8	48.1	45.4	47.8
SD	20.7	20.7	21.1	20.7
Median	52.3	52.8	50.5	52.3
<b>ACFI- CHC Score</b>				N = 13,378
mean	2.1	2.1	2.1	2.1
sd	0.8	0.8	0.8	0.8
median	2.0	2.0	2.0	2.0
<b>Agreed accommodation price (1,000 AUD)</b>				N = 13,378
Mean	126.7	131.1	212.5	140.5
SD	97.7	95.7	88.1	98.6
Median	100.0	115.5	219.2	128.4
<b>Asset amount on entry (10,00 AUD)</b>				N = 13,378
Mean	110.5	87.2	123.5	92.9
SD	82.3	95.7	63.6	92.6
Median	97.5	78.0	118.7	84.1
<b>Income per fortnight (AUD)</b>				N = 13,378
Mean	977.7	989.1	971.8	986.3
SD	167.4	200.8	152.8	194.0
Median	933.8	937.0	933.5	936.3

Variable	RAC	DAC	Combination	Total
<b>MPIR</b>				N = 13,378
Mean	5.8663	5.8428	5.8439	5.8443
SD	0.1091	0.1112	0.1140	0.1116
Median	5.94	5.78	5.78	5.78
<b>Age at admission</b>				N = 13,378
Mean	83.4	82.8	84.3	83.0
SD	8.1	8.6	7.5	8.5
Median	85.0	84.0	85.0	84.0
<b>Gender</b>				N = 13,378
Female	55.4%	52.9%	55.7%	53.3%
Male	44.6%	47.1%	44.3%	46.7%
<b>Marital status</b>				N = 13,378
Never married	7.0%	7.2%	4.9%	6.9%
Married (registered/de facto)	60.1%	54.2%	58.1%	55.0%
Separated	0.0%	0.3%	0.3%	0.3%
Divorced	4.7%	7.2%	5.5%	6.9%
Widowed	26.6%	28.6%	29.5%	28.6%
Unable to determine	1.7%	2.4%	1.7%	2.3%
<b>Facility location</b>				N = 13,378
ACT	0.8%	1.3%	0.4%	1.2%
NSW	32.8%	28.5%	23.0%	28.1%
NT	0.3%	0.2%	0.1%	0.2%
QLD	17.4%	22.3%	24.8%	22.3%
SA	7.0%	10.1%	12.8%	10.2%
TAS	3.0%	3.1%	4.1%	3.2%
VIC	33.7%	26.4 %	24.2%	26.6%
WA	5.1%	8.1%	10.7%	8.2%
<b>Facility remoteness</b>				N = 13,378
Major cities	65.9%	66.3%	58.3%	65.4%
Inner regional	26.2%	23.8%	30.8%	24.8%
Outer regional	7.5%	9.3%	10.8%	9.4%
Remote	0.4%	0.4%	0.1%	0.4%
Very remote	0.0%	0.1%	0.0%	0.1%
<b>Organisation type</b>				N = 13,378
No for profit	44.5%	58.4%	64.3%	58.3%
For profit	51.6%	36.4%	30.4%	36.6%
Government	3.9%	5.2%	5.3%	5.1%

Note: LOS=Length of Stay; ACFI-ADL score=Aged Care Funding Instrument- activities of daily living; ACFI-BEH Score=Aged Care Funding Instrument- behaviour (BEH); ACFI- CHC Score= Aged Care Funding Instrument- complex health care.

Source: Department of Health

## Significance of choice predictors

A zero-one-inflated beta regression was estimated with all predictors and the time dummy variables for partially supported consumers (see Table A.8).

**Table A.8: Estimated impacts of predictors on accommodation payment choice**

	Probability of choosing RAC		Probability of choosing DAC		RAC percentage in the combination	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
LOS	-0.0001	[0.0002]	-0.0007***	[0.0001]	0.0002	[0.0001]
LOS uncensored (ref)						
LOS censored	-0.0382	[0.1094]	-0.0650	[0.0611]	0.0013	[0.0696]
ACFI: ADL score	-0.0050	[0.0031]	0.0043**	[0.0018]	-0.0001	[0.0018]
ACFI: BEH score	0.0029	[0.0027]	0.0037**	[0.0015]	-0.0008	[0.0015]
ACFI: CHC score	-0.0117	[0.0694]	0.0234	[0.0387]	-0.0020	[0.0442]
Asset amount on entry	0.0031 ***	[0.0011]	-0.0017***	[0.0004]	-0.0007	[0.0006]
Income	0.0003	[0.0003]	0.0009***	[0.0002]	-0.0002	[0.0002]
Agreed accommodation price	-0.0115 ***	[0.0008]	-0.0080 ***	[0.0003]	-0.0017 ***	[0.0005]
MPIR	0.9367	[0.9297]	-1.0452**	[0.4927]	0.5659	[0.4054]
Age at admission	-0.0031	[0.0066]	-0.0258***	[0.0037]	-0.0024	[0.0039]
Female (ref)						
Male	-0.2123*	[0.1093]	0.0824	[0.0603]	0.0136	[0.0677]
Not married (ref)						
Married	0.2188 *	[0.1131]	-0.2839 ***	[0.0619]	0.3236 ***	[0.0690]
State: NSW (ref)						
State: VIC	-0.1454	[0.1364]	-0.1936 **	[0.0868]	-0.2661***	[0.0997]
State: QLD	-0.8293 ***	[0.1477]	-0.2654 ***	[0.0826]	-0.2746 ***	[0.0941]
State: SA	-0.9165 ***	[0.1935]	-0.4867***	[0.1033]	-0.0749	[0.1120]
State: WA	-1.6227 ***	[0.2333]	-0.7014 ***	[0.1107]	-0.3904 ***	[0.1370]
State: TAS	-0.3356	[0.2899]	-0.3405**	[0.1595]	0.1531	[0.2175]
State: ACT	0.1940	[0.7579]	0.9204**	[0.4540]	-0.0135	[0.2635]
State: NT	0.9325	[1.8612]	0.4812	[1.2159]	-1.0998***	[0.1766]
Remoteness: Major cities (ref)						

	Probability of choosing RAC		Probability of choosing DAC		RAC percentage in the combination	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Remoteness: Inner regional	-0.4410 ***	[0.1234]	-0.4182***	[0.0692]	0.0145	[0.0753]
Remoteness: Outer regional	-0.5821 ***	[0.1810]	-0.2156 **	[0.1029]	-0.2265 **	[0.1066]
Remoteness: Remote	0.7428	[0.6571]	1.9021**	[0.8143]	-0.3220	[0.4146]
Ownership: For profit (ref)						
Ownership: Non for profit	-0.8006***	[0.1129]	-0.0728	[0.0668]	-0.0551	[0.0819]
Ownership: Government	-0.7734***	[0.2528]	0.1656	[0.1433]	0.2024	[0.1393]
Year: 2016-2017 (ref)						
Year: 2017-2018	0.3640 **	[0.1687]	-0.1668*	[0.0913]	0.0460	[0.0733]
Year: 2018-2019	0.4535**	[0.1995]	-0.1078	[0.1089]	0.2315 **	[0.1173]
Constant	-3.5920	[5.5125]	11.2673***	[2.9066]	-2.6574	[2.4050]
Ln(phi): Constant	1.1154 ***	[0.0614]				

Note: N= 13,378. S.E. = Standard Error. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively.

## Relative marginal impact of choice predictors

A scenario analysis was undertaken to determine the relative impact of each choice predictor on the probability of choosing a RAC. This was based on a 2018-19 hypothetical sample consumer by setting all continuous variables at their sample median and all the categorical variables at their reference point used in the regression analysis.

Results are presented in Table A.9. Results for the impact of each choice predictor on the probability of choosing a DAC or the proportion of the RAC in combination payment are presented in Table A.10 and Table A.11 respectively.

**Table A.9: Relative impact of choice predictors on choosing a RAC**

Choice predictor	Scenario	Impact on probability	95% confidence interval	
LOS	one sd increase	-0.6%	[-3.4%	2.2%]
LOS censored	compared to uncensored	-0.8%	[-5.5%	3.9%]
ACFI: ADL score	one sd increase	-2.1%	[-4.7%	0.5%]
ACFI: BEH score	one sd increase	1.3%	[-1.1%	3.6%]
ACFI: CHC score	one sd increase	-0.2%	[-2.6%	2.2%]

	one sd increase	6.2%	[1.6%	10.8%]
	one sd increase	1.4%	[-1.4%	4.2%]
	one sd increase	-24.8%	[-30.3%	-19.3%]
	one sd increase	2.3%	[-2.4%	7.0%]
	one sd increase	-0.6%	[-3.0%	1.8%]
	compared to female	-4.8%	[-9.7%	0.1%]
	compared to not married	4.6%	[-0.1%	9.3%]
	compared to NSW	-3.3%	[-9.2%	2.7%]
	compared to NSW	-19.9%	[-26.9%	-13.0%]
	compared to NSW	-22.1%	[-31.3%	-12.9%]
	compared to NSW	-38.4%	[-48.1%	-28.8%]
	compared to NSW	-7.7%	[-21.3%	5.9%]
	compared to NSW	4.1%	[-26.0%	34.1%]
	compared to NSW	16.5%	[-32.1%	65.0%]
	compared to major cities	-10.3%	[-16.2%	-4.4%]
	compared to major cities	-13.7%	[-22.5%	-5.0%]
	compared to major cities	13.8%	[-6.1%	33.6%]
	compared to "for profit"	-19.2%	[-24.5%	-13.9%]
	compared to "for profit"	-18.5%	[-31.0%	-6.1%]

Note: Based on a 2018-19 hypothetical sample consumer established by setting all continuous variables at their sample median and all the categorical variables at their reference point used in the regression analysis.

**Table A.10: Relative impact of choice predictors on choosing a DAC**

Choice predictor	Scenario	Impact on probability	95% confidence interval	
LOS	one sd increase	-0.9%	[-1.3%	-0.5%]
LOS censored	compared to uncensored	-0.3%	[-0.9%	0.3%]
ACFI: ADL score	one sd increase	0.4%	[0.1%	0.7%]
ACFI: BEH score	one sd increase	0.4%	[0.1%	0.6%]
ACFI: CHC score	one sd increase	0.1%	[-0.2%	0.4%]
Asset amount on entry	one sd increase	-0.7%	[-1.0%	-0.4%]



	one sd increase	0.8%	[0.4%	1.1%]
	one sd increase	-3.6%	[-4.5%	-2.7%]
	one sd increase	-0.5%	[-0.9%	-0.1%]
	one sd increase	-1.0%	[-1.3%	-0.6%]
	compared to female	0.4%	[-0.2%	0.9%]
	compared to not married	-1.5%	[-2.2%	-0.8%]
	compared to NSW	-1.0%	[-1.8%	-0.1%]
	compared to NSW	-1.4%	[-2.3%	-0.5%]
	compared to NSW	-2.8%	[-4.2%	-1.4%]
	compared to NSW	-4.4%	[-6.3%	-2.5%]
	compared to NSW	-1.8%	[-3.7%	0.1%]
	compared to NSW	2.8%	[0.9%	4.7%]
	compared to NSW	1.8%	[-5.2%	8.7%]
	compared to major cities	-2.3%	[-3.3%	-1.3%]
	compared to major cities	-1.1%	[-2.2%	0.0%]
	compared to major cities	4.0%	[2.5%	5.6%]
	compared to "for profit"	-0.3%	[-1.0%	0.3%]
	compared to "for profit"	0.7%	[-0.4%	1.8%]

Note: Based on a 2018-19 hypothetical sample consumer established by setting all continuous variables at their sample median and all the categorical variables at their reference point used in the regression analysis.

**Table A.11: Relative impact of choice predictors on choosing a RAC within a combination payment**

Choice predictor	Scenario	Impact on probability	95% confidence interval	
LOS	one sd increase	1.3%	[-0.3%	3.0%]
LOS censored	compared to uncensored	0.0%	[-3.2%	3.2%]
ACFI: ADL score	one sd increase	0.0%	[-1.7%	1.6%]
ACFI: BEH score	one sd increase	-0.4%	[-1.8%	1.1%]
ACFI: CHC score	one sd increase	0.0%	[-1.7%	1.6%]
Asset amount on entry	one sd increase	-1.5%	[-3.9%	0.8%]
Income	one sd increase	-0.9%	[-2.6%	0.9%]
Agree accommodation price	one sd increase	-4.0%	[-6.2%	-1.8%]

MPIR	one sd increase	1.5%	[-0.7%	3.6%]
Age at admission	one sd increase	-0.5%	[-2.0%	1.1%]
Male	compared to female	0.3%	[-2.8%	3.4%]
Currently married	compared to not married	7.8%	[4.5%	11.1%]
State: VIC	compared to NSW	-6.4%	[-11.0%	-1.8%]
State: QLD	compared to NSW	-6.6%	[-11.0%	-2.2%]
State: SA	compared to NSW	-1.8%	[-6.9%	3.4%]
State: WA	compared to NSW	-9.5%	[-16.0%	-3.0%]
State: TAS	compared to NSW	3.5%	[-6.1%	13.1%]
State: ACT	compared to NSW	-0.3%	[-12.4%	11.8%]
State: NT	compared to NSW	-26.8%	[-34.8%	-18.8%]
Remoteness: Inner regional	compared to major cities	0.3%	[-3.1%	3.8%]
Remoteness: Outer regional	compared to major cities	-5.4%	[-10.6%	-0.3%]
Remoteness: Remote	compared to major cities	-7.8%	[-27.9%	12.3%]
Ownership: Non for profit	compared to "for profit"	-1.3%	[-5.1%	2.5%]
Ownership: Government	compared to "for profit"	4.6%	[-1.5%	10.7%]

Note: Based on a 2018-19 hypothetical sample consumer established by setting all continuous variables at their sample median and all the categorical variables at their reference point used in the regression analysis.

## Modelling methodology

The outcome variable in our analysis is the proportion of RAD (or RAC) in the payment. When it is one, the outcome represents the RAD (or RAC) payment. When it is zero, the outcome represents the DAP (or DAC) payment. When it is between zero and one, the outcome represents the combination payment.

The standard method for modelling the proportion data is the fractional logit (or probit) model. Its embedded assumption is that the zeros and ones are generated via the same process as all the other proportions. This is inappropriate for modelling accommodation payment choice as the payment choice is a two-tiered process. Consumers first choose among RAD, DAP and combination of both. If they choose a combination payment, they must then choose the proportion of the RAD in their payment.

The zero-one-inflated beta regression was therefore adopted, assuming the decisions for proportions of zeros and ones are governed by a different process as the other proportions. The model consisted of three parts: a logistic regression model for whether the proportion equals zero, a logistic regression model for whether or not the proportion equals one, and a beta regression model for the proportions between zero and one.

The beta regression allowed both the mean and scale functions to be modelled using predictors. The scale was kept constant in the analysis (denoted by 'phi').

# Appendix B. Survey

## Screening

Thank you for the interest in undertaking our confidential survey about the role of lump sum accommodation payments in residential aged care. Firstly, we would like to ask a few questions to determine your suitability for this survey.

1. Does your organisation currently hold refundable accommodation deposits (RADs) or refundable accommodation contributions (RACs)?
  - a. Yes [Proceed to Q.2]
  - b. No [Survey ends]
2. Are you familiar with how your organisation uses its RADs or RACs?
  - a. Yes [Proceed to Consent]
  - b. No [Survey ends]

## Consent

This survey has been developed to provide us with a greater understanding of the role of lump sum accommodation payments (RADs and RACs) in residential aged care. Your participation will allow us to understand better the reliance on lump sum accommodation payments by residential aged care providers and the potential impact on the residential aged care sector from a reduction in lump sum accommodation payments.

To be eligible for this survey, you should be over 18 years old, and be familiar with the financial operations of your organisation, particularly the use of lump sum accommodation payments. If you choose to participate, an online survey will be presented that should take about 20 minutes to complete.

The first part of the survey will ask questions about your organisation. It will then ask questions about the trends in lump sum accommodation payments experienced by your organisation, along with current and future use of lump sum accommodation payments. Finally, the survey will provide you with an opportunity to express your opinion on the future of accommodation financing.

Your participation is voluntary and you are free to withdraw at any time. All responses will be kept confidential and you will remain anonymous to the research team.

The study is being conducted by Professor Henry Cutler and the research team from the Macquarie University Centre for the Health Economy (MUCHE) and the Department of Accounting and Corporate Governance at Macquarie University. If you have any questions related to the study, please contact Professor Cutler on (02) 9850 2999 or by emailing [health.economy@mq.edu.au](mailto:health.economy@mq.edu.au).

This study has been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Director, Research Ethics & Integrity by calling (02) 9850 7854 or emailing

ethics@mq.edu.au. Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

The study is funded by a grant provided by the Department of Health on behalf of the Aged Care Financing Authority (ACFA). Neither the Department of Health nor ACFA will have access to any data collected within this survey.

You will be able to access the final study report by contacting [health.economy@mq.edu.au](mailto:health.economy@mq.edu.au). The final study report will also be posted on the Department of Health website ([www.health.gov.au](http://www.health.gov.au)) and on our website ([health.economy.mq.edu.au](http://health.economy.mq.edu.au)) and announced on our twitter handle: @MUCHE\_Macquarie.

Do you give consent to proceed with the survey?

☐ Yes, I have read and understand the information above and I agree to participate in this survey

Chief investigator: Professor Henry Cutler

Date: 23 October 2020

## Introduction

Thank you for agreeing to participate in this confidential survey. This survey aims to collect information on the role of lump sum accommodation payments (RADs and RACs) in residential aged care from the perspective of residential aged care providers.

The Living Longer Living Better (LLLLB) reform package was introduced in 2014 to restructure the aged care sector towards more consumer directed care. One significant change was allowing providers to charge all residents a lump sum accommodation payment, while ensuring residents were given a choice between lump sum accommodation payments or daily accommodation payments.

The value of lump sum accommodation payments has since increased substantially, helping providers improve their facilities to address the preferences of aged care recipients better. Lump sum accommodation payments have also given providers an alternative return on investment and cash flow.

A recent increase in the proportion of residents choosing daily accommodation payments suggests the growth in lump sum accommodation payment values may slow over the next decade. This trend may strengthen with low interest rates making daily accommodation payments more affordable to residents. A reduction in housing prices from an economic downturn may also reduce growth in the value of lump sum accommodation payments.

The Macquarie University Centre for the Health Economy (MUCHE) has been commissioned by the Aged Care Financing Authority (ACFA) to identify the role of lump sum accommodation payments in the residential aged care sector.

We seek to identify significant drivers of trends in the number of lump sum accommodation payments and their value, explore the current use of lump sum accommodation payments by providers, and investigate the potential impact from a reduction in lump sum accommodation payments on the residential aged care sector.

This survey aims to collect the perspectives of residential aged care providers. These perspectives will be used to develop key themes on the role of lump sum accommodation payments in residential aged care, which will be included in our final report delivered to ACFA.

Your responses in this survey will be kept confidential on a secure server located at Macquarie University. Data collected from the survey will not be shared with the Department of Health or ACFA. You or your organisation cannot be identified based on any response made within this survey.

If you have any problems with the survey, you can email [health.economy@mq.edu.au](mailto:health.economy@mq.edu.au) before the survey closes on 13 November 2020.

## Questions

### Part 1. Your organisation

This part of the survey asks questions about the characteristics of your organisation.

1. How many facilities did your organisation operate on 30 June 2020?
  - a. 1-2
  - b. 3-4
  - c. 5-6
  - d. 7-8
  - e. 9-10
  - f. 11-15
  - g. 16-20
  - h. More than 20
2. How many approved beds did your organisation operate on 30 June 2020 (excluding offline and provisional allocations)?
  - a. 1-100
  - b. 101-200
  - c. 201-300
  - d. 301-400
  - e. 401-500
  - f. 501-1,500
  - g. 1,501-2,000
  - h. More than 2,000
3. What was the occupancy rate across all facilities on 30 June 2020?
  - a. Below 80%
  - b. 80-84%
  - c. 85-89%
  - d. 90-94%
  - e. 95% or more
4. In which state or territory are your facilities located (multiple answers allowed)?
  - a. NSW

- b. VIC
  - c. QLD
  - d. WA
  - e. SA
  - f. TAS
  - g. ACT
  - h. NT
5. In which remoteness region are **most** of your facilities located?
- a. Metropolitan
  - b. Regional
  - c. Remote
6. What best describes your organisation type?
- a. Not for profit (Charitable)
  - b. Not for profit (Community based)
  - c. Not for profit (Religious based)
  - d. Private incorporated company
  - e. Local Government
  - f. State Government

## Part 2. Trends in lump sum accommodation payments

This part of the survey asks questions about the trends in lump sum accommodation payments (RADs and RACs) your organisation has experienced.

7. What was the total value of your organisation's lump sum accommodation payment balance on 30 June 2020?
- a. \$1-\$1,000,000
  - b. \$1,000,001-\$3,000,000
  - c. \$3,000,001-\$5,000,000
  - d. \$5,000,001-\$10,000,000
  - e. \$10,000,001-\$15,000,000
  - f. \$15,000,001-\$20,000,000
  - g. \$20,000,001-\$30,000,000
  - h. \$30,000,001-\$50,000,000
  - i. \$50,000,001-\$100,000,000
  - j. \$100,000,001-\$200,000,000
  - k. More than \$200,000,000
8. What proportion of your organisation's residents were unsupported for accommodation purposes as at 30 June 2020?
- a. Less than 20%

- b. 20-24%
  - c. 25-29%
  - d. 30-34%
  - e. 35-39%
  - f. 40-44%
  - g. 45-49%
  - h. 50-54%
  - i. 55% or more
9. What proportion of your organisation's unsupported residents had paid a lump sum accommodation payment (excluding combined lump sum and daily payments) as at 30 June 2020?
- a. Less than 20%
  - b. 20-29%
  - c. 30-39%
  - d. 40-49%
  - e. 50-59%
  - f. 60-69%
  - g. 70-79%
  - h. 80% or more
10. What proportion of your organisation's unsupported residents had paid a combined lump sum and daily accommodation payment as at 30 June 2020?
- a. Less than 10%
  - b. 10-14%
  - c. 15-19%
  - d. 20-24%
  - e. 25-29%
  - f. 30-34%
  - g. 35-39%
  - h. 40-45%
  - i. 46-49%
  - j. 50% more
11. Has the proportion of new residents paying a lump sum accommodation payment to your organisation declined since 30 June 2017?
- a. Yes
  - b. No, it has remained the same
  - c. No, it has increased
12. Has the **total number** of lump sum accommodation payments held by your organisation declined since 30 June 2017?



- a. Yes
  - b. No, it has remained the same
  - c. No, it has increased
13. Has your organisation experienced a decline in the **total value** of its lump sum accommodation payment balance since 30 June 2017?
- a. Yes
  - b. No (Go to Part 3)
14. By what proportion has your organisation's lump sum accommodation payment balance declined since 30 June 2017?
- a. 1-5%
  - b. 6-10%
  - c. 11-15%
  - d. 16-20%
  - e. 21-25%
  - f. More than 25%
15. Why has your organisation's lump sum accommodation balance declined since 30 June 2017 (multiple choices allowed)?
- a. Decline in the proportion of residents choosing to pay a lump sum accommodation payment in full
  - b. Decline in the proportion of residents choosing to pay a lump sum accommodation payment in combination with a daily accommodation payment
  - c. Decline in occupancy rates
  - d. Decline in accommodation prices
  - e. Decline in the number of approved places held by the organisation
  - f. Other (please explain)
16. Do you expect the decline in your organisation's lump sum accommodation balance to continue over the next five years?
- a. No
  - b. Yes, declining at approximately the same rate
  - c. Yes, declining at a lower rate
  - d. Yes, declining at a greater rate
  - e. Yes, but only while COVID-19 remains a threat

### Part 3. Current use of lump sum accommodation payments

This part of the survey asks questions about the current use of lump sum accommodation payments within your organisation.

17. Does your organisation currently prefer to receive a lump sum accommodation payment, a daily accommodation payment, or a combination payment from new residents?
- a. Combination payment
  - b. Lump sum accommodation payment (Go to Q.19)

- c. Daily accommodation payment (Go to Q.19)
  - d. No preference (Go to Q.19)
18. Does your organisation currently have a preferred split within a combination payment from new residents?
- a. No
  - b. Yes (1-25% of lump sum accommodation payment, the rest a daily payment)
  - c. Yes (26-49% of lump sum accommodation payment, the rest a daily payment)
  - d. Yes (50-74% of lump sum accommodation payment, the rest a daily payment)
  - e. Yes (75-99% of lump sum accommodation payment, the rest a daily payment)
19. What proportion of your organisation's lump sum accommodation payment balance was used for either capital expenditure or to repay a debt incurred for capital expenditure as at 30 June 2020?
- a. 1-20%
  - b. 21-40%
  - c. 41-60%
  - d. 61-80%
  - e. 81-100%
20. Did your organisation hold a remaining lump sum accommodation payment balance after capital expenditure or repaying a debt incurred for capital expenditure as at 30 June 2020?
- a. Yes
  - b. No (Go to Q.20)
21. What proportion of your organisation's remaining lump sum accommodation payment balance was used for the following purposes as at 30 June 2020 (must add to 100%)?
- a. Held as cash in a deposit account
  - b. Invest in a debenture
  - c. Invest in stocks
  - d. Invest in bonds
  - e. Invest in managed funds
  - f. Invest in other securities
  - g. Make a loan
  - h. Other (please indicate type of investment)
22. What proportion of your lump sum accommodation payments were allocated across your organisation's balance sheet line items as at 30 June 2020 (must add to 100%)?
- a. Current assets
  - b. Non-current assets
  - c. Current liabilities
  - d. Non-current liabilities
  - e. Equity



23. Do you believe your organisation uses lump sum accommodation payments optimally for capital expenditure?
- a. Always
  - b. Mostly
  - c. Sometimes
  - d. Rarely
  - e. Never
24. Do you believe your organisation uses lump sum accommodation payments optimally for financial performance?
- a. Always
  - b. Mostly
  - c. Sometimes
  - d. Rarely
  - e. Never
25. Does your organisation understand the prudential requirements for using lump sum accommodation payments?
- a. Completely
  - b. Partly
  - c. A little
  - d. No

#### **Part 4. Future use of lump sum accommodation payments**

This part of the survey asks your opinion about the potential future use of lump sum accommodation payments within your organisation.

26. Do you believe your organisation's future lump sum accommodation payment balance is significantly exposed to a reduction in housing prices?
- a. Yes
  - b. No
27. Do you believe your organisation's future lump sum accommodation payment balance is significantly exposed to these other potential events (multiple choices allowed)?
- a. Yes (Increase in residents choosing a daily accommodation payment)
  - b. Yes (Reduction in interest rates)
  - c. Yes (Reduction in accommodation prices)
  - d. Yes (Reduction in occupancy rates)
  - e. Yes (Reduced expected length of stay for residents)
  - f. Yes (Discontinuation of the Aged Care Approvals Round)
  - g. No
28. Do you expect your organisation will experience a shift in consumer preference from lump sum accommodation payments to daily accommodation payments over the next five years?

- a. Yes
  - b. No (Go to Q.30)
29. Do you expect this shift to decrease the total value of your organisation's lump sum accommodation payment balance?
- a. Yes
  - b. No
30. Is there a strategy within your organisation to maintain or increase its lump sum accommodation payment balance?
- a. Yes (Please explain)
  - b. No
31. Would a reduction in your organisation's lump sum accommodation payment balance by 10% from a shift to daily accommodation payments reduce any planned capital expenditure over the next five years?
- a. Yes
  - b. No
32. Would a reduction in your organisation's lump sum accommodation payment balance by 10% from a shift to daily accommodation payments impact your organisation's day to day activities (multiple answers allowed)?
- a. Yes (Delivering care activities)
  - b. Yes (Delivering daily living activities)
  - c. Yes (Delivering extra services)
  - d. Yes (Other \_please explain)
  - e. No
33. If your organisation's lump sum accommodation payment balance declined by 10% due to a shift to daily accommodation payments, could it cover the reduction using additional equity or commercial debt?
- a. Yes
  - b. No (Go to Q.35)
34. At what point would your organisation not be able to cover a decline in lump sum accommodation payment balance due to a shift to daily accommodation payments using either additional equity or commercial debt?
- a. A decline of 11-20%
  - b. A decline of 21-30%
  - c. A decline of 31-40%
  - d. A decline of 41-50%
  - e. A decline of 51-60%
  - f. A decline of 61-70%
  - g. A decline of 71-80%
  - h. A decline of more than 80%



35. Is there another financing option available to your organisation, besides equity or commercial debt, to replace a decline in lump sum accommodation payment balances?
- a. No
  - b. Yes (please explain)

## Part 5. Other questions related to lump sum accommodation payments

This part of the survey asks other questions related to the use of lump sum accommodation payments.

36. What are the five most important factors that affect how your organisation sets accommodation prices (rank from 1 = most important to 5 = least important)?
- a. The cost of debt
  - b. The cost of equity
  - c. Housing prices
  - d. Maximum Permitted Interest Rate (MPIR) level
  - e. Occupancy rates
  - f. Competition from other providers
  - g. Size of room
  - h. Quality of room
  - i. Location of room within the facility
  - j. Whether single or shared room
  - k. Quality of facility
  - l. Location of facility
  - m. The need to justify accommodation prices above \$550,000
  - n. Other (please explain)
37. Is your organisation planning to invest in new building stock over the next five years?
- a. Yes
  - b. No
38. Is your organisation planning to invest in refurbishing building stock over the next five years?
- a. Yes
  - b. No

## Part 6. Your opinions

This part of the survey asks your opinion regarding the future use of lump sum accommodation payments.

39. Thinking about what the future of residential aged care may look like, are RADs an appropriate way to finance accommodation in the future?
40. What could change to help residential aged care providers finance accommodation in the future?
41. Is there anything else you believe we should know about the role of lump sum accommodation payments in residential aged care?

## Conclusion

This is the end of the survey. Thanks for your participation. We greatly appreciate the time you have taken to answer our questions.

If any of these questions have caused you to reflect on your experience and you are worried or upset, please contact your GP or the following organisation for support: Beyond Blue  
<https://www.beyondblue.org.au/about-us/contact-us>

To request a copy of the final study report once completed, please email [health.economy@mq.edu.au](mailto:health.economy@mq.edu.au). The final study report will also be posted to our website: [health.economy.mq.edu.au](http://health.economy.mq.edu.au) and announced on our twitter handle: @MUCHE\_Macquarie.

# Appendix C. Focus group guide

## Introduction

Welcome and thank you for joining our focus group discussion on exploring the role of RADs in residential aged care

My name is *[Insert name]* and I am a *[Insert title]* at the Centre for the Health Economy at Macquarie University

As you know, the Living Longer Living Better (LLLBB) reform package was introduced in 2014 to restructure the aged care sector towards more consumer directed care. One significant change was allowing providers to charge all residents a lump sum accommodation payment, while ensuring residents were given a choice between lump sum accommodation payments or daily accommodation payments.

As you may be aware, the value of lump sum accommodation payments has since increased substantially, helping providers improve their facilities to address the preferences of aged care recipients better. Lump sum accommodation payments have also given providers an alternative return on investment and cash flow.

But a recent increase in the proportion of residents choosing daily accommodation payments suggests the growth in lump sum accommodation payment values may slow over the next decade. This trend may strengthen with low interest rates making daily accommodation payments more affordable to residents. A reduction in housing prices from an economic downturn may also reduce growth in the value of lump sum accommodation payments.

This focus group aims to collect information on the role of lump sum accommodation payments (RADs and RACs) in residential aged care from the perspective of residential aged care providers.

In the next couple of weeks we will also invite all residential aged care providers to participate in a survey with the same objective. Many of the topics within this focus group and the survey will overlap, but both are important to collect a broad range of views so I would encourage your organisation also to complete the survey when that is released.

Your participation in this focus group is completely voluntary. Replying to our invitation email and acceptance of our invitation suggest written consent to take part in the study. If you change your mind, you can withdraw at any time and you do not have to give a reason.

Now, I'd like to go over some basic ground rules for our discussion today:

1. Everyone's views are valued and important; and there are no right or wrong answers or views.
2. I'd like to stress that today's discussion will remain anonymous.



3. I'd like to keep today's discussion relatively informal and I'd like to encourage you to talk to each other. I'll step in if there are too many voices at once or if we get too far off the topic.
4. We expect today's focus group to last about 90 minutes.
5. As you know, we will be recording the discussion to be sure that we take account of everyone's views. We will transcribe our conversation and use this for a thematic analysis for our report. At no stage would anyone's comments be attributed to themselves.

I will now turn on the recording function of Zoom.

[Start recording]

Thank you. Before we get down to business today, I'd like everyone to tell us in turn who you are (just your first name is fine).

I would now like to ask you some questions about the role of RADs in residential aged care. They are grouped into three themes, including 'Trends in lump sum accommodation payments', 'Current use of lump sum accommodation payments' and 'Future use of lump sum accommodation payments'.

## Questions

### Theme 1: Trends in lump sum accommodation payments

1. What proportion of your unsupported residents pays for their accommodation using a lump sum accommodation payment?
2. Has your organisation experienced a decline in lump sum accommodation balances over the last five years?
3. What are some reasons for a decline in lump sum accommodation balances?
4. Do you expect the decline in lump sum accommodation balances to continue in the future?
5. Does your organisation preference RADs or DAPs?
  - a. Does the preference change depending on planned investment in capital stock?
6. Does your organisation have a strategy for maintaining or increasing lump sum accommodation payment balances?

### Theme 2: Current use of lump sum accommodation payments

7. What proportion of your lump sum accommodation payment balance is being used to build new residential aged care stock?
8. What proportion of your lump sum accommodation payment balance is being used for refurbishment?
9. Where does your organisation invest its lump sum accommodation payment balance if not for capital expenditure?
10. Is your organisation using lump sum accommodation payment balance efficiently to optimise organisational performance?
11. Do you believe the sector is aware of its prudential requirements for using lump sum accommodation payments?





12. What are the implications for your organisation from a decline in lump sum accommodation payment balances?

### Theme 3: Future use of lump sum accommodation payments

13. What are the risks to lump sum accommodation payments in the future?
14. Is your organisation's future lump sum accommodation payment balance exposed to housing price movements in any significant way?
15. Do you believe your organisation could obtain equity or commercial debt could be obtained to replace a decline in lump sum accommodation payment balances?
  - a. Is this based on a proportional amount (maximum they believe is achievable based on access and risk structure)
16. What would be the impact on your organisation from replacing lump sum accommodation payments with equity and commercial debt?
  - b. Would there be any impact on the ability to provide care services?
17. Are lump sum accommodation payment options an appropriate way to fund accommodation in a future aged care system?
  - c. If there is a wider range of accommodation options what are the appropriate funding options?
18. Does the lump sum accommodation payment structure encourage or impose any barriers to innovation in delivering accommodation?
19. Do you believe there should be any changes to regulation on lump sum accommodation payments?
  - d. Would that change how you approach investment in accommodation?
20. What else would you change to better fund residential care in the future?

### Other questions (if time permits)

21. Is there another financing option available to you, besides equity or commercial debt, to replace a decline in RADs?
22. Would the maximum permissible interest rate (MPIR) remain relevant to calculate DAPs in the absence of RADs?
23. What are the potential alternative ways to calculate DAPs from accommodation prices if the MPIR was removed?

What would be the effect on consumers if the option of paying for accommodation with RADs was removed?

# Appendix D. Interview guide

## Introduction

My name is *[Insert name]* and I am *[Insert title]* at MUCHE.

Thanks for agreeing to be interviewed.

Your participation is completely voluntary. Replying to our invitation email and acceptance of our invitation suggest written consent to take part in the study. If you change your mind, you can withdraw at any time and you do not have to give a reason.

I will now turn on the tape-recorder (or Zoom recorder) and ask you a series of questions about the role of RADs in residential care.

Please feel free to ask me any question at any time during the interview. You may also contact MUCHE following the interview if you have any question related to the study.

[Start recording]

## Questions

### Accountants, auditors, and valuers

1. What are the factors considered when valuing a provider? How are RADs treated?
2. Is the current decline in the proportion of people choosing RADs impacting the value of providers?
3. How are RADs being used to improve the residential aged care building stock, including the proportion being used for refurbishment versus new buildings and other capital uses?
4. Would a significant decline in RAD balances impact the value of a provider?
5. What is the size and scope of provider reliance on RADs for capital expenditure, asset returns, cashflow, and other financial performance indicators?
6. What are the implications on capital expenditure, cash flow, revenue, and profit from a decline in the proportion of people choosing a RAD instead of a DAP?
7. Are providers using RADs efficiently to optimise capital expenditures, balance sheets, and financial performance?
8. Are providers using RADs in a prudentially sound manner?

9. Do RADs impose any barriers to equity investors investing in the residential aged care market?
10. Is less oversight required for managing RADs compared to commercial debt (i.e., do RADs create a solvency risk)?
11. Do RADs create a more volatile capital structure?
12. Are RADs an appropriate way to fund accommodation in a future aged care system?

## Consumer peaks

1. What financial and non-financial factors do people consider when choosing a RAD, DAP or combination of both?
2. What are the barriers to consumers when paying for accommodation using a RAD, DAP, or combination of both?
3. Do consumers find it difficult to choose between a RAD, DAP or combination of both?
4. How many consumers would use a financial planner to help them decide how to pay for accommodation?
5. Are consumers skilled enough to know whether a RAD, DAP or combination of both are best for them from a financial perspective?
6. Should the government provide support to people to help them choose their accommodation type? If so, what type of support should the government provide?
7. Are RADs an appropriate way to fund accommodation in a future aged care system?

## Financiers

1. What are the factors considered when deciding on whether to lend to a provider? How are RADs treated?
2. Is the decline in the proportion of people choosing RADs a concern from a lending perspective?
3. How are RADs being used to improve the residential aged care building stock, including the proportion being used for refurbishment versus new buildings and other capital uses?
4. What are the implications on capital expenditure, cash flow, revenue, and profit from a decline in the proportion of people choosing a RAD instead of a DAP?
5. What would be the impact on capital expenditure, cash flow, revenue, and profit from replacing RADs with other financial means, such as increased equity and commercial debt?
6. Could equity or commercial debt be easily obtained to replace a decline in RADs for most providers?
7. How many basis points would it cost a provider above the MPIR to replace RADs with commercial debt? What impacts this cost?
8. Is there another financing option available, besides equity or commercial debt, to replace a decline in RADs?
9. Would the maximum permissible interest rate (MPIR) remain relevant to calculate DAPs in the absence of RADs?

10. What are the potential alternative ways to calculate DAPs from accommodation prices if the MPIR was removed?
11. Do RADs impose any barriers to equity investors investing in the residential aged care market?
12. Do RADs create a more volatile capital structure?
13. Is less oversight required for managing RADs compared to commercial debt (i.e., do RADs create a solvency risk)?
14. Are RADs an appropriate way to fund accommodation in a future aged care system?

### Provider peaks

1. What is the size and scope of the sector's reliance on RADs for capital expenditure, asset returns, cashflow and other financial performance indicators?
2. What are the risks to the sector's RAD balances in the future?
3. Is the future RAD balance exposed to housing price movements in any significant way? If so, will this have a significant impact on the sector's capital expenditure, balance sheet, and financial performance?
4. To what extent are RADs being used to improve the residential aged care building stock?
5. What proportion of RADs is being used for refurbishment versus new buildings and other capital uses?
6. Is the sector aware of the prudential requirements for using RADs?
7. Where are providers investing RADs if not to pay off debt for capital expenditure?
8. What are the implications on capital expenditure, cash flow, revenue, and profit from a continued decline in the proportion of people choosing a RAD instead of a DAP?
9. Could equity or commercial debt be easily obtained to replace a decline in RADs?
10. What would be the impact on capital expenditure, cash flow, revenue, and profit from replacing RADs with equity and commercial debt?
11. Is there another financing option available to the sector, besides equity or commercial debt, to replace a decline in RADs?
12. Would the maximum permissible interest rate (MPIR) remain relevant to calculate DAPs in the absence of RADs?
13. What are the potential alternative ways to calculate DAPs from accommodation prices if the MPIR was removed?
14. What would be the effect on consumers if the option of paying for accommodation with RADs was removed?

Are RADs an appropriate way to fund accommodation in a future aged care system?

# Appendix E. Provider data analysis

## Variables used to assess provider financial performance and RADs

**Table E.1: Variables used to analyse the impact of RADs on provider financial metrics**

Variable	Description
CAPX/BED	Capital expense (in million) divided by total beds.
CAPX/PPE	Capital expense divided by property, plant and equipment.
CAPX/TA	Capital expense divided by total assets
EBIT/INT	Interest coverage ratio, which measures how many times an entity can cover its current interest payment with its earnings (EBIT). This ratio is calculated as EBIT divided by Interest expense. A higher ratio indicates better interest payment capacity (i.e., more solvency).
EBITDA/BED	Earnings before interest, tax, depreciation and amortization (in million) divided by total beds. This is calculated by taking the earnings before interest, tax, depreciation and amortisation (EBITDA) and dividing this by the entity's total beds.
EBITDA/INT	Interest coverage ratio, which measures how many times an entity can cover its current interest payment with its earnings (EBITDA). This ratio is calculated as EBITDA divided by Interest expense. A higher ratio indicates better interest payment capacity (i.e., more solvency).
EBITDA/TA	This represents EBITDA to total assets ratio, which measures the operating return generated from an entity's total assets. The ratio is a measure of financial performance and it captures productivity of assets employed in the organisation. This is calculated by taking the earnings before interest, tax, depreciation and amortisation (EBITDA) and dividing this by the entity's total assets. Generally, the higher the EBITDA to total assets ratio, the better the level of return generated from the organisation's total assets.
EBITDA/TI	This represents EBITDA margin, which shows the average net profit after tax (with interest, taxes, depreciation and amortisation added back into it) generated for each \$1 of revenue earned. It is calculated as EBITDA (i.e., Earnings before interest, tax, depreciation and amortization)/total revenue.
EXL/CL	This ratio is calculated as cash and financial assets less minimum liquidity level/current liabilities. This represents the proportion of excess liquidity held by organization for each dollar of current liabilities. A higher ratio indicates more organizational excess liquidity holding.
EXL/TL	This ratio is calculated as excess liquidity (cash and financial assets less minimum liquidity level)/total liabilities. This represents the proportion of

	excess liquidity held by organization for each dollar of total liabilities. A higher ratio indicates more organizational excess liquidity holding.
LIQ/TA	This ratio is calculated as cash and financial assets/total assets. This represents the proportion of assets held in liquid form. A higher ratio indicates more organizational liquidity.
LIQ/TL	This ratio is calculated as cash and financial assets/total liabilities. This represents the ability to meet liabilities through quick (more liquid form of current) assets. A higher ratio indicates more organizational liquidity.
NPBT/BED	Net profit before tax (in million) divided by total bed of a provider. This measures how much net profit before tax is generated for each bed offered by the residential age care providers.
NPBT/TA	This represents NPBT to total assets ratio, which measures net profit before tax generated from an entity's total assets. This is calculated as profit before tax divided by total assets. It captures the Indicates the productivity of assets employed in the organisation.
NPBT/TI	Net profit margin, which is calculated as net profit before tax divided by total income. This represents the profitability (i.e., net profit before tax) generated for each \$1 of revenue earned.
Number of Facilities	A residential aged care facility, approved under the Aged Care Act 1997, is to provide government subsidised accommodation and care. Refers to the number of facilities operated by a residential care provider or the number of services operated by a home care provider.
RAD	An amount paid as a lump sum by a non-supported resident for the accommodation costs in a residential aged care facility
RAD/BED	Refundable Accommodation Deposits (in million) divided by total bed.

## Sub group analysis of profitability

**Table E.2: Univariate profitability analysis – by ownership type**

	For-profit			Not-for profit			Government		
	T3	T1	T3 - T1	T3	T1	T3 - T1	T3	T1	T3 T1
NPBT/TI	0.029	0.033	-0.004	0.012	0.016	-0.004	-0.078	-0.131	0.053
EBITDA/TI	0.093	0.067	0.026*	0.084	0.068	0.016**	-0.016	-0.078	0.062
NPBT/TA	0.019	0.041	- 0.022***	0.007	0.005	0.002	-0.051	-0.091	0.040
EBITDA/TA	0.036	0.066	- 0.030***	0.033	0.030	0.003	-0.004	-0.060	0.056
NPBT/BED	0.005	0.006	-0.001	0.002	0.003	-0.001	-0.006	-0.010	0.004
EBITDA/BED	0.010	0.008	0.002	0.008	0.007	0.001	0.001	-0.004	0.005
<b>Providers sorted by accumulated RAD balances / operational beds</b>									
NPBT/TI	0.032	0.023	0.009	0.014	0.018	-0.004	-0.113	-0.148	0.035
EBITDA/TI	0.092	0.067	0.025*	0.086	0.072	0.014*	-0.047	-0.090	0.043
NPBT/TA	0.018	0.036	-0.018**	0.005	0.008	-0.003	-0.047	-0.101	0.054

	For-profit			Not-for profit			Government		
	T3	T1	T3 - T1	T3	T1	T3 - T1	T3	T1	T3 T1
	0.034	0.063	- 0.029***	0.027	0.034	-0.007**	-0.027	-0.064	0.037
	0.005	0.006	-0.001	0.002	0.003	-0.001	-0.007	-0.014	0.007
	0.011	0.009	0.002	0.008	0.007	0.001	0.000	-0.007	0.007

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.3: Univariate profitability analysis – by size**

	Large ( $\geq 4$ facilities)				Small ( $< 4$ facilities)			
	T3	T1	T3 – T1	t value	T3	T1	T3 – T1	t value
<b>Providers sorted by accumulated RAD balances</b>								
NPBT/TI	0.030	-0.088	0.118	5.03***	0.011	-0.007	0.018	1.73*
EBITDA/TI	0.098	-0.038	0.136	5.97***	0.078	0.04	0.038	3.92***
NPBT/TA	0.015	-0.069	0.084	5.57***	0.008	-0.002	0.01	1.74*
EBITDA/TA	0.044	-0.032	0.076	4.99***	0.027	0.022	0.005	0.78
NPBT/BED	0.003	-0.005	0.008	2.87***	0.003	0.001	0.002	1.32
EBITDA/BED	0.01	0.003	0.007	2.48**	0.008	0.006	0.002	2.79**
<b>Providers* sorted by accumulated RAD balances / operational beds</b>								
NPBT/TI	0.037	-0.042	0.079	3.96***	0.014	-0.001	0.015	1.45
EBITDA/TI	0.111	0.018	0.093	4.85***	0.079	0.049	0.03	3.32***
NPBT/TA	0.017	-0.018	0.035	2.92***	0.007	0.004	0.003	0.68
EBITDA/TA	0.042	0.017	0.025	2.09**	0.025	0.031	-0.006	1.22
NPBT/BED	0.005	-0.003	0.008	3.54***	0.003	0.002	0.001	1.02
EBITDA/BED	0.012	0.003	0.009	3.74***	0.008	0.006	0.002	3.04***

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.4: Multivariate profitability analysis – by ownership type**

	For-profit		Not-for-profit		Government		For-profit		Not-for-profit		Government	
	NPBT/TI	S.E.	NPBT/TI	S.E.	NPBT/TI	S.E.	EBITDA/TI	S.E.	EBITDA/TI	S.E.	EBITDA/TI	S.E.
RAD_LN	-0.022	[0.019]	-0.015*	[0.008]	0.04	[0.025]	-0.023	[0.016]	-0.015**	[0.007]	0.031	[0.023]
TA_LN	0.009	[0.031]	0.022**	[0.010]	-0.057*	[0.033]	0.036	[0.025]	0.037***	[0.010]	-0.033	[0.032]
CAPX/PPE	-0.026	[0.016]	0.018*	[0.010]	-0.362***	[0.122]	-0.033**	[0.014]	0.005	[0.010]	-0.436***	[0.113]
LEV_X_RAD/TA	-0.178***	[0.048]	-0.076*	[0.039]	0.107	[0.115]	-0.072*	[0.043]	-0.04	[0.031]	0.150*	[0.084]
RE/TA	1.456***	[0.218]	1.751***	[0.154]	1.528***	[0.225]	1.303***	[0.196]	1.561***	[0.127]	1.406***	[0.203]
FACILITY_NO_LN	0.032	[0.026]	-0.01	[0.009]	-0.007	[0.023]	0.007	[0.021]	-0.023***	[0.008]	-0.018	[0.021]
METRO/TOTAL	0.019	[0.022]	0.011	[0.009]	-0.08	[0.056]	0.009	[0.019]	0.004	[0.009]	-0.100*	[0.056]
State (NSW)	0.104*	[0.059]	-0.039	[0.036]	-0.109**	[0.045]	0.094	[0.063]	-0.042	[0.032]	-0.092**	[0.039]
State (QLD)	0.142**	[0.057]	-0.029	[0.037]	-0.041	[0.117]	0.130**	[0.061]	-0.034	[0.033]	-0.038	[0.116]
State (SA)	0.139**	[0.060]	-0.026	[0.036]	-0.006	[0.060]	0.110*	[0.064]	-0.041	[0.033]	0.004	[0.052]
State (TAS)	0.138*	[0.071]	-0.039	[0.037]		0	0.163**	[0.070]	-0.052	[0.034]		0
State (VIC)	0.144***	[0.054]	-0.037	[0.036]	-0.100**	[0.040]	0.128**	[0.060]	-0.046	[0.033]	-0.087**	[0.036]
State (WA)	0.128**	[0.062]	-0.034	[0.038]	-0.002	[0.082]	0.1	[0.065]	-0.038	[0.034]	0.002	[0.074]
Year 2018	-0.016	[0.013]	-0.014**	[0.006]	-0.035	[0.026]	-0.020*	[0.012]	-0.018***	[0.005]	-0.039	[0.024]
Year 2019	-0.004	[0.012]	-0.013**	[0.006]	-0.033	[0.028]	-0.008	[0.011]	-0.017***	[0.006]	-0.039	[0.027]
Constant	0.116	[0.313]	-0.08	[0.107]	0.407	[0.351]	-0.245	[0.255]	-0.240**	[0.096]	0.213	[0.344]
Observations	626		1,181		173		626		1,181		173	
Adj. R-squared	0.3		0.46		0.4		0.27		0.45		0.4	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.



**Table E.5: Multivariate profitability analysis – by size**

	Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)		Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)	
	NPBT/TI	S.E.	NPBT/TI	S.E.	EBITDA/TI	S.E.	EBITDA/TI	S.E.
RAD_LN	-0.005	0.013	-0.006	0.010	-0.014	0.013	-0.009	0.009
TA_LN	0.016	0.016	0.001	0.015	0.032*	0.017	0.021*	0.012
CAPX/PPE	-0.033	0.042	-0.116***	0.041	0.005	0.040	-0.037	0.035
LEV_X_RAD/TA	-0.009	0.012	-0.016	0.014	-0.020	0.013	-0.027**	0.013
RE/TA	1.691***	0.14	1.565***	0.129	1.597***	0.118	1.391***	0.111
METRO/TOTAL	-0.013	0.014	0.020**	0.010	-0.005	0.016	0.009	0.009
Organisation (Govt.)	-0.114***	0.033	-0.071***	0.027	-0.106***	0.035	-0.061**	0.024
Organisation (non-profit)	-0.039**	0.016	-0.027**	0.013	-0.031*	0.016	-0.011	0.011
State (NSW)	-0.030***	0.011	0.029	0.047	-0.003	0.012	0.014	0.043
State (QLD)	-0.016	0.012	0.047	0.048	-0.005	0.014	0.034	0.043
State (SA)			0.045	0.048	-0.015	0.018	0.019	0.043
State (TAS)	-0.017	0.019	0.036	0.048	-0.013	0.013	0.016	0.044
State (VIC)	-0.019	0.013	0.043	0.047	0.004	0.017	0.028	0.042
State (WA)	0.008	0.017	0.036	0.049	-0.012	0.007	0.020	0.044
Year 2018	-0.015**	0.007	-0.019***	0.007	-0.012	0.007	-0.024***	0.007
Year 2019	-0.026**	0.010	-0.012*	0.007	-0.020**	0.010	-0.017***	0.006
Constant	-0.127	0.138	0.087	0.138	-0.228	0.140	-0.134	0.111
Observations	355		1,625		355		1,625	
Adj. R-squared	0.570		0.370		0.560		0.360	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

# Sub group analysis of capital expenditure

**Table E.6: Capital expenditure analysis – by ownership type**

	For-profit			Not-for profit			Government		
	T3	T1	T3 - T1	T3	T1	T3 - T1	T3	T1	T3 - T1
CAPX/TA	0.034	0.020	0.014**	0.063	0.021	0.042***	0.007	0.008	-0.001
CAPX/BED	0.010	0.003	0.007***	0.015	0.004	0.011***	0.001	0.002	-0.001
CAPX/PPE	0.208	0.066	0.142***	0.133	0.043	0.090***	0.034	0.006	0.028***
<b>Providers sorted by accumulated RAD balances / operational beds</b>									
CAPX/TA	0.029	0.027	0.002	0.042	0.03	0.012**	0.001	0.005	-0.004
CAPX/BED	0.009	0.004	0.005***	0.012	0.005	0.007***	0.000	0.001	-0.001
CAPX/PPE	0.166	0.12	0.046	0.082	0.057	0.025*	0.003	0.008	-0.005

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.7: Capital expenditure analysis – by size**

	Large (≥ 4 facilities)				Small (< 4 facilities)				
	T3	T1	T3 – T1	t value	T3	T1	T3	T1	t value
<b>Providers sorted by accumulated RAD balances</b>									
CAPX/TA	0.070	0.039	0.031	1.70*	0.035	0.018	0.017		4.58***
CAPX/BED	0.016	0.007	0.009	2.33**	0.011	0.003	0.008		7.49***
CAPX/PPE	0.180	0.050	0.130	1.72*	0.140	0.043	0.097		6.38***
<b>Providers sorted by accumulated RAD balances / operational beds</b>									
CAPX/TA	0.063	0.046	0.017	1.390	0.028	0.023	0.005		1.52
CAPX/BED	0.017	0.007	0.010	4.22***	0.009	0.004	0.005		5.82***
CAPX/PPE	0.161	0.122	0.039	0.870	0.098	0.067	0.031		2.19**

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.8: Multivariate capital expenditure analysis – by ownership type**

	For-profit		Not-for-profit		Government	
	CAPEX/TA	S.E.	CAPEX/TA	S.E.	CAPEX/TA	S.E.
RAD_LN	0.013*	0.007	0.011***	0.003	-0.001	0.005
TA_LN	-0.018*	0.010	-0.009**	0.004	0.012	0.014
PPE/TA	0.070***	0.013	0.050***	0.010	-0.035	0.024
LEV_X_RAD/TA	0.048**	0.020	0.053***	0.020	0.056	0.045
RE/TA	0.066	0.048	0.083*	0.050	-0.002	0.024
FACILITY_NO_LN	0.010	0.007	0.023***	0.006	-0.013	0.009
METRO/TOTAL	0.005	0.010	0.005	0.005	-0.016	0.010
State (NSW)	0.018	0.011	0.036**	0.016	-0.023	0.020
State (QLD)	0.018	0.012	0.036**	0.017		
State (SA)	0.005	0.011	0.023	0.016	-0.030**	0.014
State (TAS)	-0.041***	0.015	0.032*	0.018	-0.051***	0.018
State (VIC)	0.040***	0.014	0.038**	0.016	-0.038***	0.012
State (WA)	0.021	0.013	0.044**	0.018	-0.022	0.016
Year 2018	-0.010	0.006	0.000	0.004	-0.007	0.009
Year 2019	-0.015**	0.006	0.005	0.005	-0.01	0.009
Constant	0.049	0.077	-0.088*	0.049	-0.103	0.151
Observations	685		1,202		200	
Adj. R-squared	0.130		0.150		0.030	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.9: Multivariate capital expenditure analysis – by ownership type (continued)**

	For-profit		Not-for-profit		Government	
	CAPEX/PPE	S.E.	CAPEX/PPE	S.E.	CAPEX/PPE	S.E.
RAD_LN	0.018	0.020	0.028***	0.007	-0.008	0.016
TA_LN	0.010	0.031	-0.024**	0.012	0.034	0.040
PPE/TA	-0.244***	0.075	-0.166***	0.058	-0.061	0.052
LEV_X_RAD/TA	0.052	0.086	0.176**	0.069	0.125	0.113
RE/TA	-0.087	0.183	0.062	0.147	-0.013	0.057
FACILITY_NO_LN	-0.002	0.038	0.070***	0.018	-0.010	0.023
METRO/TOTAL	0.021	0.052	0.006	0.014	-0.027	0.020
State (NSW)	-0.066	0.051	0.078***	0.017	0.085	0.064
State (QLD)	0.017	0.068	0.080***	0.023	0.080*	0.046
State (SA)	-0.120**	0.051	0.075***	0.021	0.089	0.058
State (TAS)	0.048	0.062	0.085***	0.024		
State (VIC)	0.012	0.060	0.097***	0.020	0.036	0.028
State (WA)	0.126	0.092	0.119***	0.033	0.057	0.046
Year 2018	-0.024	0.033	-0.005	0.013	-0.001	0.009
Year 2019	-0.050*	0.029	-0.003	0.013	-0.003	0.010
Constant	-0.217	0.332	-0.063	0.120	-0.434	0.425
Observations	626		1,181		173	
Adj. R-squared	0.060		0.110		0.120	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.10: Multivariate capital expenditure analysis – by ownership type (continued)**

	For-profit		Not-for-profit		Government	
	CAPEX/BED	S.E.	CAPEX/BED	S.E.	CAPEX/BED	S.E.
RAD_LN	0.001	0.001	0.002*	0.001	-0.002	0.002
TA_LN	0.003**	0.001	0.002*	0.001	0.004	0.004
PPE/TA	0.014***	0.003	0.012***	0.002	-0.012	0.008
LEV_X_RAD/TA	0.016***	0.004	0.015***	0.006	0.016	0.012
RE/TA	0.012	0.008	0.021*	0.012	-0.005	0.007
FACILITY_NO_LN	-0.002	0.002	0.000	0.001	-0.003	0.002
METRO/TOTAL	-0.001	0.002	0.002	0.001	-0.003	0.002
State (NSW)	0.007**	0.003	0.010***	0.004	-0.001	0.005
State (QLD)	0.005	0.003	0.009**	0.004		
State (SA)	0.006	0.003	0.008*	0.004	-0.006**	0.002
State (TAS)	-0.001	0.004	0.009**	0.004	-0.012**	0.005
State (VIC)	0.011***	0.004	0.012***	0.004	-0.007***	0.002
State (WA)	0.006*	0.003	0.011***	0.004	-0.005**	0.002
Year 2018	-0.001	0.002	0.000	0.001	-0.002	0.002
Year 2019	-0.003*	0.002	0.001	0.001	-0.002	0.002
Constant	-0.071***	0.019	-0.068***	0.013	-0.028	0.034
Observations	666		1,160		187	
Adj. R-squared	0.200		0.140		0.060	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.11: Multivariate capital expenditure analysis – by size**

	Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)		Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)	
	CAPEX/TA	S.E.	CAPEX/TA	S.E.	CAPEX/PPE	S.E.	CAPEX/PPE	S.E.
RAD_LN	0.036***	[0.012	0.007***	0.003	0.077***	0.030	0.019***	0.007
TA_LN	-0.040***	0.013	-0.003	0.004	-0.049	0.041	0.003	0.013
PPE/TA	0.050***	0.018	0.052***	0.008	-0.493***	0.132	-0.125***	0.038
LEV_X_RAD/TA	0.072**	0.034	0.045***	0.014	0.306**	0.154	0.084*	0.049
RE/TA	0.077	0.100	0.040*	0.022	-0.117	0.406	0.017	0.072
METRO/TOTAL	-0.013	0.014	0.005	0.004	-0.017	0.047	0.007	0.015
Organisation (Govt.)	-0.023	0.027	-0.016*	0.008	0.091	0.092	-0.060**	0.024
Organisation (non-profit)	0.030**	0.014	-0.002	0.005	0.161*	0.083	-0.041**	0.020
State (NSW)	0.039	0.024	0.028***	0.010	0.068	0.043	0.054***	0.015
State (QLD)	0.053*	0.028	0.024**	0.010	0.082	0.055	0.072**	0.032
State (SA)	0.016	0.024	0.017*	0.010			0.048***	0.017
State (TAS)			0.035***	0.013	0.018	0.052	0.094***	0.021
State (VIC)	0.037	0.025	0.036***	0.010	0.062	0.049	0.089***	0.020
State (WA)	0.057**	0.027	0.030***	0.011	0.158**	0.076	0.136***	0.037
Year 2018	0.006	0.009	-0.007**	0.003	-0.010	0.038	-0.01	0.014
Year 2019	0.002	0.009	-0.006	0.004	-0.016	0.036	-0.017	0.013
Constant	0.059	0.114	-0.098**	0.041	-0.246	0.473	-0.260*	0.139
Observations	360		1,727		355		1,625	
Adj. R-squared	0.160		0.080		0.170		0.070	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.12: Multivariate capital expenditure analysis – by size (continued)**

	Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)	
	CAPEX/BED	S.E.	CAPEX/BED	S.E.
RAD_LN	0.002	0.002	0.001	0.001
TA_LN	0.001	0.002	0.003***	0.001
PPE/TA	0.013***	0.004	0.011***	0.002
LEV_X_RAD/TA	0.024**	0.009	0.013***	0.003
RE/TA	0.006	0.013	0.008	0.006
METRO/TOTAL	-0.001	0.003	0.001	0.001
Organisation (Govt.)	-0.005	0.006	-0.002	0.002
Organisation (non-profit)	0.004	0.003	0.002	0.001
State (NSW)	0.010*	0.005	0.008***	0.003
State (QLD)	0.007	0.005	0.006**	0.003
State (SA)	0.005	0.005	0.006**	0.003
State (TAS)			0.008***	0.003
State (VIC)	0.008*	0.005	0.010***	0.003
State (WA)	0.007	0.005	0.009***	0.003
Year 2018	0.003	0.002	-0.001*	0.001
Year 2019	0.001	0.002	-0.001	0.001
Constant	-0.054**	0.022	-0.065***	0.011
Observations	357		1,656	
Adj. R-squared	0.170		0.120	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

# Sub group analysis of liquidity

**Table E.13: Liquidity analysis – by ownership type**

	For-profit			Not-for profit			Government		
	T3	T1	T3 - T1	T3	T1	T3 - T1	T3	T1	T3 - T1
LIQ/TL	0.139	0.364	-0.225***	0.377	1.004	-0.627***	0.293	0.332	-0.039
LIQ/TA	0.122	0.212	-0.09***	0.243	0.383	-0.14***	0.174	0.147	0.027
EXL/CL	0.048	0.181	-0.133***	0.239	0.688	-0.449***	-0.155	-0.189	0.034
EXL/TL	0.044	0.155	-0.111***	0.236	0.62	-0.384***	-0.117	-0.163	0.046
<b>Providers sorted by accumulated RAD balances / operational beds</b>									
LIQ/TL	0.184	0.27	-0.086***	0.529	0.892	-0.363***	0.313	0.307	0.006
LIQ/TA	0.159	0.171	-0.012	0.32	0.33	-0.01	0.168	0.132	0.036
EXL/CL	0.101	0.136	-0.035	0.363	0.619	-0.256***	-0.071	-0.211	0.14
EXL/TL	0.075	0.104	-0.029	0.346	0.561	-0.215***	-0.051	-0.168	0.117

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.14: Liquidity analysis – by size**

	Large (≥ 4 facilities)				Small (< 4 facilities)				
	T3	T1	T3 – T1	t value	T3	T1	T3	T1	t value
<b>Providers sorted by accumulated RAD balances</b>									
LIQ/TL	0.265	0.387	-0.122	1.74*	0.284	0.702	-0.418		12.49***
LIQ/TA	0.175	0.197	-0.022	0.85	0.202	0.293	-0.091		7.19***
EXL/CL	0.136	-0.151	0.287	3.66***	0.155	0.39	-0.235		6.46***
EXL/TL	0.138	-0.126	0.264	3.68***	0.15	0.351	-0.201		6.22***
<b>Providers sorted by accumulated RAD balances / operational beds</b>									
LIQ/TL	0.223	0.332	-0.109	2.39**	0.423	0.619	-0.196		6.13***
LIQ/TA	0.152	0.148	0.004	0.2	0.274	0.256	0.018		1.38
EXL/CL	0.109	0.034	0.075	1.29	0.277	0.362	-0.085		2.42**
EXL/TL	0.113	0.056	0.057	1.13	0.252	0.321	-0.069		2.27**

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1.



**Table E.15: Multivariate liquidity analysis – by ownership type**

	For-profit		Not-for-profit		Government	
	LIQ/TL	S.E.	LIQ/TL	S.E.	LIQ/TL	S.E.
RAD_LN	-0.175***	0.043	-0.497***	0.052	-0.067*	0.037
TA_LN	0.116***	0.044	0.459***	0.064	0.059	0.048
PPE/TA	-0.168***	0.049	-1.137***	0.103	-0.378***	0.073
LEV_X_RAD/TA	-0.545***	0.093	-1.553***	0.161	-0.552***	0.168
RE/TA	0.350	0.220	0.833**	0.371	-0.191	0.250
FACILITY_NO_LN	-0.005	0.028	-0.034	0.045	-0.032*	0.016
METRO/TOTAL	-0.038	0.047	-0.098**	0.045	-0.022	0.034
State (NSW)	-0.131***	0.045	-0.443**	0.202	-0.04	0.078
State (QLD)	-0.265***	0.057	-0.408**	0.206		
State (SA)	-0.182**	0.074	-0.465**	0.206	-0.093	0.069
State (TAS)	-0.298***	0.061	-0.529**	0.210	-0.230***	0.068
State (VIC)	-0.163***	0.043	-0.541***	0.202	-0.014	0.065
State (WA)	-0.131	0.082	-0.444**	0.206	-0.054	0.093
Year 2018	0.000	0.014	-0.032*	0.018	-0.041*	0.023
Year 2019	-0.007	0.018	-0.029	0.019	0.336***	0.023
Constant	1.513***	0.287	2.263***	0.524	0.605	0.389
Observations	783		1,370		257	
Adj. R-squared	0.250		0.550		0.470	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.16: Multivariate liquidity analysis – by ownership type (continued)**

	For-profit		Not-for-profit		Government	
	LIQ/TA	S.E.	LIQ/TA	S.E.	LIQ/TA	S.E.
RAD_LN	-0.001	0.016	0.006	0.010	0.027***	0.007
TA_LN	-0.037*	0.022	-0.033**	0.015	-0.039***	0.008
PPE/TA	-0.111***	0.030	-0.567***	0.044	-0.246***	0.023
LEV_X_RAD/TA	-0.128**	0.054	-0.170***	0.053	-0.064***	0.020
RE/TA	0.115	0.171	0.184	0.148	0.071*	0.036
FACILITY_NO_LN	-0.017	0.020	-0.018	0.016	0.000	0.003
METRO/TOTAL	-0.035	0.038	-0.040**	0.016	0.009	0.008
State (NSW)	-0.068	0.046	-0.171***	0.030	-0.011	0.008
State (QLD)	-0.140***	0.047	-0.152***	0.034		
State (SA)	-0.039	0.054	-0.175***	0.034	0.022***	0.008
State (TAS)	-0.238***	0.057	-0.177***	0.041	-0.123***	0.014
State (VIC)	-0.075*	0.042	-0.183***	0.030	0.015***	0.005
State (WA)	-0.009	0.066	-0.138***	0.034	-0.014	0.009
Year 2018	0.000	0.008	-0.006	0.006	-0.004	0.004
Year 2019	-0.003	0.010	0.000	0.007	0.181***	0.011
Constant	1.004***	0.217	1.326***	0.154	0.443***	0.059
Observations	783		1,371		257	
Adj. R-squared	0.130		0.490		0.820	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.17: Multivariate liquidity analysis – by ownership type (continued)**

	For-profit		Not-for-profit		Government	
	EXL/CL	S.E.	EXL/CL	S.E.	EXL/CL	S.E.
RAD_LN	-0.176***	0.050	-0.498***	0.055	-0.137**	0.055
TA_LN	0.172***	0.054	0.556***	0.067	0.386***	0.076
PPE/TA	-0.169***	0.065	-0.889***	0.111	-0.454***	0.149
LEV_X_RAD/TA	-0.345***	0.123	-1.310***	0.159	0.794***	0.246
RE/TA	0.447*	0.236	1.136***	0.428	0.067	0.271
FACILITY_NO_L N	-0.031	0.039	-0.113**	0.046	-0.220***	0.069
METRO/TOTAL	-0.131**	0.065	-0.126**	0.049	-0.093	0.082
State (NSW)	-0.024	0.086	-0.268	0.197	0.843***	0.316
State (QLD)	-0.103	0.090	-0.235	0.201		
State (SA)	-0.016	0.107	-0.300	0.203	0.772**	0.309
State (TAS)	-0.144	0.097	-0.453**	0.222	-0.052	0.287
State (VIC)	-0.008	0.081	-0.385*	0.196	0.681**	0.298
State (WA)	-0.083	0.147	-0.300	0.204	0.813**	0.319
Year 2018	-0.016	0.022	-0.049**	0.022	0.005	0.036
Year 2019	-0.016	0.028	-0.041*	0.023	0.379***	0.041
Constant	0.383	0.344	0.188	0.545	-4.705***	0.833
Observations	783		1,370		257	
Adj. R-squared	0.110		0.430		0.430	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.18: Multivariate liquidity analysis – by ownership type (continued)**

	For-profit		Not-for-profit		Government	
	EXL/TL	S.E.	EXL/TL	S.E.	EXL/TL	S.E.
RAD_LN	-0.138***	0.044	-0.421***	0.047	-0.109**	0.049
TA_LN	0.126***	0.045	0.477***	0.058	0.285***	0.058
PPE/TA	-0.110**	0.050	-0.883***	0.101	-0.322**	0.130
LEV_X_RAD/TA	-0.375***	0.095	-1.275***	0.136	0.443**	0.169
RE/TA	0.443**	0.213	1.009***	0.354	0.105	0.243
FACILITY_NO_LN	-0.012	0.031	-0.105**	0.042	-0.158***	0.057
METRO/TOTAL	-0.080*	0.044	-0.133***	0.043	-0.056	0.073
State (NSW)	-0.088**	0.043	-0.274	0.179	0.426	0.337
State (QLD)	-0.166***	0.054	-0.213	0.183		
State (SA)	-0.069	0.073	-0.281	0.185	0.480	0.330
State (TAS)	-0.173***	0.055	-0.422**	0.201	-0.140	0.324
State (VIC)	-0.085**	0.041	-0.365**	0.179	0.392	0.327
State (WA)	-0.166	0.102	-0.272	0.186	0.488	0.348
Year 2018	0.009	0.014	-0.036**	0.018	-0.022	0.028
Year 2019	0.004	0.019	-0.024	0.019	0.311***	0.035
Constant	0.533*	0.278	0.223	0.493	-3.254***	0.643
Observations	783		1,370		257	
Adj. R-squared	0.130		0.440		0.350	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.19: Multivariate liquidity analysis – by size**

	Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)		Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)	
	LIQ/TL	S.E.	LIQ/TL	S.E.	LIQ/TA	S.E.	LIQ/TA	S.E.
RAD_LN	-0.220***	0.062	-0.390***	0.039	-0.009	0.019	-0.004	0.009
TA_LN	0.197***	0.063	0.334***	0.046	-0.006	0.022	-0.034***	0.013
PPE/TA	-0.495***	0.122	-0.744***	0.069	-0.309***	0.062	-0.359***	0.028
LEV_X_RAD/TA	-0.581***	0.159	-0.971***	0.091	-0.100	0.065	-0.104***	0.040
RE/TA	0.566**	0.281	0.380*	0.221	0.178	0.115	0.232***	0.080
METRO/TOTAL	-0.023	0.054	-0.103***	0.038	0.022	0.028	-0.043***	0.016
Organisation (Govt.)	0.037	0.109	-0.110**	0.053	0.104**	0.050	0.001	0.025
Organisation (non-profit)	0.303***	0.059	0.408***	0.041	0.215***	0.035	0.222***	0.022
State (NSW)	0.024	0.123	-0.465***	0.101	-0.007	0.061	-0.199***	0.035
State (QLD)	0.074	0.133	-0.496***	0.108	0.014	0.061	-0.229***	0.039
State (SA)	-0.039	0.122	-0.521***	0.108	-0.043	0.061	-0.200***	0.038
State (TAS)			-0.596***	0.125			-0.240***	0.052
State (VIC)	0.028	0.134	-0.511***	0.102	-0.033	0.064	-0.200***	0.035
State (WA)	-0.063	0.121	-0.477***	0.107	-0.046	0.061	-0.154***	0.041
Year 2018	-0.008	0.019	-0.029**	0.015	0.000	0.008	-0.003	0.005
Year 2019	0.022	0.021	0.012	0.016	0.007	0.011	0.023***	0.006
Constant	0.716	0.442	1.967***	0.325	0.479**	0.200	1.163***	0.132
Observations	386		2,024		386		2,025	
Adj. R-squared	0.400		0.480		0.410		0.370	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.20: Multivariate liquidity analysis – by size (continued)**

	Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)		Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)	
	EXL/CL	S.E.	EXL/CL	S.E.	EXL/TL	S.E.	EXL/TL	S.E.
RAD_LN	-0.163*	0.094	-0.393***	0.041	-0.166**	0.084	-0.329***	0.036
TA_LN	0.172*	0.103	0.435***	0.051	0.180*	0.092	0.358***	0.043
PPE/TA	-0.454***	0.132	-0.591***	0.076	-0.430***	0.119	-0.546***	0.067
LEV_X_RAD/TA	-0.202	0.239	-0.670***	0.112	-0.276	0.213	-0.693***	0.090
RE/TA	1.005**	0.408	0.713***	0.218	0.881**	0.371	0.638***	0.188
METRO/TOTAL	-0.019	0.070	-0.143***	0.043	-0.002	0.061	-0.131***	0.037
Organisation (Govt.)	-0.236	0.176	-0.349***	0.074	-0.189	0.155	-0.320***	0.063
Organisation (non-profit)	0.309***	0.072	0.309***	0.050	0.276***	0.069	0.297***	0.043
State (NSW)	-0.021	0.170	-0.252***	0.085	-0.036	0.152	-0.291***	0.083
State (QLD)	0.046	0.197	-0.275***	0.091	0.034	0.173	-0.288***	0.090
State (SA)	0.017	0.175	-0.296***	0.094	-0.035	0.154	-0.306***	0.092
State (TAS)			-0.511***	0.140			-0.508***	0.129
State (VIC)	0.085	0.195	-0.311***	0.085	0.059	0.173	-0.337***	0.084
State (WA)	-0.058	0.170	-0.313***	0.101	-0.065	0.152	-0.336***	0.096
Year 2018	0.003	0.024	-0.040**	0.017	0.002	0.020	-0.024*	0.013
Year 2019	0.036	0.026	0.009	0.020	0.03	0.022	0.021	0.015
Constant	-0.078	0.720	-0.082	0.359	-0.135	0.645	0.146	0.310
Observations	386		2,024		386		2,024	
Adj. R-squared	0.260		0.370		0.270		0.390	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

# Sub group analysis of solvency

**Table E.21: Solvency analysis – by ownership type**

	For-profit			Not-for-profit			Government		
	T3	T1	T3 - T1	T3	T1	T3 - T1	T3	T1	T3 - T1
EBIT/INT	47.6	174.4	- 126.8***	48.2	216.8	- 168.5***	-104.0	-211.6	107.6
EBITDA/INT	74.8	239.4	-164.5**	115.3	486.2	- 370.8***	-45.5	-7.1	-38.4
Z-SCORE	-3.35	-0.432	- 2.918***	-1.986	1.929	- 3.915***	0.628	0.058	0.570
<b>Providers sorted by accumulated RAD balances / operational beds</b>									
EBIT/INT	66.9	92.3	-25.4	60.3	173.3	-112.9**	-94.2	-209.9	115.7
EBITDA/INT	101.6	162.5	-60.9	113.3	400.2	- 286.9***	177.8	-68.9	246.7
Z-SCORE	-0.859	-3.189	2.33***	1.867	-1.434	3.301***	0.040	0.752	-0.712

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.22: Solvency analysis – by size**

	Large ( $\geq 4$ facilities)				Small ( $< 4$ facilities)			
	T3	T1	T3 - T1	t value	T3	T1	T3 - T1	t value
<b>Providers sorted by accumulated RAD balances</b>								
EBIT/INT	47.9	106.6	-58.7	0.58	47.9	137.7	-89.7	2.01**
EBITDA/INT	123.6	512.1	-388.5	1.94*	84.9	324.6	-239.7	3.48***
Z-SCORE	-2.486	1.003	-3.489	5.80***	-2.43	0.928	-3.358	17.01***
<b>Providers sorted by accumulated RAD balances / operational beds</b>								
EBIT/INT	72.5	-20.5	93.1	1.66*	58.6	117.4	-58.8	1.49
EBITDA/INT	140.9	73.3	67.6	0.65	101.1	275.0	-173.9	2.87***
Z-SCORE	-2.957	0.571	-3.528	9.50***	-1.895	0.777	-2.672	14.10***

Note: Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.23: Multivariate solvency analysis – by ownership type**

	For-profit		Not-for-profit		Government	
	EBIT/INT	S.E.	EBIT/INT	S.E.	EBIT/INT	S.E.
RAD_LN	-147.451**	69.536	-157.113**	68.762	31.417	147.246
TA_LN	93.077	62.555	108.799*	60.161	-46.608	123.891
PPE/TA	-27.289	98.433	-73.931	81.701	-125.423	237.426
LEV_X_RAD/TA	-592.104***	180.869	-408.224**	170.813	247.905	472.423
RE/TA	427.177	419.363	2,617.363***	578.110	1,381.860***	405.598
FACILITY_NO_LN	10.627	40.309	87.661**	43.753	42.85	68.092
METRO/TOTAL	88.902*	48.542	-31.103	48.354	90.271	105.010
State (NSW)	-144.202	99.785	-22.01	43.110	-821.702**	341.157
State (QLD)	-42.745	108.588	-107.925	79.249	-709.414***	261.622
State (SA)	-218.163*	112.856	-99.253*	52.945	-507.749*	258.171
State (TAS)	-78.947	89.586	-131.333*	74.978		
State (VIC)	-75.261	96.523	-23.131	58.194	-602.415***	220.687
State (WA)	-35.721	154.651	102.212	79.449	-434.671**	190.966
Year 2018	-48.81	55.003	-36.439	42.740	-118.646	72.813
Year 2019	-85.685	52.270	-25.16	40.190	90.852	114.327
Constant	1,174.766***	418.990	829.687	510.240	720.925	1,125.042
Observations	687		996		109	
Adj. R-squared	0.060		0.080		0.100	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.



**Table E.24: Multivariate solvency analysis – by ownership type (continued)**

	For-profit		Not-for-profit		Government	
	EBITA/INT	S.E.	EBITA/INT	S.E.	EBITA/INT	S.E.
RAD_LN	-204.773*	111.577	-284.890**	115.641	-61.743	112.229
TA_LN	129.794	96.429	119.427	100.770	46.146	123.463
PPE/TA	-14.793	154.624	-97.085	138.598	-185.718	317.119
LEV_X_RAD/TA	-810.656***	266.060	-850.658***	273.295	62.888	323.109
RE/TA	335.525	512.131	2,417.303***	746.397	990.021***	217.766
FACILITY_NO_LN	10.491	55.944	262.177***	88.129	23.029	41.456
METRO/TOTAL	128.750*	66.084	29.188	92.769	30.406	80.172
State (NSW)	-150.629	133.465	-38.001	82.378	-1,823.422***	238.574
State (QLD)	8.38	146.519	-31.286	151.987	-1,799.380***	352.003
State (SA)	-267.416*	156.630	-215.727**	102.735	-1,651.761***	222.021
State (TAS)	-85.596	105.856	-271.254**	135.416		
State (VIC)	-81.625	133.951	-0.503	111.047	-1,696.059***	200.745
State (WA)	-6.847	200.447	89.99	125.360	-1,602.345***	207.861
Year 2018	-93.537	85.125	-52.975	68.872	-84.840**	38.662
Year 2019	-143.895*	81.300	-52.496	65.381	-33.312	86.564
Constant	1,604.530***	570.812	2,731.880***	871.499	1,946.101**	862.446
Observations	687		996		109	
Adj. R-squared	0.050		0.060		0.510	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.25: Multivariate solvency analysis – by ownership type (continued)**

	For-profit		Not-for-profit		Government	
	Z-SCORE	S.E.	Z-SCORE	S.E.	Z-SCORE	S.E.
RAD_LN	-3.227***	0.274	-3.835***	0.216	-2.313***	[0.408]
TA_LN	3.150***	0.325	3.770***	0.290	3.291***	[0.426]
PPE/TA	-1.794***	0.420	-4.610***	0.398	-0.247	[0.980]
LEV_X_RAD/TA	-5.381***	0.668	-9.543***	0.710	-7.577***	[1.766]
RE/TA	10.527***	1.739	9.683***	2.044	8.137***	[1.875]
FACILITY_NO_LN	-0.356	0.266	-0.342**	0.154	-0.101	[0.382]
METRO/TOTAL	-0.554*	0.306	-0.395**	0.167	-0.740	[0.647]
State (NSW)	-1.181	0.800	-0.195	0.444	0.233	[1.656]
State (QLD)	-2.570***	0.817	-0.066	0.453		
State (SA)	-1.655*	0.867	-0.146	0.449	-1.795	[1.658]
State (TAS)	-0.406	0.816	-0.221	0.458	0.595	[1.735]
State (VIC)	-1.496*	0.784	-0.321	0.426	-0.885	[1.542]
State (WA)	-1.565*	0.910	0.032	0.436	0.448	[1.627]
Year 2018	-0.223*	0.129	-0.149*	0.083	-0.724***	[0.246]
Year 2019	-0.152	0.141	-0.134	0.083	-0.642**	[0.247]
Constant	1.435	2.312	2.212	1.954	-15.492**	[5.945]
Observations	791		1,402		267	
Adj. R-squared	0.520		0.810		0.640	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.26: Multivariate solvency analysis – by size**

	Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)		Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)	
	EBIT/INT	S.E.	EBIT/INT	S.E.	EBITA/INT	S.E.	EBITA/INT	S.E.
RAD_LN	-16.040	25.153	-151.444***	52.601	-102.102	67.553	-261.342***	85.852
TA_LN	50.681	33.751	100.458**	48.705	160.989*	96.027	150.772*	77.738
PPE/TA	-67.846	69.495	-92.711	74.182	-48.53	185.609	-130.571	118.289
LEV_X_RAD/TA	1.214	74.900	-528.567***	133.910	-268.822*	158.296	-826.925***	196.113
RE/TA	1,591.246**	696.578	1,401.767***	319.304	1,975.859*	1,129.654	1,125.268***	369.930
METRO/TOTAL	-63.596	84.477	19.521	40.655	-174.783	231.536	68.311	66.499
Organisation (Govt.)	64.332	75.754	-474.029***	102.236	119.674	198.901	-483.161***	117.602
Organisation (non-profit)	63.006	45.602	-116.776**	53.940	68.523	89.898	-81.923	85.176
State (NSW)	34.065	125.505	-110.622	69.592	32.44	388.917	-135.092	104.490
State (QLD)	-44.376	89.600	-83.689	91.537	-164.484	304.492	18.367	140.716
State (SA)	-51.32	96.767	-156.739**	77.424	-229.983	323.524	-260.076**	117.158
State (TAS)			-154.315*	85.445			-261.831**	128.372
State (VIC)	-36.621	107.325	-80.728	75.883	-157.668	348.492	-69.922	116.152
State (WA)	12.276	112.559	51.952	99.202	-47.206	347.792	45.944	140.519
Year 2018	-50.402	34.957	-53.417	38.316	-31.423	46.833	-89.896	59.683
Year 2019	-67.496	45.506	-43.88	36.146	-55.35	41.056	-104.368*	56.803
Constant	-551.114	395.105	1,150.291***	331.461	-812.271	1,037.994	2,227.357***	496.094
Observations	316		1,476		316		1,476	
Adj. R-squared	0.040		0.080		0.040		0.070	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.

**Table E.27: Multivariate capital expenditure analysis – by size (continued)**

	Large ( $\geq 4$ facilities)		Small ( $< 4$ facilities)	
	Z-SCORE	S.E.	Z-SCORE	S.E.
RAD_LN	-4.323***	0.542	-3.559***	0.176
TA_LN	4.320***	0.635	3.563***	0.221
PPE/TA	-2.338***	0.665	-3.097***	0.334
LEV_X_RAD/TA	-7.994***	1.258	-6.991***	0.506
RE/TA	7.071***	2.505	9.707***	1.143
METRO/TOTAL	-0.229	0.345	-0.650***	0.151
Organisation (Govt.)	1.183*	0.644	0.310	0.329
Organisation (non-profit)	0.488	0.427	0.945***	0.187
State (NSW)	-0.034	0.486	-0.763	0.866
State (QLD)	0.577	0.510	-1.443*	0.875
State (SA)	0.123	0.452	-1.016	0.875
State (TAS)			-1.123	0.911
State (VIC)	-0.214	0.492	-0.96	0.862
State (WA)	-0.331	0.574	-0.638	0.877
Year 2018	-0.164	0.166	-0.271***	0.081
Year 2019	-0.277*	0.158	-0.189**	0.084
Constant	-2.327	3.117	-0.095	1.744
Observations	398		2,062	
Adj. R-squared	0.690		0.680	

Note: S.E. = Standard Error. Statistical significance of the inter-group difference is derived with the two-sample t-test assuming unequal variances. \*, \*\*, and \*\*\* denote significance at 10 per cent, 5 per cent, and 1 per cent respectively. Descriptions of each metric are presented in Table E.1.