Audit of advertised housing and support vacancies for people with disabilities in Australia

Libby Callaway, Rehabilitation, Ageing and Independent Living Research Centre and Department of Occupational Therapy, Faculty of Medicine, Nursing and Health Sciences, Monash University, Australia
Kate Tregloan, Faculty of Architecture, Building and Planning incorporating the Melbourne School of Design, The University of Melbourne, Australia
Lewis Moore, Faculty of Architecture, Building and Planning incorporating the Melbourne School of Design, The University of Melbourne, Australia
Em Bould, Department of Occupational Therapy, Monash University, Australia

Corresponding author
Libby Callaway, Associate Professor, Rehabilitation, Ageing and Independent Living Research Centre and Department of Occupational Therapy, Faculty of Medicine, Nursing and Health Sciences, Monash University, Australia

libby.callaway@monash.edu

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Biographical notes

Libby Callaway

Libby Callaway is a registered occupational therapist and Associate Professor in the Rehabilitation, Ageing and Independent Living Research Centre and Department of Occupational Therapy at Monash University. She leads a range of collaborative research

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projects focused on housing, technology, support and workforce design for people with disability, funded by state and federal government. Libby consulted to the National Disability Insurance Agency during development of their Specialist Disability Accommodation Framework, and leads an interdisciplinary team working on a range of strategic government and industry-funded research projects.

Kate Tregloan

Kate Tregloan is a registered Architect, and Associate Professor Teaching and Learning; Assistant Dean in the Faculty of Architecture, Building and Planning at Melbourne University. She focuses on what the creative disciplines, and creative education, offer to interdisciplinary impact and community need and is most interested in how tools can inform the values and judgments of creative practice. She has applied this in funded research of supported housing design for people with disability, and assessment tools for creative interdisciplinary learning.

Lewis Moore

Lewis Moore is a research assistant in the Faculty of Architecture, Building and Planning incorporating the Melbourne School of Design, at the University of Melbourne. His work has focussed on the innovative design and delivery of visualisation tools and technologies. Outcomes have been applied to investigations of the design and inhabitation of supported housing, with a focus on the independence and community participation of people with significant and ongoing physical and/or cognitive disability.

Em Bould

Em Bould is a senior research fellow at Monash University, and has a strong track record of research that is generating an evidence base to facilitate the development of practices, programs and policies in order to enable participation of people with cognitive disability and promote their social inclusion, to bring about positive change for people living with disability. Most recently this has focused on human and animal supports, that facilitate social and community inclusion.

Keywords

Australia; Disability Insurance; Housing Affordability; Independence; Policy

MS. LIBBY CALLAWAY (Orcid ID : 0000-0002-3127-6312)
DR. EMMA BOULD (Orcid ID : 0000-0003-3108-2072)

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Abstract

The introduction of Australia's National Disability Insurance Scheme (NDIS) has changed the way housing and support is delivered to Scheme participants. NDIS policy reform focuses on coordinated housing and support responses. These responses are guided by the Specialist Disability Accommodation (SDA) Rule, Framework and pricing and Supported Independent Living payments. To date, the National Disability Insurance Agency (NDIA) has only released limited data to understand SDA demand, or inform market development. To understand changing housing and support approaches, and impact of NDIS housing policy on market responses, this research had three aims: (1) Examine the locations and characteristics of housing and support vacancies advertised for people with disability; (2) Investigate funding sources for, and providers of, these supported housing options; and (3) Examine the proportion and source of government, non-profit and private sector funding for housing and support developments advertised. An audit was undertaken of all advertisements on the two main non-government organisation websites that list Australian supported housing vacancies. A total of 562 property adverts were reviewed in March 2019. Audit findings are considered in relation to the current NDIS policy context. Possible housing futures and market gaps for people with significant and permanent disability in Australia are discussed.

Main document

For people with disability, access to stable, supported living environments is an enabler of increased social and economic participation, and more broadly is recognised as a key determinant of health (MacLachlan et al., 2018; Sloan, Callaway, Winkler, McKinley, &

Ziino, 2012). In 2007, Australia became a signatory to the UN Convention on the Rights of Persons with Disabilities (UNCRPD). Article 19 of the UNCRPD recognises the right of all persons with disabilities to live in the community, with choices equal to others. This includes the opportunity to choose their place of residence and where and with whom they live (United Nations, 2006). However, in Australia, people with disability who have high and enduring support needs have historically experienced a restricted range of options for housing and support (Australian Building Codes Board, 2018; Wright, Zeeman, Kendall, & Whitty, 2017). Primarily, these available options have consisted of living with informal supports in the family home, in congregate or group home settings with other people with disability, or being restricted to a range of institutional environments such as residential aged care when no other options are available (Bigby, Bould & Beadle-Brown, 2017; Kelly & Winkler, 2008; MacLachlan et al., 2018; Sloan et al., 2012; Winkler, Farnworth, Sloan, Brown, & Callaway, 2012).

As part of a ten-year National Disability Strategy, Australia is currently undergoing monumental disability reform with the introduction of an AUD$22B no-fault National Disability Insurance Scheme (NDIS), which includes a focus on reform of housing, technology and support design (Callaway & Tregloan, 2018; Department of Social Services, 2010; Productivity Commission, 2017). The NDIS is available to Australian citizens aged under 65 years at the time of Scheme entry, who experience significant and permanent disability. Trialled initially in selected geographical sites and states of Australia, the NDIS commenced full national coverage for all Australians deemed eligible for the Scheme from 2019. Public National Disability Insurance Agency (NDIA) reporting indicates that at 30th June of that year, 286,015 participants had Scheme access. This number is 62% of the forecast total 460,000 participants the Scheme will fund by full implementation and, to date, a total AUD$18.9B funds have been allocated in NDIS participant plans (NDIS, 2019a). NDIS participants are anticipated to make up around 10% of all Australians living with disability (Australian Bureau of Statistics, 2019).

The NDIS will fund both housing and support payments for those Scheme participants who experience ‘extreme functional impairment’ and are deemed eligible for Specialist Disability Accommodation (SDA) (NDIA, 2016a; Wiesel, Bullen, Fisher, Winkler & Reynolds, 2017). Four SDA built design categories are detailed: improved liveability; robust; fully accessible and high physical support needs and for each of these categories design specifications are detailed (NDIA, 2016a). The subgroup of NDIS participants eligible for SDA payments (estimated to be around 6% of all Scheme entrants) are then also allocated

Supported Independent Living (SIL) or core funding for shared and/or individualised support (NDIA, 2016b). The NDIA has only recently released initial SDA summary data, which provides some information on Agency investment in SDA supports. This data highlighted a total of 8,858 SDA places funded by the Scheme at 30th June 2018, with a majority (56.5%, n = 5003) in New South Wales, followed by Victoria (23%, n = 2034) and then Queensland (8.59%, n = 757), Tasmania (5.9%, n = 523), South Australia (2.5%, n = 225), Northern Territory (2%, n = 175), Western Australia (1.5%, n = 136) and Australian Capital Territory (0.1%, n = 5) (NDIA, 2018a).

More recently, other organisations have developed forecasting to offer SDA market insights, estimate SDA demand, and survey SDA developers nationally to understand developments underway (SGS Economics and Planning, 2018; Social Ventures Australia, 2019). In addition, mapping of the Australian housing funding landscape for people with disability has highlighted the need for policy makers to provide transparent information about housing entitlements for people with significant and permanent disability (Wright, Colley, Knudsen & Kendell, 2019). In November 2019, the NDIA provided greater guidance on SDA design standards and launched an SDA Innovation Plan (NDIA, 2019b, c). This plan outlines activities the Agency will undertake over 2020-2021 to encourage innovation in SDA. However, to deliver on the key NDIS participant outcome domain of 'choice and control' and family outcome domain of 'succession plans' for informal supporters (NDIS, 2019a), there is a need to understand current housing and support market responses available for people with disability, and identify gaps in market supply.

Federal and state government bodies have contributed funding to non-government organisations to curate and advertise supported housing vacancies across a number states of Australia, with two main websites available for this purpose. Given the learning available through such public domain information, this research had three key aims: (1) Audit the locations and characteristics of housing and support vacancies advertised for people with disability; (2) Examine the funding sources for, and providers of, these supported housing options; and (3) Investigate the proportion and source of government, non-profit and private sector funding for housing and support developments available to NDIS participants.

Method

Information Sources

A total of two websites that advertise housing and support vacancies across Australia were searched by the fourth author of this paper from 6th March until 15th March 2019: (1) Nest (https://gonest.com.au/); and (2) Housing Hub (https://www.thehousinghub.org.au/). All properties were retrieved across the two websites for inclusion in the audit. Using a customised Excel spreadsheet, a suite of characteristics was recorded for each vacancy advertised (see Appendix One for full list of characteristics audited). Where possible, housing characteristics were aligned with NDIS SDA building types, design categories and other key features identified in NDIS SDA policy documents (Department of Social Services, 2019; NDIA, 2016a).

Data Collection Process and Reporting of Results

Data were extracted from the property adverts using the customised spreadsheet. The fourth author read each advertisement, and captured the advertised housing and support characteristics (reported in Table 1 below). Some characteristics were captured in a list (e.g. housing provider, support provider), some captured in total numbers (e.g. number of bedrooms, number tenanted at maximum occupancy), whereas other characteristics (e.g. assistive technology, accessibility features) were scored a 1 if mentioned or a 0 if not mentioned in the advertisement.

[INSERT TABLE 1 HERE]

Analyses

Once the audit of each advertisement had been completed, data were transferred from the spreadsheet into IBM SPSS 24 statistical software. Descriptive statistics are presented for the whole sample and for seven sub groups based on SDA building types listed in the advertisement (House, Apartment, Unit/ Duplex/Villa or Townhouse, Group Home, Larger Dwelling), in addition to Supported Residential Services (SRS) and Transitional Units. The research team decided against inferential exploration of differences between the seven groups because of low sample sizes for three of the groups. However, descriptive comparisons have been made.

Results

Property location and distribution

The search resulted in 629 properties; 235 advertised on Nest and 394 on the Housing Hub. Sixty-seven properties were identified as duplicates across the two websites, providing a total of 562 unique advertisements for audit. Of the retrieved properties, two were excluded, due to the property being respite or short-term accommodation. During the audit, details of advertised properties collected included the property location by state and suburb. Almost half (46.8%, n = 262) were located in New South Wales, and just over a quarter in Victoria (26.6%, n = 149), with 14.3% (n = 80) in Queensland and 11.4% (n = 64) in South Australia. There were only four properties in Western Australia, and one located in the Australian Capital Territory. Figure 1 shows the distribution of the 560 advertised properties. In figure 1, the markers indicate the location of an advertised property during the period of the audit, and the size of the marker indicates the number of properties advertised in the same location. This further highlights the concentration of housing and support developments in metropolitan regions of the capital cities of primarily three states (New South Wales, Victoria and Queensland).

[INSERT FIGURE 1 HERE]

Property selection for review

Of the 560 retrieved properties, 56 (10%) were excluded from further review of characteristics (beyond noting their location) as the advertisements lacked sufficient detail. As a result, the characteristics of 504 unique advertised properties were reviewed for this study and are detailed in the remaining sections of the results.

Characteristics of housing and support vacancies advertised

Table 2 provides an overview of housing and support characteristics of the 504 advertised properties by building type. The building types were recorded using the advertised classifications, but – of note – one advertisement listing a group home would fall into the NDIS category of large residential centre as it included more than 10 bedrooms. Just under half (45.3%, n = 228) were listed as SDA-registered, or were intending on SDA registration pending completion. There was a lack of clarity for website users regarding the relationship of advertised vacancies to the SDA Framework, as less than one in five vacancies mentioned certificates or design standards. Fewer than one in ten mentioned use of durable materials (9.1%, n = 46). While this may imply potential for registration in the 'robust' SDA category, this is not conclusive or consistent. Only 37.5% of the properties that mentioned meeting the 'robust' design requirements mentioned durable materials in the advertisement.

[INSERT TABLE 2 HERE]

Housing and design characteristics

Tables 3 to 5 show an overview of the housing and design characteristics of the 504 properties advertised, by property type. As indicated in Table 3, just over half of the properties mentioned a specified SDA design category (56.9%, n = 287). A person deemed eligible for SDA payments for either fully accessible or high physical support design categories might consider 178 advertised properties Australia-wide in March 2019. These included 77 options in New South Wales, 61 in Victoria, 29 in Queensland, nine in South Australia and two options in Western Australia. By contrast, a person deemed eligible for SDA payments for improved liveability or robust design category would have access to 84 properties: 38 options in Victoria, 28 in New South Wales, 16 in Queensland, and one option in both South Australia and Western Australia.

[INSERT TABLE 3 HERE]

Table 4 provides detail of the size and basic features of advertised properties during the audit period. The properties with the largest number of bedrooms listed were Supported Residential Services (SRS) (M rooms = 34, range 12 – 50 rooms), and one SRS had a mixture of single and shared bedrooms. One advertised 'group home' had 45 bedrooms listed, with limited other detail to audit. As noted previously, the authors included this in the NDIS category of large residential centre, as it did not appear to meet the group home category applied in the advertisement. The majority of properties advertised mentioned heating or cooling (85.1%, n = 429), although unsurprisingly there were some variations by state that aligned to local climate. For example, heating was mentioned for the majority of properties in New South Wales (80.3%, n = 188), and Victoria (71.5%, n = 93), compared to less than half of properties in Queensland (45.3%, n = 34) and only one of the four properties located in Western Australia (25%). Conversely, air conditioning was mentioned for all four properties in Western Australia, as well as for the majority of properties listed in Queensland (90.7%, n = 68) and New South Wales (89.3%, n = 209), but was less frequently mentioned in advertisements for properties in Victoria (72.3%, n = 94).

[INSERT TABLE 4 HERE]

Table 5 shows that almost all properties listed mentioned one or more accessibility features (95.8%, n = 483), with the most mentions for single storey/level (73.4%, n = 370)

and wheelchair accessibility (57.5%, n = 290). Technology features were mentioned for less than one in four properties (23.4%, n = 118). For those that did mention these features, the level of detail was minimal, with listings including terms such as 'Assistive Technology' (e.g. "Apartments are assistive technology ready") or 'Smart home technology' (e.g. "Smart Home ready for complete home automation systems"). One property mentioned robots providing support; however, there was little detail provided beyond a statement that, "Additional support of a robot that can be programmed to support each person with things such as memory and routine." (House in NSW).

[INSERT TABLE 5 HERE]

Outdoor characteristics and local amenities

Table 6 shows that almost all listed properties mentioned an outdoor area (92.3%, n = 465), and just over half mentioned the area was private/secure (56.5%, n = 285).

[INSERT TABLE 6 HERE]

Table 7 shows that local amenities were mentioned in advertisements for 81.3% (n = 410) of the 504 properties; however, actual proximity to the property itself was not always detailed.

[INSERT TABLE 7 HERE]

Characteristics of tenants and funding sources of supported housing options

Table 8 provides an overview of the characteristics of the tenants sought for the vacancies advertised across the 504 properties, by property type. A preference for gender was mentioned for slightly less than half of the vacancies (46.8%, n = 236), whilst disability type was only mentioned for 11.9% (n = 60) of the vacancies. Sometimes details of current tenants were also provided, or there was mention of applicants 'not having behaviours of concern'. For example,

> The occupant will be co-sharing with a 62-year-old man who has Huntington's. Any co-tenant for this gentleman would need to be accepting of the high support needs of this man and the gradual needs increasing over time. (Group Home in Queensland)

Vacancy suitable for Male or Female interested in a peaceful existence; someone who does not exhibit behaviours of concern. (Group Home in NSW)

Table 9 provides an overview of the funding requirements listed as necessary to access the vacancies, with less than half advertised as requiring NDIS SDA payment (44.8%, n = 226) and less than one quarter requiring SIL funding (22.4%, n = 113).

[INSERT TABLES 8 – 9 HERE]

Discussion

This article has detailed findings of an audit of location of 560 properties advertised by two public domain websites in Australia. In-depth examination of characteristics of housing and support vacancies for 504 adverts which offered a suitable level of detail was also provided. The national audit has provided insights to current opportunities, as well as gaps, in the advertised housing and support market available to people with disability in Australia.

Some limitations within the audit should be noted when considering the findings. Firstly, NDIA data (NDIS, 2019a) shows there are 2,896 registered dwellings, with 303 new dwellings in one quarter, so it is unlikely that all existing vacancies were advertised on or captured through the two websites audited. However, these are the two main websites a person with disability and their supporters can access to source housing and support vacancies. Secondly, the audit results were limited by the varying levels of detail provided across property advertisements. Some adverts offered rich and detailed descriptions of both the housing and support available. Others offered only limited information for audit.

The audit has however provided some insights – in the early stages of NDIS SDA market growth – to the significant concentration of housing and support developments in metropolitan regions of the capital cities of primarily three states – Victoria, New South Wales and Queensland. For those states not represented in the audit findings, with the closure of state-based disability services as part of NDIS transition, access to housing and support vacancy information may not be centrally coordinated or easily accessible to people with disability and their families. Whilst the NDIA has not yet released data regarding SDA-approvals for participants by region, the audit demonstrates a lack of supply for inland and regional areas across Australia. This demonstrates the thin SDA market supply, and identified risk of market failure especially in regional and remote areas, that exists in the early stages of

Scheme implementation (Productivity Commission, 2017). Based on the concentration of advertised properties available, people with disability seeking housing and support from this advertised market would need to be willing to move to the metropolitan centres where supply exists. Alternatively, they would need to consider the creation of other more individualised or bespoke options through the mainstream rental or purchase housing market (which often lacks affordability). It is apparent that the current market vacancies do not meet Australia's commitment to the UNCRPD, and the right of all persons with disabilities to live in the community, with choice equal to others. The new NDIS SDA Innovation Plan is a necessary mechanism to stimulate market responses and build choice of where and with who a person may live (NDIS, 2019c; United Nations, 2006). However, the findings of this audit provide further evidence that, at this point in time, there is significant work to be done for Australia to enact Article 19 of the UNCRPD.

One third of advertised properties were new builds, and almost half of these new builds (47%) were apartments. The authors consider this likely indicates a high vacancy rate in old 'legacy' stock, which has been retained from block funded housing and support models transitioned from state disability services (Callaway & Tregloan, 2018). This view is supported by the audit findings that the majority of advertised properties were owned by non-government, non-profit providers (80.6%), followed by Government (17.4%), and only 2.0% of audited options were advertised by private developers. Just over half of the properties advertised affordable (subsidised) rental, with tenant contribution to utilities and daily living costs. Of note, no advertisements mentioned options for tenant shared equity or purchase, which may offer potential benefits in relation to sense of home ownership, housing choices, and security of tenure (Wiesel et al., 2017).

The low representation of advertisements from private developers is also noteworthy. The NDIA will need to examine strategies to stimulate supply in line with a new SDA Innovation Plan (2019c). This will be important given the Agency's stated focus on growing a market of 'providers and industry supported to innovate and transform a sector of traditional group homes to buildings that are both indistinguishable from and intermingled with housing in the neighbourhood' (NDIA, 2019b). This SDA Innovation Plan also lists exploration of technology to reduce the need for other supports harnessed through the SDA (2019c). However, at March 2019, technology enablement was reported as available within less than a quarter (23.4%) of the housing vacancies advertised. Some brief information on potentially interesting technologies was identified in a few adverts, including the use of robotics and artist displays in some advertisements of smart screens. This is an area that will

require further supply, as well as evaluation of the impact of these emerging technologies on both user experience and outcomes (Callaway & Tregloan, 2018).

As noted above, almost half (45.3%) of the advertised properties were listed as SDA-registered, or were aiming for SDA registration pending completion. This finding supports NDIS market data that SDA is one of the fastest growing provider registration groups (NDIS, 2019a). It also highlights the limited options for those people not approved for SDA funding. The potential lack of oversight and regulation of housing and support vacancies offered outside of those registered SDA sites should also be considered. This is of particular concern for those people with disability who are not NDIS participants but who may take up these vacancies. They are not able to call on a regulatory body as an independent authority as Scheme participants do (NDIS Quality and Safeguards Commission, 2019)

In addition to the five NDIS SDA design categories, the audit identified that some adverts used their own terminology for design category. This led to a total of 10 categories across the advertised properties and potential confusion for a person seeking housing and support vacancies matched to their specific needs. The recent launch of the NDIS SDA Design Standard can offer benefit by detailing and guiding design requirements to be incorporated into newly-built SDA as it enrols with the NDIA (NDIS, 2019b). This guidance will be made available through an SDA Design Standard Implementation Plan which the NDIA has flagged will be published in the near future, for implementation by 1 July 2021 (NDIS, 2019b). This guidance will not necessarily assist to increase clarity of features available in existing housing stock or offered through Supported Independent Living options advertised, however. The use of a structured template to gather uniform detail across a range of features of housing, technology and/or support for adverts on these two websites would therefore be helpful to the end user.

A comparison was undertaken of the 504 audited properties across the five SDA design categories with data provided by the NDIS from June 2018 (Department of Social Services, 2019). This showed a similar percentage of audited properties to that of SDA data were categorised as ‘improved liveability’ (21.9% vs. 26%), ‘fully accessible’ (22.9% vs. 15%) and ‘robust’ (5% vs. 6.1). However, there were more properties advertised on the two websites under the category of ‘high physical support’ (34.5% vs. 7.4%) and fewer under the category of ‘basic’ (15.7% vs. 45.4%). Whilst these SDA categories offer clear guidance on necessary design features, some of these other categories are not clearly defined in the advertisements available. The audit results suggest that in the early stages of NDIS implementation, Agency pricing of certain design categories may have skewed advertised

responses to ‘fully accessible’ or ‘high physical support’ design categories (NDIA, 2019b). This has implications for market supply for the group of Scheme claimants who have high cognitive behavioural support needs, and thus may be eligible for a robust SDA design category. This subgroup requires coordinated housing and support responses, often without physical access requirements. For those requiring a robust design, advertised market choices are more limited, and there may be a need for payment for an SDA vacancy that incurs a premium for built design not necessary. For this already marginalised group with very complex needs, the audit findings indicate a greater risk of market failure (Productivity Commission, 2017). Based on the lower frequency of advertised stock for this cohort, the audit findings suggest there is a need for market responses targeted at those with primarily cognitive behavioural support needs and that the NDIA will likely need to work to stimulate this market segment.

NDIS SDA funding will only be available for a small subset of NDIS participants who experience the most extreme functional impairment, estimated at around 6% of all participants (NDIA, 2018b). A recent review of the Australian housing funding landscape has highlighted groups of Australians who experience disability who will be unlikely to receive housing and support benefits from the current funding context (Wright et al., 2019). The findings from this current audit further highlight the increasing gap that will exist for those people not eligible for SDA or the NDIS, particularly when over half of all adverts audited listed a requirement for NDIS SDA payments in a person’s plan. With this growing gap in mind, government have previously identified the need for a legislative approach to increase accessible housing supply in Australia (Australian Building Codes Board, 2018). However, more work will be required to address both the housing accessibility and affordability issues that exist. This is particularly important as house price growth continues to impact home ownership for people on lower incomes, including those with disability (Callaway & Tregloan, 2018; Wiesel et al., 2017).

Conclusion

The evidence provided in this audit of housing and support vacancies advertised across Australia in March 2019 provides the first available opportunity for interested stakeholders, including people with disability, their families, investors and developers, to closely consider the current availability of advertised market options. Use of the publicly available data has provided insights for investment, potential for leveraging of partnership opportunities, and avoidance of duplicated responses over time. It has also highlighted market

segment gaps in the vacancies advertised, and the risk of market failure for some people with disability, unless supply-side approaches are considered.

Details offered through these advertisements could also allow a stakeholder to make targeted contact with providers, developers or other key players in the housing and support market. This may be of benefit to grow housing collaborations within mixed-purpose or individual developments, and secure a range of housing and support options suitable for consideration by people living with significant and permanent disability. The audit methodology established through this research will be applied regularly by the authors to grow the evidence base of the changing housing and support market responses advertised to people with disability and their families in Australia over time, as the implementation of the NDIS and SDA Innovation Plan progresses.

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Conflict of Interest

None.

Ethical Standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

References

Australian Building Codes Board (2018). Accessible Housing Options Paper. Canberra, Australia: Author.

Australian Bureau of Statistics (2019). 4430.0 - Disability, Ageing and Carers, Australia: Summary of Findings, 2018. Canberra, Australia: Author.

Bigby, C., Bould, E., & Beadle-Brown, J. (2017). Comparing Costs and Outcomes of Supported Living with Group Homes in Australia. Journal of Intellectual & Developmental Disability, 43(3), 295-307.

Callaway, L., & Tregloan, K. (2018). Government perspectives on housing, technology and support design within Australia's National Disability Strategy. Australian Journal of Social Issues, 53(3), 206-222.

Department of Social Services (2010). National Disability Strategy 2010–2020. Canberra, Australia: Author.

Department of Social Services (2019). Specialist Disability Accommodation Pricing and Payments Framework. Available from: https://www.ndis.gov.au/providers/essentials-providers-working-ndia/specialist-disability-accommodation/market-data

Housing Hub (2019). The Housing Hub. Box Hill, Australia: Author. Available from: https://www.thehousinghub.org.au/

Kelly, G., Winkler, D. (2007) Long-term accommodation and support for people with higher levels of challenging behaviour. Brain Impairment, 8 (3), 262-75.

MacLachlan, M., Young, C. H., Cho, H., Clarke, M., Mannan, H., Kayabu B, Ludolph R., McAuliffe, E. (2018) Web Annex F: Report of the systematic review on potential benefits of accessible home environments for people with functional impairments. In: World Health Organisation, editor. WHO Housing and health guidelines. Geneva, SUI: World Health Organisation.

NDIA (National Disability Insurance Agency) (2016a) Specialist Disability Accommodation. Canberra, Australia: Author.

NDIA (National Disability Insurance Agency) (2016b) Operational Guideline – Planning and Assessment – Supports in the Plan – Specialist Disability Housing (SDA). Canberra, Australia: Author.

NDIA (National Disability Insurance Agency) (2018a). Market Data - Specialist Disability Accommodation. Canberra, Australia: Author.

NDIA (National Disability Insurance Agency) (2018b). NDIS Specialist Disability Accommodation Provider and Investor Brief. Canberra, Australia: Author.

NDIS (National Disability Insurance Scheme) (2019a) COAG Disability Reform Council Quarterly Report (Q4, June 2019). Canberra, Australia: Author.

NDIS (National Disability Insurance Scheme) (2019b). SDA Design Standard. Canberra, Australia: Author.

NDIS (National Disability Insurance Scheme) (2019c). SDA Innovation Plan. Canberra, Australia: Author.

NDIS Quality and Safeguards Commission. Canberra. ACT. Australia: Commonwealth Government 2019. Available from: https://www.ndiscommission.gov.au/

Nest. Nest. NSW. Australia: Northcott Innovation 2019. Available from: https://gonest.com.au/

Productivity Commission. (2017). National Disability Insurance Scheme (NDIS) costs. Canberra, Australia: Author.

Sloan, S., Callaway, L., Winkler, D., McKinley, K., Ziino, C. (2012) Accommodation outcomes and transitions following community-based intervention for individuals with acquired brain injury. Brain Impairment, 13 (1), 24-43.

SGS Economics and Planning (2018). Specialist Disability Accommodation: Market Insights. Melbourne, Australia: Author.

Social Ventures Australia, Summer Foundation (2019) Specialist Disability Accommodation supply in Australia. Melbourne, Australia.

United Nations. (2006) Convention on the rights of persons with disabilities. Available from: http://www.un.org/disabilities/convention/conventionfull.shtml.

Wiesel, I., Bullen, J., Fisher, K., Winker, D., & Reynolds, A. (2017). Shared home ownership by people with disability. Melbourne, Australia: Australian Housing and Urban Research Institute.

Winkler, D., Farnworth, L., Sloan, S., Brown, T., Callaway, L. (2012) Comparison of people with ABI living in two accommodation settings: shared supported accommodation and residential aged care. Brain Impairment, 11 (3), 313-25.

Wright, C., Colley, C., Knudsen, K., & Kendall, E. (2019). Housing for People with an Acquired Brain or Spinal Injury: Mapping the Australian Funding Landscape. International Journal of Environmental Research and Public Health, 16(16). doi:10.3390/ijerph16162822

Wright, C., Zeeman, H., Kendall, E., & Whitty, J. (2017). What housing features should inform the development of housing solutions for adults with complex physical and cognitive disability?: A systematic review of the literature. Health & Place, 46, 234-248.

Table 1.

Housing and Support Characteristics as advertised

Location – state	Number of bathrooms – shared / private
Housing provider (list)	Outdoor amenity – secure/private yard, raised garden bed, deck/veranda, rooftop terrace, entertainment area, pool/spa
Support provider (list)	Parking / Accessible parking
Support model - 24/7, Daytime, Overnight, Drop-in, Choose own	Accessibility features
Type of funding – SIL, SDA	Assistive technology (list)
SDA Building class – new build, existing	Smart home technology (list)
SDA Building type – unit, house, apartment, Duplex/Villa or Townhouse, Group home	Tenants – gender / type of disability
Building certificates (list)	Agreements (list)
SDA Design Category - High support, Basic, Fully accessible, High & complex, Low support, Robust, Improved liveability, Supported independent living	Community amenity – public transport, shops, cafes / restaurant, community services, medical provider, pool, Park / Reservoir / River / Lake / Reserve, beach
Description of living spaces	Image(s) & weblink(s)
Number of bedrooms / Number tenanted at maximum occupancy	Contact details

Table 2.

Characteristics of housing and support vacancies by building type.

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
SDA Building Class																
Mentioned	**495**	**98.2**	105	99.1	89	100.0	64	100.0	225	97.0	8	100.0	4	100.0	0	0.0
New Build	**170**	**33.7**	45	42.5	80	89.9	22	34.4	23	9.9	0	0.0	0	0.0	-	-
Existing Building	**325**	**64.5**	60	56.6	9	10.1	42	65.6	202	87.1	8	100.0	4	100.0	-	-
SDA Registered																
Yes	**202**	**40.1**	27	25.5	33	37.1	37	57.8	97	41.8	8	100.0	0	0.0	0	0.0
Pending Completion	**26**	**5.2**	15	14.2	5	5.6	1	1.6	5	2.2	0	0.0	0	0.0	0	0.0
Certificate / Design standard	**95**	**18.8**	17	16.0	56	62.9	16	25.0	6	2.6	0	0.0	0	0.0	0	0.0
Durable materials	**46**	**9.1**	19	17.9	7	7.9	6	9.4	13	5.6	0	0.0	0	0.0	1	100.0

Table 3.

Design Categories mentioned by building type.

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Design Category Mentioned	**287**	**56.9**	44	41.5	80	89.9	40	62.5	115	49.6	8	100	0	0%	0	0
High physical support	**110**	**21.8**	12	11.3	63	70.8	15	23.4	19	8.2	1	12.5	-	-	-	-
Fully accessible	**73**	**14.5**	21	19.8	8	9.0	9	14.1	33	14.2	2	25.0	-	-	-	-
Improved liveability	**70**	**13.9**	23	21.7	14	15.7	4	6.3	27	11.6	2	25.0	-	-	-	-
Robust	**16**	**3.2**	0	0.0	0	0.0	5	7.8	11	4.7	0	0.0	-	-	-	-
Supported independent living	**11**	**2.2**	3	2.8	0	0.0	0	0.0	8	3.4	0	0.0	-	-	-	-
Active high support	**1**	**0.2**	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	-	-	-	-
Basic	**50**	**9.9**	17	16.0	2	2.2	8	12.5	20	8.6	3	37.5	-	-	-	-

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
High and complex	**5**	**1.0**	0	0.0	0	0.0	1	1.6	4	1.7	0	0.0	-	-	-	-
High and standard	**1**	**0.2**	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	-	-	-	-
Low support	**3**	**0.6**	0	0.0	0	0.0	0	0.0	3	1.3	0	0.0	-	-	-	-

Table 4.

Size and basic features of vacancies by building type.

	Total (N = 504)	House (n = 106)	Apartment (n = 89)	Unit, Duplex/Villa or Townhouse (n = 64)	Group Home (n = 232)	Larger Dwelling (n = 8)	Supported Residential Service (SRS) (n = 4)	Transitional Unit (n = 1)

Number of bedrooms	M	**4**	4	2	2	5	6	34	12
	Range	**1–50**	2–6	1–8	1–6	1–45	5–8	12–50	N/A
Number of bedrooms tenanted at maximum capacity	M	**4**	4	1	2	4	6	37	12
	Range	**1–50**	2–6	1–8	1–6	1–45	5–8	12–50	N/A
Average bedroom : shared bathroom ratio	M	**0.34**	0.39	0.10	0.33	0.41	0.25	0.17	0.25
Separate shared restroom		**12.7%**	15.1%	3.4%	10.9%	14.7%	25%	25%	100% (n=1)
Average bedroom : private/en-suite ratio	M	**0.35**	0.23	1.15	0.38	0.10	0.13	0.39	0.00
Heating		**70.8%**	75.5%	89.9%	65.6%	63.4%	62.5%	50%	100% (n=1)
Air conditioning		**84.5%**	84.9%	93.3%	78.1%	83.6%	62.5%	50%	100% (n=1)

Table 5.

Accessibility Features by building type.

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Any features mentioned	**483**	**95.8**	83	78.3	89	100.0	62	96.9	172	74.1	4	50.0	2	50.0	1	100.0
Wheelchair accessible	**290**	**57.5**	50	47.2	71	79.8	30	60.9	123	53.0	4	50.0	2	50.0	1	100.0
Single storey / level	**370**	**73.4**	93	87.7	62	69.7	46	71.9	162	69.8	6	75.0	0	0.0	1	100.0
No steps inside	**129**	**25.6**	37	34.9	25	28.1	9	14.1	54	23.3	1	12.5	2	50.0	1	100.0
No steps outside	**109**	**21.6**	34	32.1	20	22.5	9	14.1	43	18.5	1	12.5	1	25.0	1	100.0
Ramp access	**165**	**32.7**	51	48.1	42	47.2	21	32.8	49	21.1	1	12.5	0	0.0	1	100.0
Wide doorframes	**212**	**42.1**	42	39.6	82	92.1	32	50.0	54	23.3	1	12.5	0	0.0	1	100.0
Wide corridors	**36**	**7.1**	18	17.0	14	15.7	0	0.0	3	1.3	1	12.5	0	0.0	0	0.0
Wide pathways	**144**	**28.6**	25	23.6	71	79.8	21	32.8	27	11.6	0	0.0	0	0.0	0	0.0
Accessible bathroom	**203**	**40.3**	39	36.8	32	36.0	27	42.2	100	43.1	2	25.0	2	50.0	1	100.0
Accessible restroom	**107**	**21.1**	31	29.2	21	23.6	11	17.2	41	17.7	0	0.0	2	50.0	1	100.0
Grab rails	**138**	**27.4**	28	26.4	12	13.5	23	35.9	71	30.6	0	0.0	3	75.0	1	100.0
Accessible bedroom	**54**	**10.7**	20	18.9	3	3.4	8	12.5	22	9.5	1	12.5	0	0.0	0	0.0
Accessible kitchen	**131**	**26.0**	29	27.4	30	33.7	35	54.7	36	15.5	0	0.0	0	0.0	1	100.0
Vision impaired benchtops	**18**	**3.6**	15	14.2	1	1.1	0	0.0	2	0.9	0	0.0	0	0.0	0	0.0
Good lighting	**94**	**18.7**	22	20.8	11	12.4	8	12.5	51	22.0	0	0.0	1	25.0	1	100.0

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Automated doors	**107**	**21.2**	19	17.9	66	74.2	18	28.1	3	1.3	0	0.0	0	0.0	1	100.0
Elevator / lift access	**96**	**19.0**	16	15.1	75	84.3	0	0.0	5	2.2	0	0.0	0	0.0	0	0.0
Ceiling hoist	**163**	**32.3**	38	35.8	55	61.8	22	34.4	45	19.4	2	25.0	0	0.0	1	100.0
Technology features	**118**	**23.4**	21	19.8	72	80.9	21	32.8	3	1.3	0	0.0	0	0.0	1	100.0
Assistive technology	**117**	**23.2**	21	19.8	71	79.8	21	32.8	3	1.3	-	-	-	-	1	100.0
Smart home technology	**40**	**7.9**	1	0.9	34	38.2	5	7.8	0	0.0	-	-	-	-	0	0.0
Parking	**396**	**78.6**	83	78.3	87	97.8	47	73.4	172	74.1	4	50.0	2	50.0	1	100.0
Accessible parking	**131**	**26.0**	30	28.3	58	65.2	9	14.1	32	13.8	0	0.0	1	25.0	1	100.0

Table 6.

Outdoor characteristics by building type.

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Outdoor area mentioned	**465**	**92.3**	103	97.2	87	97.8	59	92.9	206	88.8	7	87.5	2	50.0	1	100.0
Privacy / Security	**285**	**56.5**	80	75.5	55	61.8	34	53.1	113	48.7	0	0.0	2	50.0	1	100.0
Raised garden bed	**95**	**18.8**	10	9.4	65	73.0	11	17.2	9	3.9	0	0.0	0	0.0	0	0.0
Deck / veranda	**128**	**25.4**	27	25.5	59	66.3	15	23.4	27	11.6	0	0.0	0	0.0	0	0.0

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Outdoor living / entertainment / alfresco area	**299**	**59.3**	65	61.3	75	84.3	34	53.1	121	52.2	4	50.0	0	0.0	0	0.0
Rooftop terrace	**4**	**0.8**	0	0.0	4	4.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pool / Spa	**16**	**3.2**	6	5.7	0	0.0	1	1.6	7	3.0	1	12.5	0	0.0	1	100.0

Table 7.

Local amenities by building type.

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Any amenities mentioned	**410**	**81.3**	87	82.1	66	74.2	43	67.2	202	87.1	8	100.0	3	75.0	1	100.0
Public transport	**335**	**66.5**	66	62.3	65	73.0	40	62.5	152	65.5	8	100.0	3	75.0	1	100.0
Shops	**378**	**75.0**	80	75.5	64	71.9	40	62.5	182	78.4	8	100.0	3	75.0	1	100.0
Cafes / restaurants	**135**	**26.8**	41	38.7	18	20.2	19	29.7	53	22.8	4	50.0	0	0.0	0	0.0
Community services	**153**	**30.4**	25	23.6	48	53.9	13	20.3	64	27.6	1	12.5	2	50.0	0	0.0
Medical providers / Hospital	**146**	**29.0**	40	37.7	32	36.0	13	20.3	57	24.6	0	0.0	3	75.0	1	100.0
Swimming pool	**18**	**3.6**	4	3.8	0	0.0	2	3.1	11	4.7	1	12.5	0	0.0	0	0.0
Sports / Recreational Centre/Facilities	**61**	**12.1**	20	18.9	0	0.0	9	14.1	29	12.5	0	0.0	0	0.0	1	100.0
Cinema	**32**	**6.3**	10	9.4	12	13.5	2	3.1	8	3.4	2	25.0	0	0.0	0	0.0
Park / Reservoir / River / Lake / Reserve	**236**	**46.8**	46	43.4	24	27.0	25	39.1	131	56.5	7	87.5	2	50.0	1	100.0
Beach	**22**	**4.4**	3	2.8	2	2.2	1	1.6	16	6.9	0	0.0	0	0.0	0	0.0

Table 8.

Characteristics of tenants sought by building type.

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Gender																
Preference stated	**236**	**46.8**	34	32.1	6	6.7	25	39.1	161	69.4	8	100	2	50	0	0.0
Male / Female	**104**	**20.6**	16	15.1	3	3.4	6	9.4	72	31.0	5	62.5	2	50.0	-	-
Male	**77**	**15.3**	13	12.3	0	0.0	8	12.5	55	23.7	1	12.5	0	0.0	-	-
Female	**55**	**10.9**	5	4.7	3	3.4	11	17.2	34	14.7	2	25.0	0	0.0	-	-
Type of disability																
Any mentioned	**60**	**11.9**	6	5.7	37	41.6	4	6.3	12	5.2	1	12.5	0	0.0	0	0.0
Physical	**48**	**9.5**	3	2.8	37	41.6	4	6.3	4	1.7	0	0.0	-	-	0	-
Other specified	**12**	**2.4**	3	2.8	0	0.0	0	0.0	8	1.7	1	12.5	-	-	0	-
Payments																
Any mentioned	**284**	**56.3**	48	45.3	19	21.3	37	57.8	169	72.8	8	100.0	3	75.0	0	0.0

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Rent	**284**	**56.3**	48	45.3	19	21.3	37	57.8	169	72.8	8	100.0	3	75.0	-	-
Utilities	**164**	**32.5**	24	22.6	4	4.5	18	28.1	110	47.4	8	100.0	0	0.0	-	-
Agreements	**155**	**30.8**	25	23.6	1	1.1	15	23.4	106	45.7	8	100.0	0	0.0	0	0.0

Table 9.

Funding requirements and support model by building type

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Requires SDA Payment	**226**	**44.8**	63	59.4	13	14.6	22	34.4	119	51.3	8	100.0	1	25.0	0	0.0
Requires SIL Payment	**113**	**22.4**	39	36.8	9	10.1	7	10.9	57	24.6	0	0.0	0	0.0	1	100.0

	Total (N = 504)		House (n = 106)		Apartment (n = 89)		Unit, Duplex/Villa or Townhouse (n = 64)		Group Home (n = 232)		Larger Dwelling (n = 8)		Supported Residential Service (SRS) (n = 4)		Transitional Unit (n = 1)	
	n	**%**	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Support Model mentioned (Total)	**382**	**75.8**	65	61.3	47	52.8	44	68.8	213	91.8	8	100	4	100	1	100
24/7	**225**	**44.6**	37	34.9	28	35.1	30	46.9	123	53.0	2	25.0	4	100.0	1	100.0
Daytime	**2**	**0.4**	0	0.0	1	1.1	0	0.0	1	0.4	0	0.0	0	0.0	0	0.0
Daytime (up to 16) with inactive sleepover	**17**	**3.4**	0	0.0	0	0.0	0	0.0	16	6.9	0	0.0	0	0.0	0	0.0
Drop-in	**3**	**0.6**	0	0.0	0	0.0	1	1.6	2	0.9	0	0.0	0	0.0	0	0.0
Overnight	**50**	**9.9**	24	22.6	14	15.7	1	1.6	11	4.7	0	0.0	0	0.0	0	0.0
Overnight (active night model)	**10**	**2.0**	1	0.9	0	0.0	1	1.6	8	3.4	0	0.0	0	0.0	0	0.0
Overnight (sleepover model)	**61**	**12.1**	2	1.9	0	0.0	7	10.9	46	19.8	6	75.0	0	0.0	0	0.0
Choose own	**14**	**2.8**	1	0.9	4	4.5	3	4.7	6	2.6	0	0.0	0	0.0	0	0.0

Figure 1: Property distribution across States