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The changing geography of homelessness in Australia (2001–21) and its structural drivers

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Acronyms and abbreviations used in this report

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AHURI	Australian Housing and Urban Research Institute Limited
AIHW	Australian Institute of Health and Welfare
CNOS	Canadian National Occupancy Standard
CRA	Commonwealth Rent Assistance
GCCSA	Greater Capital City Statistical Area (ABS)
NHHA	National Housing and Homelessness Agreement
NT	Northern Territory
NSARH	net supply of affordable rental housing
NSW	New South Wales
Q1	quintile 1
Q2	quintile 2
Qld	Queensland
PRS	private rental sector
R1	rent 1 (rents affordable for Q1 private renter households)
R2	rent 2 (rents affordable for Q2 private renter households)
RQ	research question
SA	South Australia
SA3	Statistical Area Level 3 (ABS spatial unit)
SHS	specialist homelessness service
SHSC	Specialist Homelessness Services Collection
Tas	Tasmania
TSP	Time Series Profile (ABS Census data)
Vic	Victoria
WA	Western Australia

Glossary

A list of definitions for terms commonly used by AHURI is available on the AHURI website ahuri.edu.au/glossary.

Key terms used in this report

Homelessness	This report relies on the ABS statistical definition of homelessness, which emphasises the absence of 'home' in homelessness (ABS 2012c). In applying their definition to the Census, the ABS enumerate six operational groups or presentations of homelessness that are summed to create total homelessness: people sleeping rough, people staying in specialist homelessness service (SHS) accommodation, people staying temporarily with friends or family (couch surfing), people staying in boarding houses, people in temporary lodging such as hotels and people living in severely crowded dwellings.
Rate of homelessness per 10,000 persons	This measure reflects the number of people enumerated as homeless in an area, divided by the total population of that area and multiplied by 10,000. It measures the prevalence of homelessness relative to population size.
National share of homelessness	This measure is calculated by dividing the number of people enumerated as homeless in a given area by the total number of people enumerated as homeless in Australia. It is a measure of where most homelessness is located nationally.
Private rental	Housing in which the household pays rent to a real estate agent or private landlord (related or not) who does not live in the property (Reynolds, Parkinson et al. 2024).
Q1 households	Quintile 1 households (Q1) are those households with incomes in the lowest 20 per cent of the national gross (unequivalised) household income distribution (bottom quintile). In 2021, the maximum household income for a Q1 household was $737 per week. The vast majority of people experiencing or at risk of homelessness will be in this income group.
R1 dwellings	Private rental dwellings that are affordable to households on very low incomes (Q1). Affordability is calculated by taking the maximum income for a Q1 household and taking 30 per cent of this income as affordable rent for this group. The measure is conservative because it uses the maximum income for the quintile. The maximum affordable rent for very low-income households in 2021 was $220 per week.
NSARH	The net supply of affordable rental housing is a measure of the supply of affordable rental housing relative to demand from low-income households in an area. It is calculated by subtracting the number of low-income households (Q1) from the number of private rental dwellings that are affordable to them at 30 per cent of their income (R1 dwellings).
SA3 spatial unit	Statistical Area Level 3s (SA3s) are part of the ABS statistical geography standard and are designed to coincide with areas of economic, social and transport activity (ABS 2018c). SA3s in urban areas and are based on areas serviced by large transport or commercial hubs. In regional areas, SA3s reflect the area including and surrounding regional cities. In remote areas, SA3s are larger and reflect areas with similar social characteristics or areas that have a distinct identity. In 2021, there were 351 SA3s with an average population of 76,000 people but ranging up to nearly 300,000 people. We excluded SA3s from our analysis that had populations under 100 or were special purpose – for example, those indicating shipping and migratory zones.
SHS capacity	We use two measures of SHS capacity in the report. Accommodation capacity reflects the number of people who can be accommodated by an SHS in a financial year in a given area, while support capacity indicates the number of people who can be supported (with or without accommodation) by an SHS in a financial year in a given area.

Executive summary

Key points

- Most people experiencing homelessness are in Australia's capital cities. Homelessness is becoming more urbanised over time but also less spatially concentrated.
- Homelessness rates have continued to decline in remote areas, though they remain 10 times above the national average in the Northern Territory.
- People experiencing homelessness are more likely to move (change address) over the 12 months prior to the Census than low-income renters and all Australians. However, when they move they largely remain within their Statistical Area Level 3 (SA3) or greater capital city/balance of state area.
- There is a mismatch between where people experiencing homelessness are located and specialist homelessness service (SHS) capacity – both in terms of accommodation and support capacity. This mismatch occurs in the context of persistent unmet demand for assistance.
- A higher percentage of SHS clients are returning for assistance and are deemed homeless upon presentation in areas with less affordable rental housing (R1 stock) relative to demand.
- To provide housing to clients who accessed an SHS in 2021–22, we estimate that around 158,000 one- to two-bedroom dwellings and 25,000 three-or-more-bedroom dwellings are needed nationally. This estimate is for one financial year only with a similar volume needed year on year.
- In greater capital city regions, an increase in affordable private rental housing by 1,000 dwellings will reduce homelessness rates in those regions by around 10 per cent.

- **Homelessness will be significantly reduced in balance of state areas by increasing supplies of both affordable private rental and social housing dwellings, with the latter being particularly important in remote areas.**

- **Demographic profiles of regions are important predictors of homelessness across area types. This is likely because they are indicators of the size of the local population who are homeless or at risk of homelessness.**

Effective homelessness policy requires evidence about broader structural processes driving aggregate rates of homelessness, such as rising inequality, poverty, supplies of affordable rental housing, labour markets and area-level demographics.

Homelessness is unevenly distributed across locations, with different drivers in urban, regional and remote areas. A more detailed understanding of the changing geography of homelessness is required to ensure effective place-based policies to respond to and end homelessness.

This project addresses the overarching policy questions: What structural factors are important in driving short- and longer-term changes in the incidence and geography of homelessness over the period 2001–21? To what extent is the location of specialist homelessness services and affordable rental housing adequate to respond to this changing geography?

These broad policy questions are answered through the following three research questions:

RQ1: How does the incidence of homelessness vary within and between regions, states and territories over time? Moreover:

a. Is homelessness becoming more or less spatially concentrated?
b. Is the composition of the homeless population (in terms of operational groups and demographics) changing over time across regions, states and territories?
c. What proportion of people experiencing homelessness move across SA3 boundaries and how does this compare to other groups?

RQ2: Where are people experiencing homelessness located in relation to specialist homelessness services and affordable rental housing (both private and public)?

RQ3 What role do structural factors such as supplies of affordable private rental housing, demographics, labour markets, poverty and inequality play in shaping differences in rates of homelessness across Australia?

Key findings

How does the incidence of homelessness vary within and between regions, states and territories over time?

Homelessness was and remains a stubborn problem in Australia, with little movement in the national rate of homelessness over time. In 2001, homelessness rates were 50.8 per 10,000 persons and in 2021 they were 48.19 per 10,000 persons. However, there have been significant shifts between and within states and territories.

In 2021, the Northern Territory retained its position as the state/territory with the highest rate of homelessness despite substantial decreases in homelessness over the previous two decades. In 2001, rates of homelessness were almost 32 times the national average there, while in 2021 they decreased to around 21 times the national average. Both Western Australia and the Northern Territory experienced a decline in the share of homelessness in balance of state areas that may be attributable to previous policies to increase the supply of housing in remote areas. These changes are consistent across the five Census periods.

In general, homelessness rates have continued to decline in remote areas, remained relatively stable in greater capital city areas and climbed in regional areas.

Victoria's share of national homelessness has increased well above increases in its share of the national population, rising from 19 per cent in 2001 to 25 per cent in 2021. This increase has been driven by a steady increase in the share of homelessness in Greater Melbourne.

There has been a marked decrease in the percentage of people experiencing homelessness who are First Nations, most likely due to the provision of additional housing in remote communities. In contrast, there has been a marked increase in the percentage of people experiencing homelessness who are born overseas, a group known to be prone to severe crowding in greater capital city areas.

Using data on place of usual residence one year before the Census, we found that people experiencing homelessness are more likely to change address over the 12 months prior to the Census than low-income renters and other Australians more broadly. However, like low-income renters, this group typically remains within their SA3 or greater capital city/balance of state area. Our results provide assurance that point-in-time estimates are a meaningful way to explore the geography of homelessness.

Are services well placed to intervene?

In the context of an under-resourced SHS sector that is chronically unable to meet demand, we investigated the alignment between homelessness and SHS capacity. We found that one-third of SHS capacity (both support places and accommodation places) would need to shift across SA3 boundaries to match the distribution of homelessness across the nation (based on 2021–22 data). This represents a mild improvement from 2016–17. This mismatch is most severe in New South Wales and the Northern Territory and least severe in Tasmania.

Conditions in local private rental markets influence the effectiveness of SHSs. A higher percentage of SHS clients are deemed homeless upon presentation, and are returning for assistance over time in areas with lower levels of affordable rental housing relative to demand from households with the lowest incomes (households with gross incomes in the lowest quintile of the national distribution, 'Q1 households').

In order to provide housing to clients who accessed SHSs in 2021–22, we estimate that around 158,000 one- to two-bedroom dwellings and 25,000 three-or-more-bedroom dwellings are needed nationally. This estimate is for one financial year only with a similar volume needed year on year.

What role do structural factors such as supplies of affordable private rental housing, demographics, labour markets, poverty and inequality play in shaping differences in rates of homelessness across Australia?

Both descriptively and in our modelling work, we found that homelessness is higher in areas with a poorer supply of low-cost rentals (i.e. stock that rents for no more than 30% of the upper threshold of the Q1 household income segment, 'R1 stock') relative to local demand from households with very low (Q1) incomes. An increase in affordable private rental housing by 1,000 dwellings in greater capital city SA3s will reduce homelessness rates in those regions by around 10 per cent.

We also found that homelessness is higher in areas with smaller supplies of social housing. This is the case particularly in balance of state areas. Given the allocation policies used for social housing it is difficult to identify region specific effects. However, we are confident that an increase in social housing in a state/territory will significantly reduce homelessness rates within that state/territory.

Modelling also revealed that the demographic profiles of regions are important predictors of homelessness across area types. Areas with more men, more First Nations people and more people speaking a language other than English have higher rates of homelessness, as do areas with more one-parent households and group-household types. We hypothesise that demographic factors are important in our models because they reflect the size of the local population who are experiencing or at-risk of homelessness.

Policy development options

Responding to homelessness

Our investigation of mobility among people experiencing homelessness highlights the importance of place-based policies and interventions for homelessness. Point-in-time homelessness counts will be useful in informing this approach.

The mismatch between homelessness and SHS service capacity must be understood in the context of persistent unmet demand for assistance. Additional capacity is needed in some areas, particularly balance of state areas, and our results inform where additional service capacity might be located.

Local supplies of private rental housing affordable to households with the lowest incomes impact the efficacy of the SHS response. This is likely due to both a lack of affordable private rental supply precipitating entries into homelessness and a lack of exit options preventing its resolution. In addressing homelessness, policy makers must consider both adequate SHS capacity and adequate exit options from homelessness. However, affordable rental housing must be available and affordable to those in the lowest-income quintile.

Affordable rental housing is critical to addressing homelessness

Providing additional affordable rental stock will be effective in reducing homelessness. Increasing the supply of private rental sector (PRS) stock affordable to Q1 households by 1,000 dwellings in greater capital city regions will see reductions in homelessness rates in those regions by around 10 per cent.

The importance of improvements to local supplies of affordable PRS stock and public housing are underscored by our finding that most people experiencing homelessness move within their local region or greater capital city/balance of state area.

The low incomes of people experiencing homelessness make a market-based housing response particularly challenging. The upper threshold for affordable rental housing for Q1 PRS households is just $220 per week. To reduce homelessness, affordable rental housing must be provided at or below this price point. It is also important to ensure that this stock is available to Q1 households and they are not displaced by higher-income households.

Increasing the supply of housing that is affordable to this group requires increasing supply and also increasing their purchasing power in the market. Increases to income support payments and Commonwealth Rent Assistance (CRA) as well as the expansion of CRA to other payment types will also be of assistance (Davidson, Bradbury et al. 2023; Liu, Valentine et al. 2023).

Increasing the supply of affordable rental housing in outer regional and remote areas requires direct investment by governments in the form of social housing. Because access to social housing is determined centrally within states/territories, improvements in the supply of social housing are likely to reduce homelessness across that state/territory. The local benefits should be evident through reduced returns to homelessness. Dedicated effort is required to boost the supply of R1 PRS stock and social housing, to help prevent homelessness and ensure timely exits from homelessness and SHS support when it occurs.

Demographic factors suggest particular groups for targeted assistance and reflect who is most at risk of homelessness

A number of demographic factors were important predictors of homelessness across area types. While the number of men and group households is likely related to the measurement of homelessness in the Census, other demographic markers, such as speaking a language other than English and being in a sole-parent household, are suggestive of groups in need of dedicated assistance and intervention.

There is a clear over-representation of First Nations people in the homeless population, reflecting cumulative experiences of poverty and intergenerational trauma brought about by Australia's history of colonisation and dispossession (Aboriginal Housing Victoria [AHV] 2020) as well as cultural kinship practices around shared living. In addition to improving service responses for First Nations people (see e.g. Samms 2022), continued investment in quality housing and infrastructure in remote communities is vital. Our modelling suggests that such housing will be effective in reducing homelessness.

Broader processes driving socio-spatial inequality are concentrating those at risk of homelessness into areas with more disadvantage, lower rents and lower incomes over time along with low-cost PRS stock. These areas take on particular demographic profiles reflecting the larger population at risk. Concentrations of homelessness occur when people at risk then transition into homelessness in these regions. Building on the literature and our findings, we hypothesise that transitions into homelessness will be higher, and durations of homelessness longer, in areas with a greater shortage of PRS affordable to Q1 relative to local demand. SHSs will have more difficulty resolving people's homelessness in these areas and those experiencing homelessness will find it harder to sustain exits.

Data improvements and future research

Improvements to existing data are needed to enhance the evidence available to inform policy to address and prevent homelessness. In suggesting these improvements, we acknowledge the expertise, hard work and dedication of staff at both the Australian Bureau of Statistics (ABS) and Australian Institute of Health and Welfare (AIHW).

The homelessness estimates produced by the ABS could be improved by including indicators for place of usual residence on the Census short form. This would enable cursory examination of the mobility of people sleeping rough. Further improvements to the collection of information on the relationship between people in households that are sleeping rough, severely crowded households and where people are staying temporarily with friends and family would be useful to assist in understanding the housing response required for this group. We acknowledge, however, that changes to the Census are costly and require detailed technical planning and expertise.

The Specialist Homelessness Services Collection (SHSC) could also be improved in relation household-level information. A unique household identifier would allow a count of households by household type/size that would support more robust estimations of the volume and type of housing required to address homelessness. Such information could also shed light on the impact of homelessness on household and family relationships. However, we note that this would be a substantial piece of work for the AIHW.

Given the significant cost and effort in changing existing collections, linked data may be useful to address some of these issues if an indicator of homelessness or SHSC data could be included. For example, the Person Level Integrated Data Asset auspiced by the ABS combines data across a range of government departments and collections including health, income, taxation, education, income support and demographics.

In conclusion

Our findings strongly emphasise the importance of rental housing (both private rental and social) that is affordable (and available) to Q1 households in addressing homelessness. The very low incomes of Q1 households make housing for this group a considerable challenge. Increasing their incomes through measures such as increasing income support payments and CRA must be considered along with increasing the supply of rental housing targeted at this group. These issues must be a focus of the Australian Government's forthcoming National Housing and Homelessness Plan and broader policies moving forward to address and end homelessness.

This study

This research relied on an updated panel dataset developed by the authors on two earlier AHURI projects, Wood, Batterham et al. (2014; 2015) and Parkinson, Batterham et al. (2019), which comprises data from the ABS Census of Population and Housing, the ABS homelessness estimates, and the AIHW SHSC. We enhanced the data series by including updated and expanded data from the SHSC and data on movement across SA3 areas.

Our work draws on two key measures of homelessness: the rate per 10,000 persons and national share for each area, and how these have changed over a 20-year period. The rate of homelessness per 10,000 persons measures the prevalence of homelessness relative to population size, while the share of national homelessness indicates where most homelessness is located. Detailed descriptive analysis, GIS choropleth mapping and spatial modelling are used to explore the changing geography of homelessness and its relationship to SHS capacity and supplies of affordable rental housing. We present national models as well as separate models for capital cities and balance of state areas.

1. Introduction

- **Homelessness remains a significant and persistent problem in Australia that requires policy responses coordinated across all levels of government.**
- **This research investigates the changing geography of homelessness from 2001 to 2021 and the role of structural factors such as rising inequality, poverty, supplies of affordable rental housing, labour markets and area-level demographic factors in shaping this geography.**
- **We understand the changing geography of homelessness as embedded in the larger processes shaping the changing geography of housing and labour markets, poverty and inequality in Australia.**
- **This project extends a detailed data series developed by the authors on two earlier AHURI projects using data from the Australian Bureau of Statistics (ABS) Census of Population and Housing, ABS homelessness estimates, and the Australian Institute of Health and Welfare's Specialist Homelessness Services Collection (SHSC).**

In recent decades, Australia has experienced growing disparity in household incomes and a decline in housing affordability as part of a broader pattern of socio-spatial polarisation (Baker, Bentley et al. 2016; Wulff and Reynolds 2010). Such changes are leading to the suburbanisation of poverty and concentrations of disadvantage in the middle and outer suburbs of Australia's capital cities (Pawson and Herath 2015; Pawson, Hulse et al. 2015; Randolph and Tice 2017). The supply of rental housing affordable to those on the lowest incomes is also worsening, with a growing shortage in rental properties affordable to those in lowest two income quintiles (Hulse, Reynolds et al. 2015; Hulse, Reynolds et al. 2014; 2019; Reynolds, Parkinson et al. 2024).

These trends intersected with the COVID-19 pandemic, further exacerbating existing problems with housing affordability and poverty. Despite temporary measures, such as the Coronavirus Supplement for some income support payments, a shrinking supply of private rental housing and sharp increases in rents (Pawson, Martin et al. 2021), particularly in regional areas (Homes Victoria 2022; Pawson 2022), have left more households struggling with housing affordability and increased risk of homelessness. These broad patterns of socio-economic change are likely to impact overall homelessness rates along with the spatial distribution of homelessness in Australia in the 2020s.

Evidence about the broader structural processes driving aggregate rates of homelessness is critical for effective policy responses to end it (Parkinson, Batterham et al. 2019; Wood, Batterham et al. 2015). These factors vary spatially, necessitating investigation using a geographical approach. The release of the 2021 ABS homelessness estimates and other Census data offers an important opportunity to update and extend previous work on the changing geography of homelessness (Parkinson, Batterham et al. 2019; Wood, Batterham et al. 2014; 2015) and investigate the impact of structural factors on homelessness in contemporary Australia.

This previous work revealed that, while rates of homelessness are highest in remote Australia, homelessness has become more urbanised over time: two-thirds of those experiencing homelessness were found in Australia's capital cities in 2016 (Parkinson, Batterham et al. 2019). Parkinson, Batterham et al. (2019) also found that, in both capital cities and regional areas, homelessness was rising in areas with a shortage of affordable private rental housing. In contrast, the strongest determinant of homelessness in remote areas is First Nations background, with many First Nations people experiencing severe overcrowding. That factors driving homelessness rates vary across areas suggests a spatially nuanced response is required to meet the policy challenge.

Specialist homelessness services (SHSs) are under-resourced to meet present demand (AIHW 2022a; Spinney, Beer et al. 2020). There is also a question about how well located SHSs are relative to local demand. Previous research has shown that most SHS capacity is located in inner-city areas, but that homelessness rates are increasing in middle and outer parts of capital cities (Batterham, Cigdem-Bayram et al. 2022). Nationally, in 2016–17, 48 per cent of SHS accommodation capacity would have needed to shift across SA3 boundaries to more closely align with the geography of homelessness (Parkinson, Batterham et al. 2019). Locational mismatch of service capacity and homelessness could exacerbate homelessness in some areas and hamper its resolution.

Our work relies on point-in-time data to explore the spatial distribution of homelessness in Australia and its relationship to other area-based factors such as housing and labour markets, inequality and demographics. However, if people experiencing homelessness are highly mobile across SA3 boundaries and large geographic areas, then point-in-time homelessness estimates will be limited in the insights they can provide into these relationships. This issue was raised by Wood, Batterham et al (2015) in the first set of reports in this data series and subsequently investigated by Batterham (2023). The homelessness estimates in ABS TableBuilder (2016 and 2021) allow a direct assessment of the movement of people experiencing homelessness, and other groups, across SA3 boundaries and can provide a critical assessment of the utility of the homeless estimates for policy and planning purposes.

This project addresses the overarching policy questions: What structural factors are important in driving short- and longer-term changes in the incidence and geography of homelessness over the period 2001–21? To what extent is the location of SHSs and affordable rental housing adequate to respond to this changing geography?

These broad policy questions are answered through the following three research questions:

- RQ1: How does the incidence of homelessness vary within and between regions, states and territories over time?
  a. Is homelessness becoming more or less spatially concentrated?
  b. Is the composition of the homeless population (in terms of operational groups and demographics) changing over time across regions, states and territories?
  c. What proportion of people experiencing homelessness move across SA3 boundaries and how does this compare to other groups?
- RQ2: Where are people experiencing homelessness located in relation to specialist homelessness services and affordable rental housing (both private and public)?
- RQ3 What role do structural factors such as supplies of affordable private rental housing, demographics, labour markets, poverty and inequality play in shaping differences in rates of homelessness across Australia?

1.1 Policy context: housing, welfare policy and homelessness in Australia

Before we provide more detailed policy context on homelessness in Australia, it is useful to briefly summarise the key features of Australia's housing market and welfare system as critical context for homelessness policy in Australia.

Australia has a market-based housing system with policy settings that strongly encourage home ownership based on the assumption that ownership will help address poverty and build wealth across the life course (Burke, Nygaard et al. 2020). At the time of the 2021 Census, some 66 per cent of Australian households were in owner occupation, either with or without a mortgage.

Just over a quarter of Australian households (25.5%) rent in the private market where they have limited rights and security of tenure compared with households in Europe and the United Kingdom, despite recent tenancy reform in most states and territories (Martin, Hulse et al. 2022). Private rents are set by the market and many jurisdictions still have no-fault evictions (Martin, Hulse et al. 2022).

Australia also has a small social housing sector that includes public housing that is owned and managed by state and territory governments, and community housing that is owned and managed by not-for-profit providers. The sector is small by international standards, falling from 6 per cent of dwellings in 1996 to just 3.8 per cent of all private dwellings in 2021 (Reynolds, Parkinson et al. 2024), and highly targeted to the most disadvantaged households (Flanagan, Levin et al. 2020). Recent research estimated a significant shortfall in the supply of social housing relative to need (Flanagan, Levin et al. 2020). The majority of Australia's low-income renters are housed in the private rental sector (PRS). In 2021, there were 425,000 Q1 households in the PRS compared with 216,000 Q1 households in social housing (Table 1).

At the 2021 Census, around 3.83 million Australian households had very low (quintile 1 or Q1) and low (quintile 2 or Q2) incomes (see Table 1).[1] Approximately 60 per cent of these lower-income households were in owner occupation in 2021, with a large cohort being retirees who own outright, yet have incomes placing them in the first and second income quintiles. However, many are renting either in social housing (11.2% of Q1 households and 4.2% of Q2 households) or in the PRS (22% of Q1 households and 29.5% of Q2 households).

1 'Q1' household incomes are those that fall in the lowest 20 per cent (the bottom quintile) of the national gross household income distribution – also referred to as 'very low-income' households. 'Low-income' households are those with incomes in the next 21–40 per cent of the distribution, that is, the second-lowest quintile or 'Q2' households.

Table 1: Tenure by household income quintile, Australia 2021

	Q1 household income		Q2 household income		Q3 & above household income		All households	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Outright owner	917,000	47.5	720,000	37.9	1,235,000	22.7	2,871,000	31.0
Purchaser	222,000	11.5	422,000	22.2	2,598,000	47.7	3,242,000	35.0
Private renter	425,000	22.0	560,000	29.5	1,378,000	25.3	2,363,000	25.5
Social renter	216,000	11.2	79,000	4.1	53,000	1.0	348,000	3.8
Other tenure	150,000	7.8	118,000	6.2	181,000	3.3	449,000	4.8
Total	**1,929,000**	**100.0**	**1,899,000**	**100.0**	**5,445,000**	**100.0**	**9,273,000**	**100.0**

Source: Unpublished customised 2021 Census data held by the research team.

Australia's income support or social security payments are administered through a statutory body (Centrelink) that operates nationally. Australia spends less on direct transfers than most other OECD countries (Matznetter and Mundt 2012), however, most transfers are highly targeted to those with the lowest incomes. Despite these transfers, the majority of people with incomes below the poverty line in Australia are reliant on income support payments (Davidson, Saunders et al. 2018).

Most people experiencing homelessness have incomes in the lowest income quintile and rely on income support payments as their main source of income (AIHW 2022a). The main income support payments that people experiencing homelessness receive are working age payments such as JobSeeker (the payment for people who are unemployed), Parenting Payment and the Disability Support Pension (AIHW 2024a). Many, though not all, of those on income support payments are eligible for Commonwealth Rent Assistance (CRA), which is an additional supplement to help meet the costs of renting in the private rental market – though it is widely argued to be inadequate to prevent or alleviate housing stress (Liu, Valentine et al. 2023).

Further, the majority of those at risk of homelessness are receiving income support payments and many (45%) have incomes in the lowest-income quintile (Batterham, Nygaard et al. 2021). In this research, we therefore focus on rental stock that is affordable to households with very low (Q1) incomes, many of whom are in receipt of income support payments.

SHSs are the main programs supporting people experiencing, or at imminent risk of experiencing, homelessness in Australia. SHSs are jointly funded by the Australian Government and states and territories. The current funding agreement – the National Housing and Homelessness Agreement (NHHA) – requires states and territories to develop homelessness and housing strategies as a condition of funding. In the 2022–23 financial year, SHSs supported 273,600 people across Australia, with more than 1.6 million people assisted since July 2011 (AIHW 2024a).

SHSs provide a variety of support services including case management, advice and information on accommodation, assistance with applications to public and community housing, health and medical services, drug and alcohol or mental health support, material aid, general counselling, employment assistance, legal and court support, and referrals to other specialist services. For a full list of services see AIHW (2024a).

In addition to these support services, SHSs also provide accommodation. This includes SHS-managed crisis accommodation and refuges (which typically have stays of between six weeks and three months), and medium-term accommodation such as the transitional housing program in Victoria (which provides tenancy agreements in three-monthly blocks) (Batterham, Tually et al. 2023). SHSs also provide a small compliment of permanent supportive housing that provides ongoing support for people experiencing long-term homelessness, and a small number of other long-term options, such as youth foyers, that typically provide support and accommodation for young people engaged in education and training for up two years. All SHSs receive funding under the NHHA and are required as a condition of funding to provide data on service use through the SHSC.

1.2 The impact of the COVID-19 pandemic on homelessness and housing in Australia

The arrival of the COVID-19 pandemic in March 2020 saw several interventions in housing, homelessness and welfare policy that had significant impacts on people experiencing or at risk of homelessness. These unprecedented policy interventions no doubt influenced rates of homelessness at the time of the 2021 Census: while some measures had been wound back, others were still in place and Australia's largest two capital cities were in lockdown.

The pandemic laid bare existing institutional fault lines and further exacerbated social and spatial inequalities among people living in more disadvantaged areas, in shared or crowded dwellings, and between essential workers with a greater risk of exposure to the virus. Many people were vulnerable to income insecurity due to precarious employment and loss of jobs or hours of work (Borland 2022; Gilfillan 2020a; 2020b).

The initial suite of Commonwealth and state government disaster sector and policy responses were a radical departure from current service provision, income and housing related relief. Although there was significant variation across jurisdictions as to the scope, duration and intensity of support, the combined package of income support, private rental relief programs, rent reduction, eviction moratoria and rapid temporary rehousing in hotel accommodation was largely successful at temporarily preventing and alleviating homelessness (Pawson and Martin 2021).

Two cornerstone national income support responses, JobSeeker Coronavirus Supplement and JobKeeper, were among the first measures designed to support affected businesses and provide an additional income boost for people experiencing a rapid loss of earnings. Despite claims of potential misallocation across businesses, these initiatives provided significant financial relief to support housing stability at the onset of restrictions. However, this foundational income support package did not extend far enough into the pandemic and was not inclusive of employees across all segments of affected labour markets.

Rental relief packages were announced across most states and territories to support renters and rental providers along with temporary regulatory and legislative measures, including a moratorium on evictions and financial support in the form of land tax relief and rebates and mortgage relief to sustain homeowners and investors. In Victoria, the package of private rental assistance was expanded beyond the national eviction moratoria to include a pause on rental increases for six months, tax relief for landlords and a direct rental relief grant to assist existing renters and rental providers. Rent reductions had a significant impact on reducing both arrears and the risk of homelessness. For example, in Victoria, some 72,964 rental reduction agreements were lodged with Consumer Affairs Victoria through the Residential Tenancies Dispute Resolution Scheme. These measures extended through to March 2021 with rental providers that offered a rent reduction able to claim up to 50 per cent reduction on land tax and deferrals of rates (Consumer Affairs Victoria 2021).

Highly targeted state-based programs within the PRS remained in effect, including bond assistance, Private Rental Access Programs and the head leasing of private rental properties via community housing providers.

As in other countries, significant additional funding was provided to SHSs to provide emergency hotel accommodation for people experiencing homelessness, including rough sleepers and those in congregate accommodation, such as boarding houses and SHS-managed services where people had shared bathrooms (Pawson and Martin 2021). By August 2021, the number of people experiencing homelessness accommodated in emergency hotel rooms expanded threefold from those previously supported in crisis accommodation. In Victoria, this translated to around 19,000 people, and in New South Wales 32,518 people, being assisted in crisis hotel accommodation (Pawson and Martin 2021).

The emergency hotel response evolved into the Homeless to Homes program in Victoria to provide exits from hotel accommodation, mostly to private rental accommodation for people experiences homelessness (Department of Families, Fairness and Housing 2022).

Directly following the end of the moratorium on evictions, rental provider–initiated notices rapidly increased. Notices to vacate peaked in April 2021 but remained consistently high throughout much of 2021, particularly during the periods where there were no rental relief support grants in place (Justice Connect 2023). Rents began to increase again in May 2021, suggesting that a large share of renters not only experienced rental increases following this period but also had little protection following subsequent lockdown periods (Reynolds, Parkinson et al. 2024). The interaction of rising rents and limited protection after the moratorium is likely to have influenced homelessness rates on Census night.

These policy and program responses arguably changed the distribution of homelessness across operational groups in the earlier phases on the pandemic. However, by the time of Census 2021 many households, particularly in the most populous cities of Melbourne and Sydney, were still facing severe hardship from the cumulative impact of lost earnings, paying back arrears accrued during the moratorium on evictions, recovering from evictions following the end of the moratorium and recurrent lockdowns. Many people experiencing homelessness who were initially supported through the hotel programs were not able to secure long-term permanent housing.

The reframing of homelessness as a public health crisis during the COVID-19 pandemic legitimated the unprecedented investment in homelessness and rental relief measures but did little to address the underlying structural determinants of homelessness, such as housing supply and the persistence of poverty (Parsell, Clarke et al. 2023). Moreover, despite the crisis providing a window for innovation and longer-term change in housing and homelessness policy (Pawson, Martin et al. 2021; 2022), for most part, homelessness responses returned to the core underpinning framework of the NHHA.

1.3 State and territory initiatives to address homelessness and affordable housing

By and large, states and territories returned to their pre-existing housing and homelessness strategies during 2021. The essence of these strategies, while also targeting support to 'priority homelessness cohorts', continues to emphasise individual self-sufficiency, including building pathways or incentives to move out of social housing into private renting. For instance, the Rent Choice program in New South Wales provides an additional rental subsidy for up to three years for eligible tenants to rent privately. Housing First programs feature across homelessness strategies, as do specific model innovations focused on permanent and affordable housing supply for young people and strategies for ending family violence.

Enhancing sector collaboration and innovation is pervasive across all state and territory strategies. This includes strengthening department linkages with community housing providers and expanding social housing construction through private partnership investment. Some strategies have also outlined specific goals of halving or ending rough sleeping, building on effective collaborative models such as the South Australian Alliance and Adelaide Zero Project (Tually, Skinner et al. 2018). There have also been moves towards establishing portfolio responsibilities to address housing and homelessness, with the establishment of an Office of Homelessness in Western Australia and an Office for Homelessness Sector Integration in South Australia.

However, the pandemic and long-term pressures on the private and social rental sectors have contributed to states and territories' increased recognition of the urgent need to deliver more social housing. Planned additional and ongoing investment in social housing in line with population growth and new pandemic stimulus packages differ across state and territories. The NSW Government's Social and Affordable Housing Fund will provide ongoing financial support to deliver access to 3,000 social and affordable houses at the same time as the government continues to pursue public housing stock transfer policies (NSW Government 2018). The Victorian Government has announced a substantial investment in social and affordable housing through its Big Housing Build initiative – a $5.3 billion investment aiming to deliver 12,000 new homes across Victoria, increasing social housing by 10 per cent (Victorian Government 2023). However, this is against the backdrop of Victoria having the lowest proportion of social housing of any state and territory (AIHW 2023).

State and territory targeted housing support for First Nations communities builds on the former National Partnership on Remote Indigenous Housing policy that was replaced in 2016–18 with the National Partnership on Remote Housing. In 2019, the Council of Australian Governments and the Coalition of Aboriginal and Torres Strait Islander Peak Organisations entered into an agreement as part of Closing the Gap that aims to improve living conditions and housing quality and increase housing supply to address severe and chronic crowding among First Nations communities, particularly in the Northern Territory (AIHW 2019; Memmott, Lansbury et al. 2022). The long-term commitment to addressing crowding in the Northern Territory coincides with an overall decline in recorded Census observations over time in 2016 and again in 2021.

1.4 The changing policy landscape for homelessness and housing in Australia

Following a change of government at the federal level, the Commonwealth and the states and territories agreed to a 12-month extension of the bilateral schedules to the NHHA for 2023–24, and provided an additional $67.5 million to address homelessness. This agreement will be terminated at 30 June 2024 to be replaced with the National Housing and Homelessness Plan, a new funding agreement and a reform agenda aimed at providing a more unified approach to significantly increasing housing supply and alleviating affordability pressures (Australian Government 2023; Department of Social Services, 2023).

A core focus of the National Housing and Homelessness Plan will be to alleviate significant shortfalls in housing by building over 1 million dwellings, including social, affordable and private rental homes, between 2024 and 2029 through the National Housing Accord. This will include an additional $350 million for 10,000 affordable dwellings under the Accord and a further $10 billion for social housing via the Housing Australia Future Fund to deliver 30,000 social and affordable homes. The plan also outlines a commitment to increasing the capacity of Housing Australia to provide finance for community housing providers, and for increased Social Housing Accelerator payments to state and territory governments for social housing.

Private renters will be further supported with a 15 per cent increase to the maximum Commonwealth Rent Assistance payment and increased provisions via A Better Deal to protect renters' rights. The plan also includes provisions to expand the eligibility for the Home Guarantee Scheme to support transitions into home ownership.

While these policy developments and increased focus on affordable rental housing and homelessness are welcome, there remains a need to understand empirically the factors that drive aggregate rates of homelessness across the country.

1.5 Understanding the processes driving the geography of homelessness

Our focus in the present study is on the changing geography of homelessness in Australia and its connection to broader structural factors such as housing markets, labour markets, poverty, inequality and the demographic profiles of areas. This interest is driven by an urge to better understand the causes of homelessness to, in turn, inform policies that better address and prevent it. We acknowledge the growing consensus that has emerged over many years that both agency and structures matter in explaining the causes of homelessness (Lee, Shinn et al. 2021); however, we also note that the connection between the two is dynamic and relational across different locations (Batterham 2019; Fitzpatrick 2005).

Previous quantitative research has sought to isolate area-based structures, such as labour markets, median rents and provision of public housing, that underpin geographic variations in homelessness, using macro data alone (Appelbaum, Dolny et al. 1991; Bohanon 1991; Bramley 1993; Bramley and Fitzpatrick 2017; Early and Olsen 2002; Elliott and Krivo 1991; Florida, Mellander et al. 2012; Honig and Filer 1993; Lee, Price-Spratlen et al. 2003). Other research has used combined micro and macro data to interrogate the interactions between current and past individual attributes with wider area-based structures (Batterham 2020; Haupert 2023; Johnson, Scutella et al. 2015a; 2015b; Kang 2022; O'Flaherty 2004).

In this section we discuss some of the socio-spatial processes shaping changing housing and labour markets, concentrations of poverty, inequality and demographics to situate concurrent changes in the geography of homelessness. We contend that the uneven distribution of homelessness across Australian cities and regions can also be understood within the broader processes shaping widening socio-spatial inequality.

Spatial theories used to explain the uneven clustering of homelessness rates have varied depending on the area of interest, such as rural versus city locations, the type of homelessness experienced, and the unique built environment features or amenities and services located within areas. These spatial clusterings or concentrations have been conceptualised through different lenses, from the 'honey pot or magnet' hypothesis (Corbett 1991; Loveland 1991) to processes of neighbourhood sorting and selection and associated patterns of segregation among specific population groups living in particular neighbourhoods, districts or service provision catchment areas (Lee and Price-Spratlen 2004).

More recently, Lee, Shinn et al. (2021) have added a critical, temporal dimension to structural and spatial determinants, conceptualising homelessness and its causes as a 'moving target' in which intersecting micro and macro factors coalesce over time, affirming the importance of understanding homelessness within its changing context. From a structural perspective, these moving targets reflect the intersections of dominant social cultures, discrimination and unequal power relations, changing labour and housing market conditions and dynamics, demographic shifts and migration, policy paradigms, innovation, and provision for income and housing related support as well as shocks and disasters – with the most pressing being COVID, but also the effects of climate change and forced mobility (Denisse, Verissimo et al. 2023; Lee, Shinn et al. 2021).

Within this dynamic framework, the geography of homelessness has been linked to broader processes of segregation, urbanisation and financialisation associated with widening inequality or polarising labour and housing markets that unevenly impact the chances of experiencing homelessness within a given community (Ballas, Dorling et al. 2017; Parkinson, Batterham et al. 2019). For instance, in Ireland, Lima, Hearne et al. (2023) extend their analysis of homelessness and evictions to the broader structures generating declining affordability in the PRS emerging from the connections between financialisation, global real estate funds and the growth of institutional landlords.

Stemming from the extensive and cumulative work of van Ham, Tammaru et al. (2021), the Global Segregation Thesis posits that cities have been undergoing significant spatial restructuring alongside growing inequality due, in large part, to the professionalising of the top socio-economic groups who prefer to live close to the centre of major cities or to attractive coastal areas. This process represents a moving target for understanding the spatial distribution of homelessness via the temporal lags of neighbourhood change and gentrification – or the 'upgrading and downgrading' of areas. Tougher municipal policies inhibiting rough sleeping in central city areas have also impacted where people experiencing homelessness can gravitate to and congregate (Petty and Young 2020).

Within segregation approaches, homelessness rates will be higher in areas with higher concentrations of poverty or low incomes (Batterham, Nygaard et al. 2021; Wood, Batterham et al. 2014) and inequality (Shin 2023); where there is heightened competition to occupy limited affordable housing stock; and within 'tight housing markets' with high demand from low-income individuals, especially single persons and larger families (Bartelt, Eyrich-Garg et al. 2017; Hanratty 2017; Lee, Price-Spratlen et al. 2003; Stephens and Leishman 2017). Such patterns are a particular feature of homelessness in the United States, although they may also be apparent in some highly concentrated rental areas, where studentification, crowding and the risk of homelessness are located in otherwise more expensive markets (Parkinson, Liu et al. 2022).

In Australia, wider processes of spatial inequality and segregation shaping concentrations of disadvantage are observed in middle and outer areas of capital cities. This 'suburbanisation of disadvantage' is likely also contributing to a parallel process of suburbanisation of homelessness (O'Donnell 2018). This spatial patterning or clustering of homelessness differs from other international cities, especially in the US, where homelessness, specifically rough sleeping, is more densely concentrated within inner central business district locations clustered around services and other built environment structures, such as bridges (Shin 2023).

The growing incidence of socio-spatial inequality and segregation, particularly evident in the major cities of Sydney and Melbourne, has been driven by push and pull factors relating to the supply and demand of affordable rental properties (Baker, Bentley et al. 2016; Randolph and Tice 2017; Sydes and Wickes 2021). From a demand or household perspective, 'positional competition' (Goldstein and Hastings 2019) to occupy the rapidly gentrifying inner-urban and middle suburbs is squeezing lower-income households out of former low-income locations, causing them to move further away from central city locations; depleting options for those lower-income households that remain; and changing area compositions in terms of cultural diversity, poverty and disadvantage.

On the housing supply side, the growing tendency for investors to purchase rental properties in low-income but relatively high growth areas fuels 'investification' in these areas (Hulse and Reynolds 2018). Focusing specifically on Western Sydney, Pawson and Martin (2021) find that many investors are multiple or aspiring multiple property owners and that their investment decisions are shaped by purchasing debt-financed affordable properties for rental returns and capital gains to leverage further property investment.

In explaining why we see concentrations of homelessness in areas with relatively more low-cost private rental housing, social housing, lower incomes and greater disadvantage, previous work has suggested a role for sorting shortages of affordable rental housing and poverty (Batterham 2020; 2023; Parkinson, Batterham et al. 2019; Wood, Batterham et al. 2015). Each of these factors are connected to the broader processes driving socio-economic inequality across Australia. Sorting may be involved if people experiencing homelessness move to areas where there is more low-cost, private and social rental housing to resolve their homelessness. A local shortage of low-cost, private rental housing relative to demand may play a role, as low-income households need to compete for limited stock, increasing search times, selection barriers, and reliance on informal networks for housing associated with couch surfing and crowding (Batterham, Cigdem-Bayram et al. 2022; Parkinson, James et al. 2018). At the same time, poverty may be a proxy for those at risk of homelessness, with such people being disproportionately located in areas with more low-cost, private rental housing, social housing, lower incomes and greater disadvantage. Those at risk of homelessness then transition into homelessness in these areas. These ideas inform our sub-research question on mobility among those experiencing homelessness and our focus on the supply of affordable PRS for Q1 households relative to local demand.

1.6 Research approach

This report, the latest of three, presents the findings of the analysis of a data series developed to investigate the changing geography of homelessness in Australia and the role that structural factors play in shaping this spatial distribution. With the release in 2021 of the ABS homelessness estimates and broader Census and SHS data collections, the data series developed by the research team now covers five Census periods over 20 years (2001, 2006, 2011, 2016 and 2021). The current project not only extends the data series with the latest Census and SHS data but also enhances the results with an analysis of more comprehensive SHSC data and an examination of the demographics and mobility of persons experiencing homelessness.

1.6.1 Defining homelessness

Core to this series of research projects is the analysis of the spatial distribution of persons experiencing homelessness. Such persons are identified using the ABS statistical definition of homelessness that is operationalised largely from data collected through the national Census and supplemented with information from other relevant sources.[2] In 2012, the ABS published its statistical definition of homelessness (ABS 2012c), and this definition and methodology have been consistently applied (with minor improvements) across Censuses from 2001 to 2021. Broadly, the definition adopted by the ABS emphasises the 'home' in homelessness, because 'home' involves core elements such as 'a sense of security, stability, privacy, safety, and the ability to control living space. Homelessness is therefore a lack of one or more of the elements that represent "home"', and is not only about 'rooflessness' (ABS 2012c). In sum, the ABS define someone as experiencing homelessness if they 'do not have suitable accommodation alternatives' and their current living arrangement:

- *is in a dwelling that is inadequate; or*
- *has no tenure, or if their initial tenure is short and not extendable; or*
- *does not allow them to have control of, and access to space for social relations. (ABS 2012c; 2023a)*

In applying this definition to the Census, which does not ask direct questions pertaining to homelessness, the ABS enumerate six presentations of homelessness, referred to as operational groups:

- operational group 1: people in improvised dwellings, tents or sleeping out (rough sleeping)
- operational group 2: people in supported accommodation (including shelters) for the homeless or in transitional housing
- operational group 3: people staying temporarily with other households (including with friends and family)
- operational group 4: people staying in boarding houses
- operational group 5: people in other temporary lodging (i.e. those with low-income reporting 'no usual address' in lodgings such as hotels or motels)
- operational group 6: people living in severely overcrowded conditions (according to the Canadian National Occupancy Standard [CNOS][3])

2 For the 2021 Census, the ABS increased the use of administrative data from governments and service providers to identify the location and nature of the homeless population. Further detail is provided in ABS (2023a).

3 The CNOS specifies that no more than two persons should share a room with specific clauses about the age and gender of the occupants and couples. Under the CNOS, a dwelling is considered severely overcrowded if four or more additional bedrooms are needed to accommodate the residents. For more information, see ABS (2012c).

The detailed methodology employed by the ABS to classify Census data for these operational groups is originally detailed in ABS (2012a). The methodology released with the 2021 estimates updates this information and outlines the minor improvements to the classification approach since 2011 (ABS 2023a). Appendix 2 provides some further technical information about this method and changes over time. The ABS homelessness estimates are analysed in this report using the operational groups but, in the main, we aggregate these operational groups into one measure of total homelessness.

1.6.2 Spatial units and spatial scales of analyses

The ABS-defined Statistical Area Level 3 (SA3) is the finest spatial unit for which data are analysed in this research. SA3 was chosen in the first project in this series (Wood, Batterham et al. 2014) because it is the smallest geographical area for which homelessness estimates are consistently available for the operational groups listed above. The 334 (in-scope[4]) SA3s can also be aggregated to form larger regions and results in this study are reported at the following spatial scales:

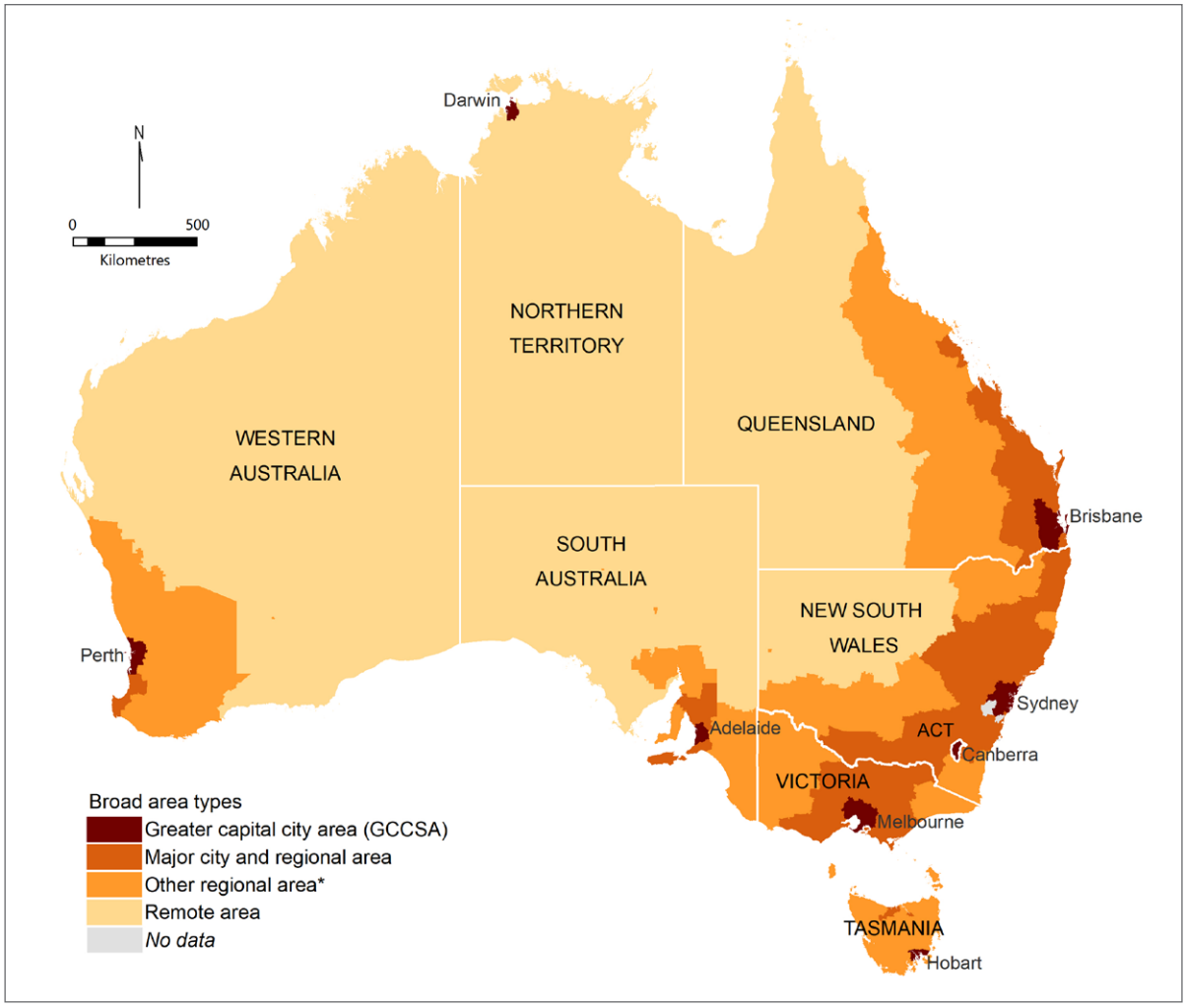
- national
- state and territory
- greater capital city and rest of state areas: defined using ABS Greater Capital City Statistical Area (GCCSA) geographic units[5]
- individual SA3s: mapping and spatial units for modelling
- four broad area types: following Batterham, Cigdem-Bayram et al. (2022), the 334 SA3s were aggregated and classified into four broad area types, rather than the three analysed in Parkinson, Batterham et al. (2019). Four areas better capture the variation in the population distributions of the regional areas outside of the major regional centres/cities. The area types are based on a modified version of the ABS Remoteness Area (RA) classification that divides Australia 'into five classes of remoteness which are characterised by a measure of relative geographic access to services [via road access]' (ABS 2023b).[6] The modified RA categories produced the following four broad area types (mapped in Figure 1):
  - GCCSAs: aggregation of SA3s within each state/territory GCCSA (185 SA3s)
  - major cities and regional areas: other 'major cities' outside the capitals combined with 'inner regional' areas (89 SA3s)
  - other regional areas (44 SA3s)
  - remote areas: 'remote' and 'very remote' areas combined (16 SA3s).

4 In 2021, SA3s had populations ranging up to nearly 300,000 people but the average population was around 76,000. SA3s with populations below 100, non-spatial SA3s and those 'other territory' SA3s were excluded from the analysis. As there were no SA3 boundary changes between 2016 and 2021, the homelessness estimates and relevant Census information for 2021 could be integrated with the existing 2001–16 panel dataset without the need for data correspondence files (see Parkinson, Batterham et al. 2019: 13 for more information).

5 GCCSA boundaries represent labour markets and the functional area of state/territory capital cities. They are designed by the ABS to be stable over time. Within each state/territory, the area not included in the GCCSA is represented by a rest of state region. The Australian Capital Territory has only one region for the entire area (ABS 2021).

6 Very fine spatial units are used in in the construction of the ABS RA classification. The classification is not published at the relatively large SA3 level due to internal variation in RA types in many SA3s. In our dataset, 163 SA3s recorded more than one RA type. In such instances, the RA type with the highest proportion of the SA3 population was extended to the entire SA3.

Figure 1: Four broad area types analysed in the descriptive analyses



Due to the large spatial size of SA3s, the 'other regional areas' around Perth and to the north of Adelaide have been shaded only where most of the population live. The shading does not, therefore, follow the exact SA3 boundary but represents more accurately where the populations of the SA3s are concentrated.

Source: ABS digital Statistical Geography Boundaries 2021 (aggregations of SA3 boundaries based on modified ABS Remoteness Area classifications).

1.6.3 Data sources and key measures

ABS Census: homelessness estimates

The analysis of homelessness estimates obtained from the ABS website relies on two key measures of homelessness: the rate per 10,000 persons and each region's share of national homelessness (national share). The rate of homelessness per 10,000 persons measures the incidence of homelessness in relation to the size of the local population in each SA3 and is useful in understanding areas where people are more or less likely to be homeless. The national share of homelessness is expressed as a percentage and indicates where most people experiencing homelessness are located. This measure is particularly useful for policy makers when considering the allocation of resources. Definitions of these variables as well as descriptives for each year are provided in Appendix 1.

ABS Census: Time Series Profile and TableBuilder

The existing panel database was updated with corresponding Census 2021 variables sourced from the ABS Time Series Profile and, where required, TableBuilder (the online ABS tool for accessing Census data). These variables include the area-level demographic, labour market and general housing variables at the SA3 level. A full list of these variables, along with their descriptive statistics, is included in Appendix 1, Section 2.

The mobility of those experiencing homelessness was examined using two Census variables sourced from TableBuilder for 2016 and 2021: place of usual residence one year ago and usual address one year ago. From these variables, four locations at which persons were usually residing one year prior to the Census could be identified: 1) at the same address (as Census night); 2) at a different address but same SA3; 3) overseas; 4) they had no usual address (not applicable cases were those not born one year prior to the Census). For context, the mobility of those experiencing homelessness is compared with persons living in low-income private renter households as well as all persons. We also look separately at those experiencing severe overcrowding – the largest operational group.

ABS Census: customised variables

Customised Census data files were requested from the ABS and specified to match those acquired for the previous projects. Three data files were obtained: the number of households in each national gross household income quintile (with quintiles calculated by the ABS); SA3 median weekly private rent (in dollar amounts); and a matrix of private rental households by household income quintile and affordable rent category (affordable rent being no more than 30% of the upper value of the quintile income range). The dollar amounts for each Census year for the household income quintiles and corresponding affordable rent categories are included in Table 18 in Appendix 1. The measures derived from these datasets are described and analysed in Chapter 3, Sections 3.3 and 3.4 that explore the relationship between homelessness and supplies of rental housing affordable to households with the lowest incomes.

Specialist Homelessness Service Collection (SHSC)

The SHSC is comprised of data assembled from specialist homelessness services that receive government funding under the NHHA. Such agencies are required to contribute data to the SHSC as a condition of funding.

SHSC data were obtained at the SA3 level for the 2016–17 and 2021–22 financial years, providing key measures of the total number of clients who were supported by an SHS and the total number who were provided with accommodation (see Appendix 1 for a definition of these and other variables). While similar data were obtained for the Parkinson, Batterham et al. (2019) report, the SHSC has undergone a range of data improvements and the method for allocating clients to geographic areas has also improved. As such, the results presented in Chapter 3 are not comparable with the earlier report.

In addition to these measures of service capacity, we also obtained information on presenting unit, which is a proxy for household type; the number of clients in a region who are returning for assistance (as opposed to new clients who are presenting for assistance for the first time); and the number who were deemed to be homeless (as opposed to at risk or not stated) on presentation to services.[7]

1.6.4 Panel database

The panel database was constructed by combining data from the four key data sources for 2021 – ABS homelessness estimates, area level data from the Census, customised request data from the Census and a suite of items from the SHSC – into a single wide file in Stata using the SA3 code (a unique area-level identifier across datasets). We also merged geographical information such as state/territory, remoteness concordances, and greater capital city and balance of state areas codes.

All derived variables were then generated for 2021 (such as the rate per 10,000 persons and national shares). These data were combined with the existing wide file that includes data from the previous four Census periods (2001, 2006, 2011, 2016). This produced 1,670 observations for the 334 SA3s spanning five Census periods. A long file version of the dataset was also created specifically for use with the modelling. This long file did not include the SHSC data, which were only available for the 2016–17 and 2021–22 financial years, or the mobility data, which were available for 2016 and 2021 and analysed separately.[8]

Descriptive analysis was conducted using Stata and Excel, with maps produced in MapInfo. Modelling was undertaken using Stata. To analyse the panel data, we created aggregate tables using various spatial scales for our various indicators, using multiple measures of spatial concentration. We produced Pearson's correlations coefficients and mismatched coefficients, as well as various maps and figures. Our approach to modelling was iterative and involved a range of sequential tests as we reported and refined our results. More detail on the precise methods used are detailed in the relevant empirical chapters.

1.7 The structure of this report

The report is structured around the three research questions, each addressed in a separate empirical chapter. Chapter 2 addresses RQ1, exploring and describing the changing geography of homelessness across Australia. Chapter 3 focuses on RQ2 and provides a descriptive analysis of the relationship between homelessness and SHS capacity, public housing and supplies of affordable private rental housing. The chapter concludes with a preliminary look at the housing response required to address homelessness for SHS clients in one financial year. RQ3 is addressed in Chapter 4, in which findings of the detailed modelling exercise are reported. The report concludes in Chapter 5 with a summary of key findings, opportunities for data improvements and a range of policy options for policy makers to consider.

7 These data items are based on clients first presentation for assistance in the relevant financial year.
8 Information about concording data to the same spatial units for previous waves of the panel is included in Wood, Batterham et al. (2014; 2015) and Parkinson, Batterham et al. (2019).

2. The changing geography of homelessness 2001–21

- This chapter explores how the incidence of homelessness varies within and between regions, states and territories over time.
- Two measures of homelessness at the SA3 level are presented: a rate of homelessness per 10,000 persons, which denotes the prevalence of homelessness taking into account population size; and a region's share of national homelessness, which reveals where most people experiencing homelessness are located.
- Homelessness was and remains a stubborn problem in Australia with little movement in the national rate of homelessness over time. In 2001, homelessness rates were 50.8 per 10,000 persons and in 2021 they were 48.19 per 10,000 persons.
- Despite a marked decrease in homelessness rates, the Northern Territory has retained its position as the state/territory with the highest rate of homelessness in 2021. Areas outside Greater Darwin are particularly afflicted. In 2001, rates of homelessness in the Northern Territory were almost 32 times the national average, while in 2021 they decreased to around 21 times the national average.
- New South Wales is the state/territory with the highest share of national homelessness and the largest population. Victoria's share of national homelessness has risen well above increases in its share of the national population, rising from 19 per cent in 2001 to 25 per cent in 2021. This increase has been driven by a steady rise in the share of homelessness in Greater Melbourne.

- The Northern Territory showed a substantial decrease in its share of national homelessness, from 17.8 per cent in 2001 to 10.7 per cent in 2021. Both Western Australia and the Northern Territory experienced a decline in the share of homelessness in balance of state areas that may be attributable to previous policies to increase the supply of housing in remote areas. These changes are consistent across the five Census periods.

- Homelessness rates have continued to decline in remote areas, remained relatively stable in greater capital city areas and climbed in major regional areas.

- There has been a marked decrease in the percentage of people experiencing homelessness who are First Nations. There has also been a marked increase in the percentage of people experiencing homelessness who are born overseas, a group known to be prone to severe crowding in greater capital city areas.

- Apart from substantial increases in those staying in temporary lodgings (due to COVID-19 pandemic policies), changes at the operational group level across years are in line with earlier movements between groups in the period of the panel.

- Homelessness is continuing to become less spatially concentrated as indicated by a decreasing Herfindal index and decreasing sigma convergence results.

- People experiencing homelessness are more likely to change address over the 12 months prior to the Census than low-income renters, and Australians more broadly. However, like low-income renters, this group generally remains within its SA3 or greater capital city/balance of state area. Our results provide assurance that point-in-time estimates are a meaningful way of exploring the geography of homelessness.

- The continued trend towards a more urban expression of homelessness suggests that different factors may influence homelessness rates in capital city and rest of state areas. This difference informs our approach to modelling in Chapter 4.

2.1 Introduction

Parkinson, Batterham et al. (2019) and Wood, Batterham et al. (2014) found that while homelessness has remained relatively stable per head of population at the national level, there have been significant changes between states and territories, greater capital city and balance of state areas, and regions over time. Further, using 2016 data, Parkinson, Batterham et al. (2019) found that while homelessness was highest per capita in the remote parts of Australia, there were also intense pockets in the central city areas of most capital cities.

This research found that homelessness has become more urbanised and suburban, with capital cities accounting for an increasing share of homelessness over time (Batterham, Cigdem-Bayram, et al. 2022; Parkinson, Batterham et al. 2019). In line with the trend towards more urbanised geography, we also found that homelessness was moderately spatially concentrated but was becoming more dispersed. These changes observed in the geography of homelessness were not attributable to the composition of the homeless population (i.e. its presentation in terms of operational groups), but, rather, were the result of area-based factors in different regions, including the demographic profiles of those regions (Parkinson, Batterham et al. 2019; Wood, Batterham et al. 2014).

The significance of regional demographic profiles in area-level models could be due to the over-representation of groups more likely to become homeless. Data from both the ABS homelessness estimates and the Specialist Homelessness Services Collection (SHSC) highlight that some demographic groups are over-represented in the homeless population. Both collections show the over-representation of First Nations people. Those experiencing severe crowding – the largest operational group are disproportionately First Nations people in remote areas and recently arrived migrants in capital cities (ABS 2013). Further, those experiencing homelessness in Australia are disproportionately young: according to ABS homelessness estimates, 37 per cent were aged under 25 years in 2021, while the SHSC (AIHW 2024b) reports that 41.2 per cent are aged under 25 years.

ABS homelessness estimates show more men than women experiencing homelessness on Census night; however, the SHSC reports more women than men in this category. This discrepancy is partly due to the inclusion of family violence services in the SHSC, which are overwhelmingly targeted at women and children. Further, the ABS acknowledges that women experiencing family violence in the home would be considered homeless under the statistical definition but that they cannot presently be enumerated using information from the Census (ABS 2012c).

Another explanation for the spatial distribution of homelessness is that people experiencing homelessness are highly mobile and move to particular areas, creating the patterns we observe in point-in-time data.

In examining the areas that people experiencing homelessness and those at risk of homelessness move between, Batterham (2023) found that both groups tend to be in areas with lower household incomes, lower rents and more affordable private rental stock compared to those not at risk but renting. Further, Batterham (2023) found that when those at risk of homelessness move, they tend to move to areas with higher unemployment and greater disadvantage – likely as a consequence of the larger socio-spatial inequalities operating across Australia's cities and regions outlined in Chapter 1. People at risk of homelessness then transition into actual homelessness in these areas (Batterham 2020), contributing to the geography of homelessness we observe in Australia. While acknowledging that some services, particularly statewide services, draw larger populations into city centres, for the most part, homelessness emerges, persists and is resolved in the areas where people have existing links and where demand for affordable private rental accommodation is highest.

Indeed, others have found that housing instability or frequent involuntary moving is more prevalent in areas with higher concentrations of poverty, shared housing and economic hardship (Fertig and Reingold 2008; Kang 2022). Evictions can also have distinct spatial patterns, with Rutan and Desmond (2021) finding that repeated evictions occurred across the same neighbourhoods and within the same buildings. The short-term involuntary mobility of lower-income households means that they tend to remain in more disadvantaged areas, contributing to higher spatial segregation and lower spatial mobility between neighbourhoods over extended periods of time (Memmott, Lansbury et al. 2022; Nieuwenhuis, Tammaru et al. 2020).The 'circular mobility' of First Nations people and households as part of kinship obligations can contribute to distinct socio-cultural experiences of homelessness, including crowding and evictions, but can also be influenced by intersectional experiences of housing insecurity, affordability, discrimination, substandard rental properties, and/or lack of suitable rental properties (Foster, Mitchell et al. 2005; Habibis 2011; Memmott, Long et al. 2006).

This chapter documents and explores the changing geography of homelessness between 2001 and 2021 and, in doing so, addresses our first research question and its sub-questions:

RQ1: How does the incidence of homelessness vary within and between regions, states and territories over time?

a. Is homelessness becoming more or less spatially concentrated?

b. Is the composition of the homeless population (in terms of operational groups and demographics) changing over time across regions, states and territories?

c. What proportion of people experiencing homelessness move across SA3 boundaries and how does this compare to other groups?

In addressing these questions, we rely on two key measures of homelessness: rate per 10,000 persons and national share. We also report the raw number of people experiencing homelessness. We begin by providing a breakdown of changes in homelessness across various spatial scales, including using mapped region level (SA3) data to illustrate the geography of homelessness in 2021 as well as its change over the 20-year period. After this we examine whether homelessness is becoming more or less spatially concentrated using multiple measures of concentration and convergence.

We then look at changes in operational groups and demographics of those experiencing homelessness over time but note that there are some limitations in the analysis owing to the impacts of COVID-19 policies and improvements to the enumeration methodology.

Lastly, an important validity check is conducted on our analysis by exploring the mobility of people experiencing homelessness relative to other groups. The chapter concludes with a discussion of the policy implications of the findings.

2.2 Changes in the geography of homelessness 2001–21

The share of national homelessness along with the share of the national population for each capital city and balance of state area for each of the five Census years of the panel is shown in Table 2. The table provides a high-level overview of changes in the distribution of homelessness across these larger areas, allowing for an assessment of change against changes in the distribution of the total population.

Across all years, New South Wales had the highest share of national homelessness (24.2% in 2001 and 28.6% in 2021). The share of homelessness in New South Wales increased each Census year to 2016, with a small decrease in 2021. Nonetheless, New South Wales remained the state with the largest share of homelessness and the largest share of the population in 2021. Consistent with the trend towards the urbanisation of homelessness reported in Parkinson, Batterham et al. (2019), the overall increase in the share of homelessness appears to be driven by increasing, though fluctuating, shares in Greater Sydney compared with the rest of the state.

While Queensland had the second-highest share of national homelessness in 2001, its share declined slightly over time, with fluctuating shares in both Greater Brisbane and balance of state areas. Alternatively, Victoria's share of homelessness has increased over the two decades, from 19 per cent in 2011 to 25 per cent in 2021, such growth being well above its share of the national population. Similar to New South Wales, this increase has been driven by increases in the share of homelessness in urban areas (i.e. Greater Melbourne).

Western Australia experienced a fluctuating share of national homelessness between 2001 and 2021, and the Northern Territory experienced a marked decrease, with a drop from 17.8 per cent of national homelessness in 2001 to 10.7 per cent in 2021. Both these states/territories experienced decreasing shares in balance of state areas that may be attributable to critical policy initiatives to increase housing in remote First Nations communities. While figures in these states/territories may have been impacted by issues with Census collection in remote areas due to the pandemic, the 2021 figures are consistent with longer run patterns.

South Australia's (SA) share of national homelessness remained stable; however, there is some indication that homelessness is becoming more urban there, with a small increase in the shares in Greater Adelaide at the end of the 20-year period compared with the start (3.4% to 4.5%). Both Tasmania and the Australian Capital Territory have seen a small increase in the share of national homelessness over the period.

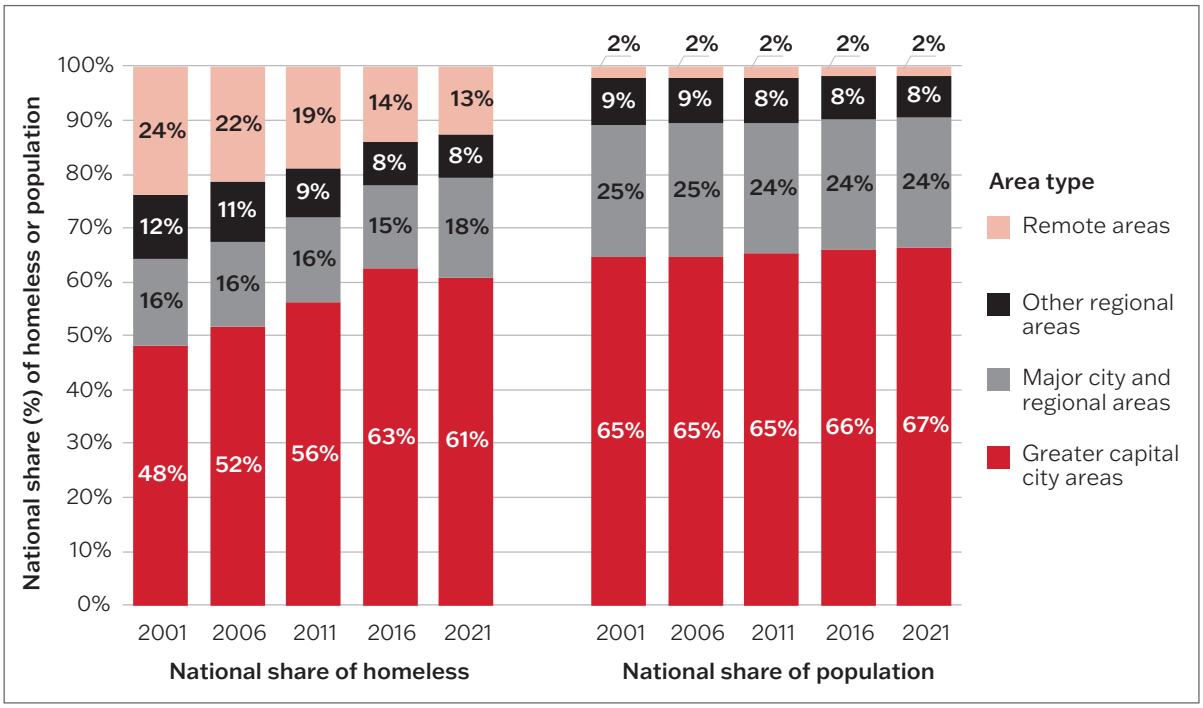
Table 2: Share of national homelessness and national population by state/territory region: 2001, 2006, 2011, 2016 and 2021

	2001		2006		2011		2016		2021	
	Share of homeless	**Share of pop.**	**Share of homeless**	**Share of pop.**	**Share of homeless**	**Share of pop.**	**Share of homeless**	**Share of pop.**	**Share of homeless**	**Share of pop.**
Sydney	16.1	21.0	17.1	20.7	19.3	20.4	24.9	20.6	20.5	20.5
Rest of NSW	8.1	12.6	7.6	12.2	7.6	11.7	7.5	11.3	8.0	11.2
NSW total	24.2	33.6	24.7	32.9	26.8	32.1	32.4	31.9	28.6	31.7
Melbourne	14.5	18.0	15.2	18.2	17.7	18.5	17.6	19.1	19.6	19.2
Rest of Vic	4.5	6.5	4.1	6.4	4.0	6.2	3.7	6.0	5.4	6.2
Vic total	19.0	24.6	19.4	24.6	21.7	24.7	21.3	25.1	25.0	25.4
Brisbane	6.7	8.9	7.3	9.3	6.9	9.6	8.0	9.6	7.3	9.9
Rest of Qld	13.6	10.2	13.7	10.7	11.7	10.8	10.6	10.7	11.0	10.6
Qld total	20.3	19.1	21.0	20.0	18.6	20.4	18.7	20.3	18.3	20.4
Adelaide	3.4	5.9	4.2	5.8	4.0	5.7	4.0	5.5	4.5	5.4
Rest of SA	2.7	1.9	2.0	1.8	1.7	1.7	1.3	1.6	1.5	1.6
SA total	6.1	7.8	6.2	7.6	5.7	7.4	5.3	7.1	6.1	7.0
Perth	4.2	7.4	4.4	7.5	4.6	7.9	4.6	8.2	4.7	8.2
Rest of WA	6.1	2.4	4.8	2.4	4.4	2.5	3.2	2.4	3.2	2.3
WA total	10.3	9.8	9.2	9.9	9.0	10.5	7.7	10.6	8.0	10.5
Hobart	0.5	1.0	0.5	1.0	0.7	1.0	0.7	0.9	0.9	1.0
Rest of Tas	0.8	1.4	0.8	1.4	0.8	1.3	0.7	1.2	1.0	1.2
Tas total	1.3	2.4	1.3	2.4	1.5	2.3	1.4	2.1	1.9	2.2
Darwin	1.9	0.6	1.8	0.6	1.2	0.6	1.5	0.6	1.6	0.6
Rest of NT	15.9	0.5	15.2	0.5	13.7	0.5	10.3	0.4	9.1	0.4
NT total	17.8	1.1	17.0	1.1	15.0	1.1	11.8	1.1	10.7	1.0
ACT	1.0	1.6	1.1	1.6	1.7	1.7	1.4	1.7	1.5	1.8
Australia	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Authors' panel dataset, ABS Census homelessness estimates and TSP 2001–21.

The shares of national homelessness and total population by area type are presented in Figure 2. Relatively stable population shares are evident across all area types; however, homelessness has continued to become more urbanised over time. This is reflected in increasing shares of homelessness located in greater capital cities and, to a smaller extent, major city and regional areas, accompanied by falling shares in remote areas and other regional areas. However, despite these shifts over time, the share of homelessness in remote areas far outweighs the share of the total population in each year.

Figure 2: National shares (%) of homeless persons and population by broad area type: 2001, 2006, 2011, 2016 and 2021



Source: Authors' panel dataset, ABS Census homelessness estimates and TSP 2001–21.

While the share measure is useful in understanding where most homelessness is located, the rate-per-10,000-persons measure reveals where homelessness is highest relative to population size. Both are important measures for policy makers. Rates per 10,000 are shown in Table 3 along with the actual numbers of people enumerated as homeless on Census night in each of the five Census periods.

Homelessness was and remains a stubborn problem in Australia, with little movement in the rate of homelessness nationally: homelessness rates begin at 50.8 per 10,000 persons in 2001 and close at 48.19 per 10,000 persons in 2021. However, this relatively stable national rate of homelessness belies changes at the state/territory, capital city and balance of state area level over the 20-year study period.

New South Wales, Victoria and Tasmania have all experienced fluctuating but increasing rates of homelessness between 2001 and 2021. Consistent with the change in the share of homelessness presented in Table 2, most of the increase in New South Wales is due to the increase in rates of homelessness in Greater Sydney. In Victoria, the increase is more even, with both Greater Melbourne and balance of state areas experiencing an increase in homelessness rates. Both Greater Hobart and the rest of Tasmania experienced increases in the rate of homelessness. The most substantial increases in the past 10 years have been in Hobart, with a more dramatic increase for the rest of Tasmania in just the last five-year period.

South Australia's rate of homelessness experienced minor fluctuations but returned to just above 2001 levels by the end of the 20-year period. While rates of homelessness in Greater Adelaide increased in each of the last five Census periods, the rest of the state experienced a decrease in homelessness rates, apart from an increase in the final intercensal period.

Both Western Australia and the Northern Territory have experienced clear decreases in homelessness rates across the panel, although the decrease in Western Australia appears to have plateaued in the final Census period. These decreases appear to be driven by decreasing rates of homelessness in balance of state areas.

It is worth noting that, despite its marked decrease in homelessness rates, the Northern Territory has retained its position as the state/territory with the highest rate of homelessness in 2021, with areas outside Greater Darwin particularly afflicted. In 2001, rates of homelessness were almost 32 times the national average, while in 2021 they decreased to around 21 times the national average.

Table 3: Number and rate of homeless persons by state/territory region: 2001, 2006, 2011, 2016 and 2021

	2001		2006		2011		2016		2021	
Region	Rate per 10,000	N	Rate per 10,000	N	Rate per 10,000	N	Rate per 10,000	N	Rate per 10,000	N
Sydney	38.9	15,364	37.5	15,378	45.1	19,735	60.2	28,978	48.3	25,154
Rest of NSW	32.5	7,677	28.1	6,829	30.7	7,737	32.9	8,711	34.6	9,830
NSW total	36.5	23,041	34.0	22,207	39.8	27,472	50.5	37,689	43.4	34,984
Melbourne	40.9	13,857	37.8	13,681	45.5	18,108	46.0	20,518	49.1	24,033
Rest of Vic	35.0	4,297	29.4	3,721	31.2	4,144	30.5	4,308	41.8	6,561
Vic total	39.4	18,154	35.7	17,402	41.9	22,252	42.3	24,826	47.4	30,594
Brisbane	38.1	6,357	35.5	6,570	34.3	7,065	41.5	9,337	35.8	8,997
Rest of Qld	67.7	12,959	58.0	12,309	51.6	12,013	49.4	12,373	50.1	13,451
Qld total	53.9	19,316	47.5	18,879	43.5	19,078	45.6	21,710	43.2	22,448
Adelaide	29.4	3,259	32.9	3,771	33.7	4,099	36.1	4,634	40.4	5,562
Rest of SA	74.3	2,585	51.6	1,829	47.4	1,745	41.4	1,563	46.6	1,848
SA total	40.1	5,844	37.3	5,600	36.9	5,844	37.3	6,197	41.8	7,410
Perth	29.1	4,008	26.6	3,975	27.7	4,716	27.7	5,300	28.0	5,795
Rest of WA	128.5	5,791	91.3	4,283	82.1	4,479	65.0	3,714	66.6	3,960
WA total	53.5	9,799	42.1	8,258	40.9	9,195	36.3	9,014	36.6	9,755
Hobart	26.1	498	22.4	446	34.9	729	38.6	848	44.0	1,081
Rest of Tas	29.1	766	26.0	702	28.6	793	27.3	768	40.6	1,246
Tas total	27.8	1,264	24.5	1,148	31.3	1,522	32.3	1,616	42.1	2,327
Darwin	166.6	1,774	140.6	1,613	99.5	1,267	119.3	1,757	129.7	1,986
Rest of NT	1,611.6	15,174	1,437.5	13,668	1,402.5	14,071	1,165.6	11,955	1,037.5	11,171
NT total	844.7	16,948	728.4	15,281	673.6	15,338	548.8	13,712	504.4	13,157
ACT	30.5	943	29.5	958	48.7	1,738	40.1	1,586	39.6	1,789
Australia	**50.8**	**95,309**	**45.2**	**89,733**	**47.7**	**102,439**	**49.8**	**116,350**	**48.2**	**122,464**

Source: Authors' panel dataset, ABS Census homelessness estimates and TSP 2001–21.

Rates of homelessness per 10,000 persons are presented in Figure 3 and Figure 4 at the small area level (SA3) for each capital city and nationally. These figures map these rates by decile (10 equal groups) in 2021, highlighting the highest, nationwide rates (deciles 8, 9 and 10) and the lowest rates (deciles 1 and 2), with the middle deciles (3–7) grouped together.

The maps in Figure 3 show that each capital city in 2021 had at least one SA3 close to their CBD area with a very high rate of homelessness (decile 9 or 10). In Greater Sydney, these areas of high homelessness extended in a corridor 40 kilometres west of the CBD (as far as Mount Druitt and Fairfield, and St Marys in decile 8) and also included two SA3s east of the CBD on the coast. Of 13 SA3s within a 10–15 kilometre radius of the Sydney CBD, eight had rates of homelessness in deciles 8 or above – the highest rates nationally. These areas included Sydney Inner, Canterbury, Strathfield–Burwood–Ashfield, and Marrickville–Sydenham–Petersham (all decile 10). This corridor of high homelessness appears more concentrated compared with 2016 rates presented in Parkinson, Batterham et al. (2019). Low rates of homelessness are evident in the northern and north-west regions (e.g. Manly and Ku-ring-gai) as well as in the south of Greater Sydney in areas such as Sutherland–Menai–Heathcote on the coast.

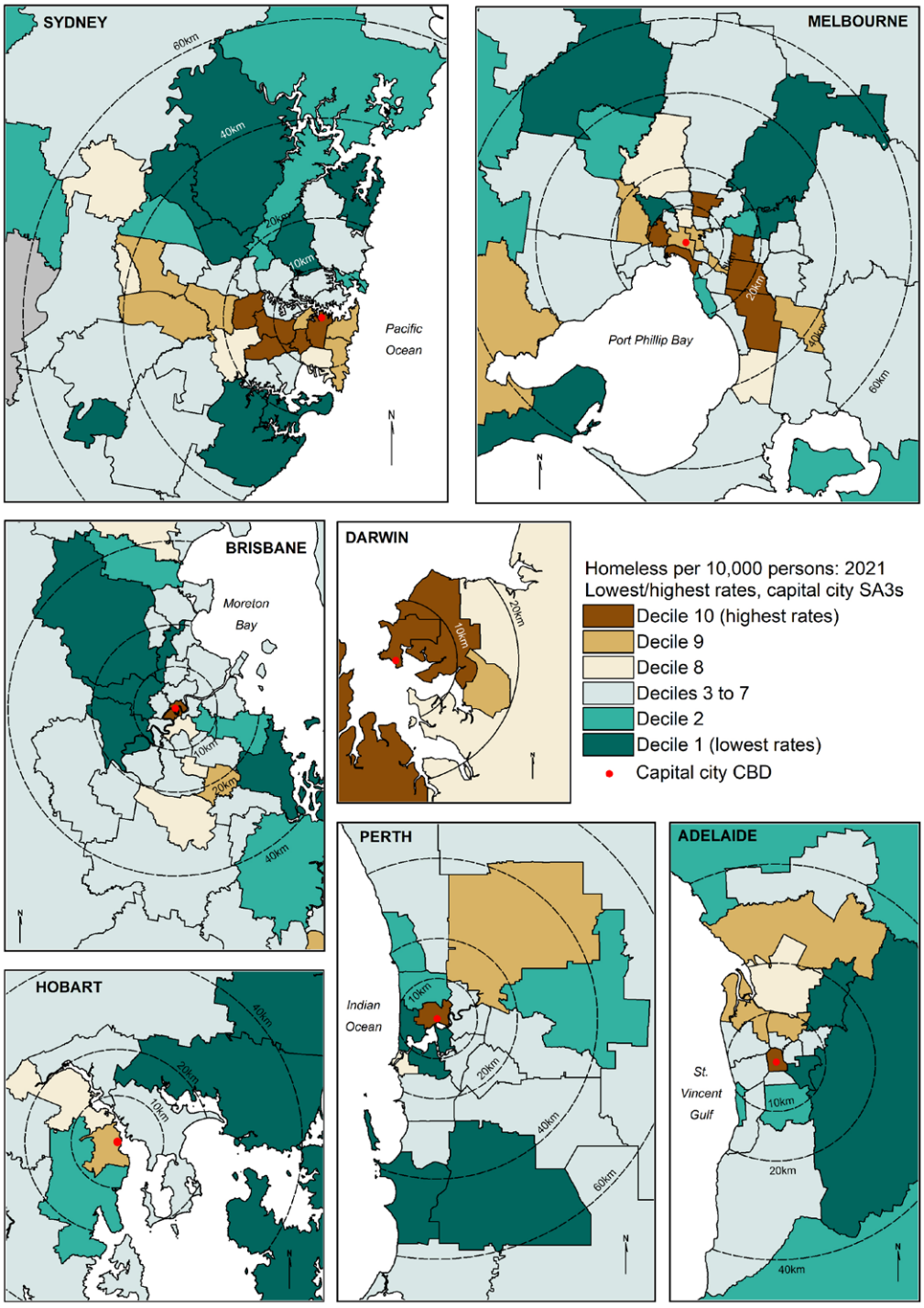
In Greater Melbourne in 2021, very high rates of homelessness were also recorded in SA3s close to the CBD (including Maribyrnong and Port Phillip in decile 10, and Melbourne City, Yarra and Stonnington East in decile 9). Greater Melbourne had another four SA3s with homelessness rates in the highest national decile: Darebin North (10–15 kilometres north of the CBD); and to the east and south of the CBD were Whitehorse West, Monash and Dandenong, forming a north–south corridor, approximately 15–30 kilometres from central Melbourne. High homelessness rates were also enumerated in two further SA3s around 40 kilometres south-east of central Melbourne: Casey North (decile 9) and Frankston (decile 8). To the west and north of the CBD were Brimbank (decile 9) and Tullamarine–Broadmeadows (decile 8).

A somewhat different pattern is evident in Australia's third-largest capital city, Brisbane, where only one SA3 was in the highest homelessness rate decile, one was in decile 9 (Springwood–Kingston, 20 kilometres south-east of the CBD) and three in decile 8 (Holland Park–Yeronga in inner Brisbane, Sunnybank in the middle ring and Browns Plains, over 20 kilometres from the CBD). Nonetheless, like Sydney and Melbourne, the highest rate of homelessness was found in the central city area (the Brisbane Inner SA3). Rates of homelessness in the remainder of the SA3s in the Greater Brisbane area fell into the mid- or low-decile ranges.

The SA3s covering the CBD areas of Perth, Adelaide and Darwin all had rates of homelessness that were in the highest national decile in 2021. The CBD area of Hobart was in the second highest decile. In the Greater Perth area, only two other SA3s had nationally high rates of homelessness: Swan (in the north-east, decile 9) and Fremantle (south-west of the CBD, decile 8). In Greater Adelaide, all the SA3s stretching between 5 and 30 kilometres north of the CBD had high homelessness rates and included areas such as Port Adelaide East and West, Salisbury and Playford in the outer ring. The smaller city of Darwin had a high rate of homelessness across all areas and Hobart had one other SA3 extending north-west of the city (Hobart North West) in decile 8.

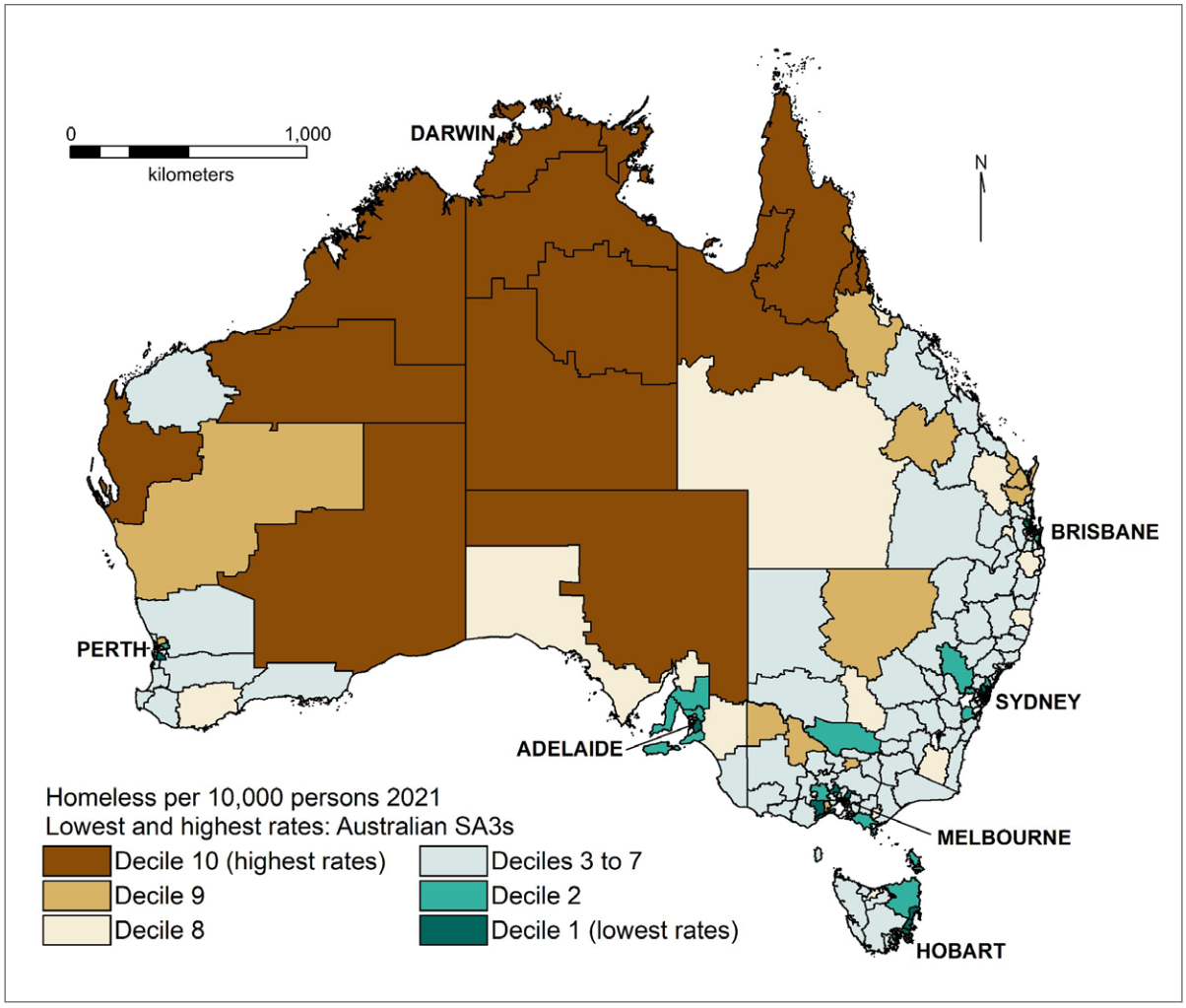
The national view of homeless rates in 2021 is presented in Figure 4. The map shows high homelessness rates across much of Australia's remote central and northern areas. Only in the more populated, coastal areas were homelessness rates lower, and the SA3s were in the middle deciles. Very low rates are evident in the areas bordering the greater capital city areas of Adelaide, Melbourne and Sydney.

Figure 3: Lowest and highest rates of homelessness by nationwide decile, state and territory capital city SA3s, 2021



Source: Authors' panel dataset, ABS Census homelessness estimates and TSP 2021; ABS digital Statistical Geography Boundaries, SA3, 2021.

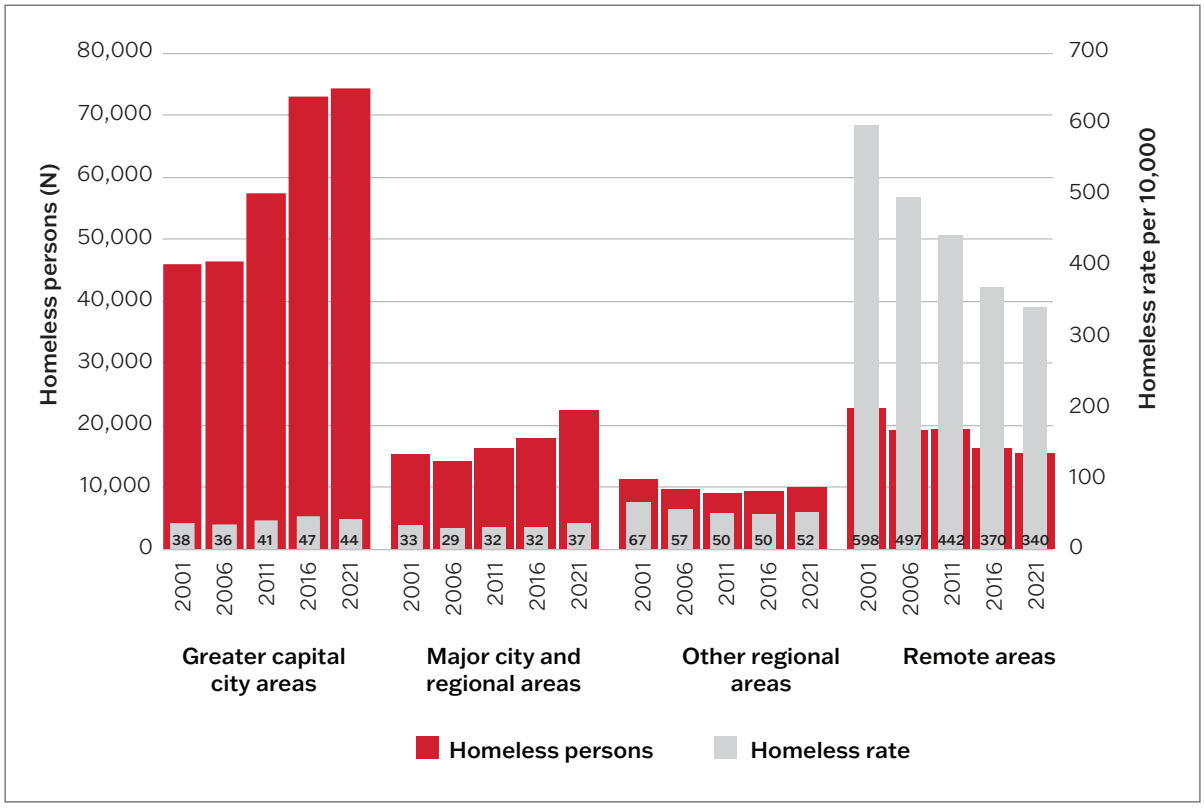
Figure 4: Lowest and highest rates of homelessness by nationwide decile, Australian SA3s, 2021



Source: Authors' panel dataset, ABS Census homelessness estimates and TSP 2021; ABS digital Statistical Geography Boundaries, SA3, 2021.

In Figure 5, the rates and raw numbers of homelessness are presented by broad area type for five Census years from 2001 to 2021. This figure shows that while the largest number of people experiencing homelessness was found in greater capital city areas, the highest rates of homelessness were in remote parts of Australia. The figure also shows a clear increase in the number of people experiencing homelessness in greater capital city areas, with falling (though still high) rates in remote parts of Australia.

Figure 5: Number and rate of homeless by broad area type: 2001, 2006, 2011, 2016 and 2021



Source: ABS Census of Population and Housing, homelessness estimates, 2001–21.

Results reported earlier show the rate of homelessness is becoming more concentrated in greater capital cities over time while falling in remote areas. We explore this in more detail at the small area (SA3) level by mapping the percentage change in rates of homelessness between 2001 and 2021 for each greater capital city and all of Australia (Figure 6 and Figure 7). The maps group areas according to whether the homelessness rate has increased (by percentage segment), or decreased, or whether it has undergone only minor change.

Figure 6 shows declining rates of homelessness in the CBD areas of all capital cities except Hobart, where the rate more than doubled, and Sydney, where there was little change in the homelessness rate in 2021 compared with 2001. As shown in Figure 3, in 2021, the inner areas of Sydney had homelessness rates that were among the highest nationally. Increases in homelessness rates were evident in a corridor to the west of the CBD and rates had more than doubled in the Sydney SA3s of Merrylands–Guildford, Hurstville, Campbelltown (in the south-west), Canterbury and St Marys (in the outer west).

In Melbourne's inner suburbs, homelessness rates declined in the middle–outer east and south–east, but more than doubled in Whitehorse West, Monash, Casey North and Casey South. Increased rates of homelessness also dominated the areas to the outer west of Melbourne's CBD.

In Brisbane, increases in homelessness rates are evident immediately east and further north of the CBD and along the coast in areas such as Nundah, Sandgate and Strathpine (20 kilometres north of the CBD). Areas to the south of the CBD also experienced increased rates of homelessness between 2001 and 2021, including Sunnybank, Loganlea–Carbrook and Springwood–Kingston; the last had a 2021 homelessness rate in the second-highest national decile (see Figure 3).

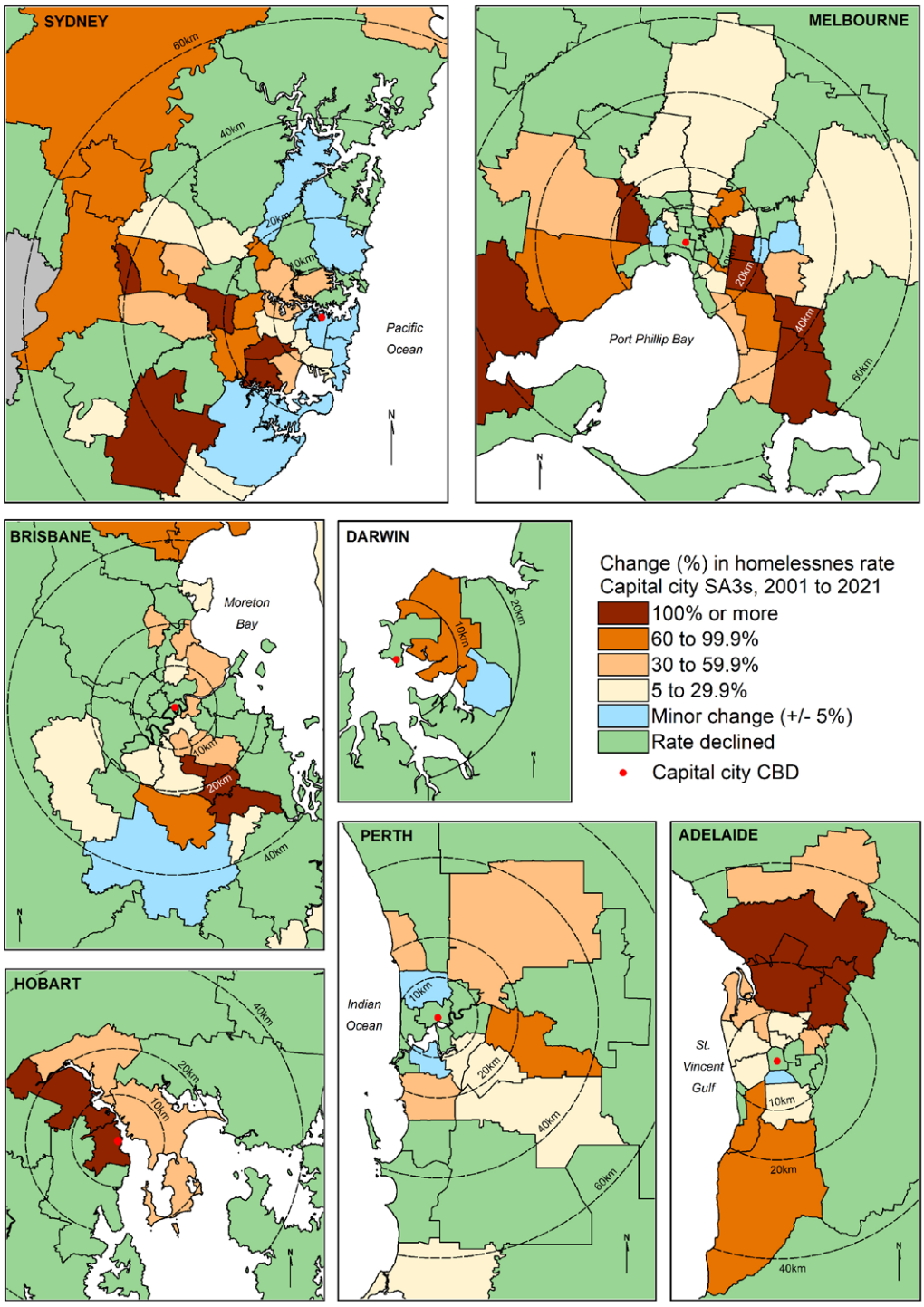
Adelaide's middle and outer-northern suburbs are dominated by high and very levels of change in homelessness rates. Some of these areas, such as Port Adelaide West, Playford and Salisbury, were shown in Figure 3 to have high homelessness rates in 2021. It was largely the inner and inner-eastern areas where homelessness rates declined between 2001 and 2021, with outer southern SA3s (such as Marion and Onkaparinga) also experiencing rate increases of over 60 per cent.

Changes in homelessness rates in Perth SA3s were not as sharp compared with the other large capital cities. Only one SA3 (Kalamunda) saw homelessness rates increase by more than 60 per cent. Like other capitals, homelessness rates in the inner areas declined, but there were increases in middle to outer regions such as Joondalup and Swan north of the CBD, and Cockburn to the south.

Different from the other capital cities, Hobart experienced an increase in homelessness in the SA3s of Hobart Inner and Hobart North West. In both of these SA3s, rates of homelessness were high in 2021. Finally, while homelessness rates fell in central Darwin, homelessness rates increased to the east of the city. In some Darwin suburbs, homelessness rates were in the top national decile in 2021.

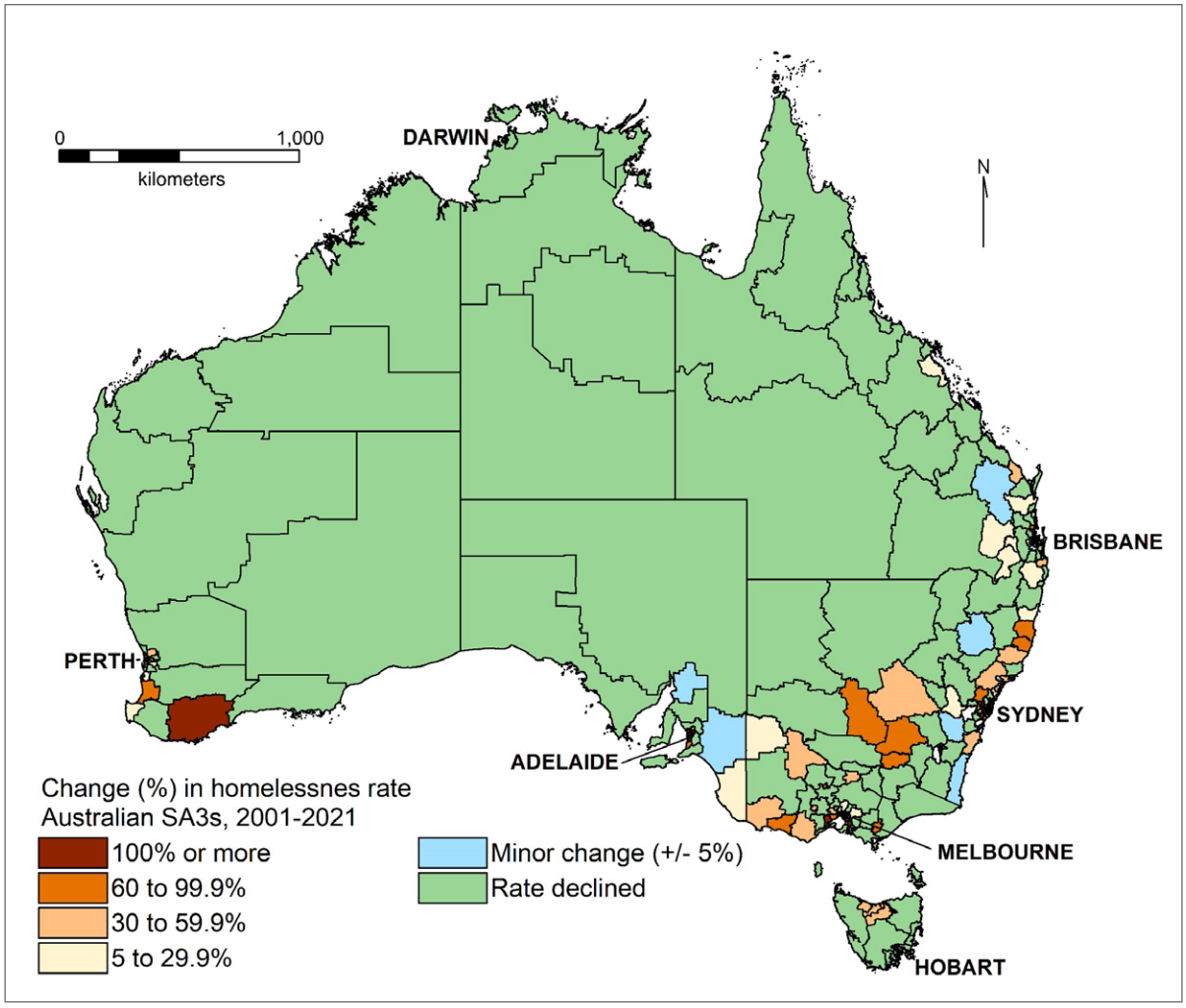
The change in homelessness rates between 2001 and 2021 across all Australian SA3s is shown in Figure 7. Consistent with Parkinson, Batterham et al. (2019), rates of homelessness declined in almost all areas outside of the nation's capital cities. Exceptions to this pattern include the coastal regions north of Sydney (e.g. around Port Macquarie); some central New South Wales areas (e.g. around Wagga Wagga); south-west Victoria and the regional city of Geelong to the west of Melbourne; northern Tasmania (particularly Launceston where the homelessness rate more than doubled between 2001 and 2021); and Albany, south-east of Perth, where the homelessness rate also more than doubled over the 20-year period.

Figure 6: Percentage change in homelessness rate, state and territory capital city SA3s, 2001–21



Source: Authors' panel dataset, ABS Census homelessness estimates and TSP 2001–21; ABS digital Statistical Geography Boundaries, SA3, 2021.

Figure 7: Percentage change in homelessness rate, Australian SA3s, 2001–21



Source: Authors' panel dataset, ABS Census homelessness estimates and TSP 2001–21; ABS digital Statistical Geography Boundaries, SA3, 2021.

2.3 The changing composition of homelessness

Below we explore changes in the presentation of homelessness (operational groups) over time. Table 4 reports three measures of homelessness (count, percentage and rate per 10,000 persons) by operational group for each year of the panel.

Between 2016 and 2021, there was a slight decrease in severe crowding, rough sleeping and persons staying temporarily with other households, and an increase in persons in other temporary lodgings. These changes are likely directly connected to the policy response to the COVID-19 pandemic. This response saw an increase in funding for temporary accommodation for people sleeping rough and others experiencing homelessness. Border closures along with a temporary increase in vacancy rates in the private rental market are likely connected to the drop in severe crowding; this occurred despite improvements in data collection in the online Census for this group (please see Appendix 2 for detailed information on these improvements). These changes, while minor, highlight that the presentation of homelessness is responsive to policy intervention.

As noted earlier, there were minor changes to the methodology for enumeration in the 2021 Census and an increase in the use of administrative data. With this in mind, the pattern of results in Table 4 is encouraging. While some differences emerge from the previous Census, these changes are not drastic in relation to earlier movements in operational groups across the panel. This provides some assurance that the 2021 homelessness estimates are broadly comparable when aggregated across operational groups.

Table 4: Count, rate (per 10,000 persons) and national share of ABS homelessness operational groups by year

	2001			2006			2011			2016			2021		
	no.	%	Rate	no.	%	Rate	no.	%	Rate	no.	%	Rate	no.	%	Rate
Persons living in improvised dwellings, tents, or sleeping out	8,946	9	4.8	7,247	8	3.7	6,810	7	3.2	8,200	7	3.5	7,576	6	3.0
Persons in supported accommodation for the homeless	13,420	14	7.2	17,329	19	8.7	21,258	21	9.9	21,235	18	9.1	24,331	20	9.6
Persons staying temporarily with other households	17,880	19	9.5	17,663	20	8.9	17,374	17	8.1	17,725	15	7.6	16,639	14	6.5
Persons living in boarding houses	21,300	22	11.4	15,460	17	7.8	14,944	15	6.9	17,503	15	7.5	22,208	18	8.7
Persons in other temporary lodgings	338	0	0.2	500	1	0.3	682	1	0.3	678	1	0.3	3,910	3	1.5
Persons living in severely crowded dwellings	33,430	35	17.8	31,531	35	15.9	41,370	40	19.2	51,088	44	21.8	47,932	39	18.9
All homeless persons	**95,314**	**100**	**50.8**	**89,728**	**100**	**45.2**	**102,439**	**100**	**47.6**	**116,427**	**100**	**49.8**	**122,464**	**100**	**48.2**

Source: Authors' calculations using ABS homelessness estimates.

We delve further into these shifts by examining changes at the state/territory level. Table 5 reports the proportion of people experiencing homelessness by operational group by state and territory in the last three Census years. These figures are taken directly from the data tables released by the ABS as part of its estimating homelessness publication. We acknowledge that there are some technical difficulties in comparing changes in operational groups over time due to both methodological changes in the 2021 Census and the impact of the COVID-19 pandemic (please see Appendix 2 for further information). We do not discuss changes in rough sleeper numbers or boarding houses for this reason. Nevertheless, below we briefly describe some of the shifts in the presentation of homelessness at the state/territory level over time to contextualise our overall results.

Table 5 shows a decrease in the number of people staying temporarily with other households in Victoria, New South Wales, South Australia, Tasmania and the Australian Capital Territory. We attribute these shifts between 2016 and 2021 to policies restricting movement in response to the COVID-19 pandemic.

A number of states (NSW, Vic, Qld, Tas, ACT) experienced decreases in the percentage of the homeless population staying in supported accommodation (i.e. specialist homelessness service [SHS]) on Census night. Again, this is likely connected to measures taken by SHSs to place clients who needed to share bathrooms and kitchens into alternative accommodation to minimise the spread of COVID-19. Three states, however, experienced an increase in the proportion of clients staying in SHSs (SA, WA, NT), which may reflect an increase in SHS capacity.

Relatedly, the increase in people staying in temporary lodgings is evident in those states/territories that ran enhanced temporary accommodation programs as part of the COVID-19 pandemic response: New South Wales, Victoria, Queensland and South Australia.

We observe a decrease in severe crowding between 2016 and 2021 in New South Wales, Victoria, South Australia, Western Australia, Tasmania, and the Northern Territory, though not in Queensland or the Australian Capital Territory.

Table 5: Percentage of ABS homelessness operational groups by state and territory in 2011, 2016 and 2021

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Aust.[c][d]
Homeless operational groups					2021				
People living in improvised dwellings, tents or sleeping out	3	3	9	4	24	10	5	3	6
People in supported accommodation for the homeless[e]	14	26	18	34	17	23	13	49	20
People staying temporarily with other households[f]	12	8	22	18	22	25	5	15	14
People living in boarding houses[g]	25	28	13	9	6	11	0	8	18
People in other temporary lodgings[g]	4	5	2	3	1	1	0	0	3
People living in 'severely' crowded dwellings[h]	42	30	35	32	30	30	76	25	39
Homeless operational groups					2016				
People living in improvised dwellings, tents or sleeping out	7	5	8	6	12	9	8	3	7
People in supported accommodation for the homeless[e]	16	29	17	23	12	35	5	50	18
People staying temporarily with other households[f]	14	12	22	21	22	30	3	17	15
People living in boarding houses[g]	18	18	17	15	11	9	4	6	15
People in other temporary lodgings[g]	1	0	1	0	1	2	0	0	1
People living in 'severely' crowded dwellings[h]	45	36	35	34	43	16	81	23	44
Homeless operational groups					2011				
People living in improvised dwellings, tents or sleeping out	7	5	8	4	10	10	6	2	7
People in supported accommodation for the homeless[e]	18	35	20	28	10	31	4	63	21
People staying temporarily with other households[f]	18	15	23	24	24	33	3	18	17
People living in boarding houses[g])	21	18	16	14	10	12	2	0	15
People in other temporary lodgings[g]	1	0	1	0	1	1	0	0	1
People living in 'severely' crowded dwellings[h]	35	27	32	29	45	12	86	16	40

Note: (a) The geographical area used in this table is 'Place of Usual Residence – Main Area Statistical Structure (UR)'. (b) For 2006 and 2011, excludes other territories (Jervis Bay, Cocos [Keeling] Islands, Christmas Island and Norfolk Island). (c) For 2016 and 2021, includes other territories (Jervis Bay, Cocos [Keeling] Islands, Christmas Island and Norfolk Island). (d) Categories are mutually exclusive; therefore, people will only appear in one category. For example, people who are in the category 'supported accommodation for the homeless' who are living in 'severely' crowded dwellings will not also appear in 'people living in "severely" crowded dwellings'. (e) For 2021, 2016 and 2011, persons accommodated by specialist homelessness services (SHSs) are included. For 2006, persons in the Supported Accommodation Assistance Program are included. f) Includes 'visitor only' households where all persons report having no usual address. (g) Data for 2021 is not directly comparable with previous Censuses due to improvements in data quality through greater use of administrative data. (h) Includes usual residents in dwellings needing four or more extra bedrooms under the Canadian National Occupancy Standard. (i) Includes persons who identify as Aboriginal, Torres Strait Islander or both Aboriginal and Torres Strait Islander.

Source: ABS (2023c).

Table 6 below presents demographic characteristics for all people experiencing homelessness in each of the last four Census years at the national level. We report the number, percentage and rate per 10,000 persons and compare these. While the percentage of people experiencing homelessness indicates shifts within the homeless population, the rate per 10,000 gives an indication of whether this shift is in line with changes in the overall population. The table was constructed using data published by the ABS as part of its homelessness estimates; please see the table notes for more detailed information.

Starting at the top of the table with age, at the national level we see an overall decrease between 2006 and 2021 in the proportion and rate of people aged under 12 experiencing homelessness. Conversely, there is an increase in the rate of people experiencing homelessness aged 18–24 and 25–34. There is also a fluctuating increase in the percentage of people experiencing homelessness aged 55 years and over; however, when expressed as a rate per 10,000 persons, the figure is similar in 2006 and 2021. Together, this suggests that the population experiencing homelessness is becoming slightly older over time.

In terms of sex,[9] we see fluctuations in the percentage of women and men over the four Census years but minimal overall movement. The rate of men per 10,000 persons in the sample increased between 2006 and 2016 and then dropped in 2021, and there was a minor increase in the rate of women experiencing homelessness over that 20-year period.

Shifts in the percentage and rate of First Nations people experiencing homelessness are more marked. There was a reduction in the percentage of First Nations people experiencing homelessness and a substantial decline in the rate per 10,000 persons: from 570.7 per 10,000 persons to 306.8 per 10,000 persons in 2021. We believe this is tied to the substantial reduction in severe crowding in remote communities.

Between 2011 and 2021, the percentage and rate of those enumerated as homeless who were born overseas increased. We suspect this is connected to increases in severe crowding among recently arrived migrants who are over-represented among the severely crowded group.

Relatedly, the percentage and rate of people enumerated as homeless who speak English only decreased between 2011 and 2021.

A similar table, also based on data published by the ABS, is reported by state/territory for 2011, 2016 and 2021 in Appendix 4. For reasons of space, this series of tables only reports the percentage of responses for each state and territory in each year and the percentages for national homelessness. For comparative purposes, it also reports the percentage of responses by all Australians. These tables enable us to determine if the nationwide trends outlined above apply across all states or if demographic shifts are occurring differently between states and territories over time.

In terms of age, small decreases in the percentage of the population aged under 12 are evident in many states, including Victoria, Queensland, Western Australia and the Northern Territory. The decreases in Western Australia and the Northern Territory are relatively larger, dropping from 15.6 per cent in 2011 to 12 per cent in 2021 in Western Australia, and 27 per cent to 21 per cent in the Northern Territory.

Small increases in the percentage of people aged 25–34 are evident in New South Wales, Victoria, Tasmania and the Australian Capital Territory, with the Australian Capital Territory experiencing the largest increase – from 18 per cent in 2011 to 25 per cent in 2021. There are also small increases in the percentage of people aged 55 and over in Victoria and Western Australia, with other states and territories experiencing fluctuations in both directions over time.

9 The ABS uses the term 'sex' in the Census; however, we acknowledge that this may be more appropriately considered a measure of gender.

Declines in the percentage of First Nations people experiencing homelessness are particular to Queensland, the Northern Territory and Australian Capital Territory; however, the percentage of the homeless population who are First Nations remained staggeringly high in the Northern Territory (87% in 2021).

Consistent with the national trend, a number of states/territories saw an increase in people born overseas between 2011 and 2021, including New South Wales, Victoria, Tasmania, the Northern Territory and the Australian Capital Territory. In Victoria, the increase was marked, from 49.6 per cent in 2011 to 62 per cent in 2021, while in the Australian Capital Territory, the percentage of people experiencing homelessness born overseas increased from 38.8 per cent to 54 per cent.

These increases in people born overseas are sizable and more substantial than changes for the total Australian population. At the national level, the percentage of people born overseas increased from 30 to 33 per cent between 2011 and 2021.

There are related decreases in the percentage of people who speak English only over time across states and territories; however, the Northern Territory deserves some attention. In 2021, only 11 per cent of people experiencing homelessness spoke English only. This low percentage reflects the multiple languages spoken by First Nations people in the Northern Territory and other remote parts of Australia.

In sum, the demographics of people experiencing homelessness are different in different states/territories, as is the presentation of homelessness (in terms of operational groups).

Table 6: Selected characteristics of persons experiencing homelessness, number, percentage and rate per 10,000 people, Australia, 2006–21[a]

	2006			2011			2016			2021		
	no.	**%**	**Rate[b]**	**no.**	**%**	**Rate[b]**	**no.**	**%**	**Rate [c]**	**no.**	**%**	**Rate[c]**
Age groups (years)												
Under 12	15,717	18	50.5	17,767	17	53.6	15,872	14	44.8	17,646	14	47.9
12–18	9,786	11	51.1	10,718	10	54.9	9,955	9	51.0	11,302	9	53.3
19–24	12,158	14	75.4	14,479	14	83.2	17,725	15	95.3	16,902	14	90.6
25–34	15,852	18	59.2	18,411	18	62.1	24,224	21	71.9	25,504	21	70.4
35–44	13,179	15	44.9	14,225	14	46.5	15,745	14	50.1	17,085	14	49.0
45–54	10,577	12	38.3	12,247	12	41.5	14,278	12	46.0	14,678	12	45.2
55–64	6,952	8	31.7	8,478	8	33.9	10,682	9	38.8	10,933	9	36.3
65–74	3,556	4	25.9	4,097	4	25.2	5,651	5	27.2	6,091	5	24.8
75 and over	1,949	2	15.3	2,008	2	14.5	2,289	2	14.3	2,348	2	12.2
Selected age groups (years)												
12–24	21,945	24	62.2	25,200	25	68.2	27,683	24	72.6	28,204	23	70.7
25-54	39,608	45	47.3	44,883	44	50.0	54,247	47	56.4	57,267	47	55.3
55 and over	12,461	14	25.8	14,581	14	26.4	18,625	16	29.0	19,378	16	26.2
Sex												
Male	51,164	57	52.2	57,689	56	54.3	67,407	58	58.4	68,516	56	54.6
Female	38,567	43	38.4	44,746	44	41.2	49,017	42	41.3	53,974	44	41.9
Indigenous (First Nations) status												
Indigenous	25,955	29	570.7	26,718	26	487.5	23,437	20	361.0	24,930	20	306.8
Non-Indigenous	57,321	64	31.4	68,070	66	34.2	80,769	69	37.8	81,566	67	34.9
Not stated	6,453	7	56.9	7,651	7	72.3	12,217	10	86.6	15,991	13	129.6
Country of birth*												
Australia	n.a.	n.a.	n.a.	67,152	64	44.7	62,816	54	40.2	66,004	54	38.8
Born overseas	n.a.	n.a.	n.a.	38,085	35	58.7	53,606	46	68.9	56,492	47	67.3
Proficiency in spoken English*												
Speaks English only	n.a.	n.a.	n.a.	52,922	50	32.1	50,116	43	29.4	52,382	43	28.6
Very well	n.a.	n.a.	n.a.	15,685	15	71.1	18,333	16	67.2	19,812	16	58.5
Well	n.a.	n.a.	n.a.	14,215	14	133.2	18,363	16	137.2	15,197	12	103.5
Not well	n.a.	n.a.	n.a.	7,063	7	138.3	8,930	8	142.5	7,215	6	109.9
Not at all	n.a.	n.a.	n.a.	2,400	2	166.5	2,662	2	138.0	2,568	2	119.2
Not stated	n.a.	n.a.	n.a.	12,952	12	121.1	18,019	16	120.8	25,317	21	182.4
Total homeless[e][f]	**89,733**	**100**	**45.2**	**102,439**	**100**	**47.6**	**116,427**	**100**	**49.8**	**122,494**	**100**	**48.2**

**For 2011 only: the totals of these two variables have not been adjusted following the ABS post-Census revision of those counted in boarding houses in 2011. The estimates for 2011 'boarding houses' were revised down after publication of 2011 results. This impacts the total population experiencing homelessness in 2011 by 2,798 persons. Adjusted total is 102,439, unadjusted total is 105,237. [a]The geographical area used in this table is 'Place of Usual Residence – Main Area Statistical Structure (UR)'. [b]For 2006 and 2011, rates are based on the Census count of persons (based on place of usual residence, excluding usual residents of other territories, at sea, migratory and offshore regions). [c]For 2016 and 2021, rates are based on the Census count of persons (based on place of usual residence, including usual residents of other territories, and excluding at sea, migratory and offshore regions). [d]Includes persons who identify as Aboriginal, Torres Strait Islander or both Aboriginal and Torres Strait Islander. [e]For 2006 and 2011, excludes other territories (Jervis Bay, Cocos [Keeling] Islands, Christmas Island and Norfolk Island). [f]For 2016 and 2021, includes other territories (Jervis Bay, Cocos [Keeling] Islands, Christmas Island and Norfolk Island). n.a. = not available.*

Source: ABS (2012d; 2018a; 2023d; 2023e).

2.4 Is homelessness becoming more or less spatially concentrated over time?

We calculated multiple measures of the spatial concentration of homelessness to quantify the changing spatial dynamics of homelessness and assess whether area-based rates/shares of homelessness are converging or diverging over time. These measures were calculated in Wood, Batterham et al. (2015) and Parkinson, Batterham et al. (2019) and the updated panel now provides five Census waves of data over 20 years to assess the changing geography of homelessness.

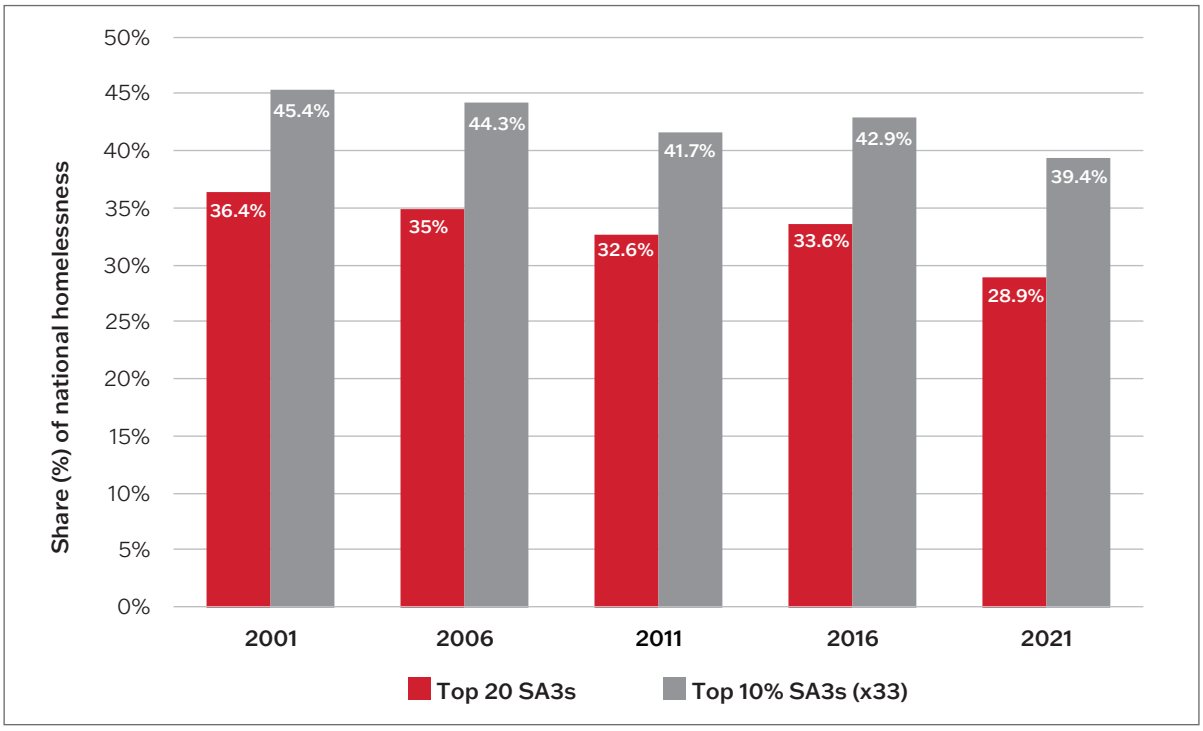
2.4.1 Concentration ratios

Concentration ratios sum the share of national homelessness accounted for in those SA3s with the highest national shares of homelessness and are a simple way to quantify the concentration of homelessness. Consistent with our previous reports, we compute concentration ratios using, first, the top 20 SA3s; and second, the top 10 per cent (33) of SA3 areas.

Wood, Batterham et al. (2014) uncovered that, between 2001 and 2011, homelessness was becoming gradually less concentrated in these regions, with the share of homelessness in the top 20 SA3s (top 10%) declining from 36 per cent (45%) to 33 per cent (42%), respectively. However, between 2011 and 2016, we observed a reversal of this pattern (Parkinson, Batterham et al. 2019).

The inclusion of data from 2021 indicates a return to the longer-run trend of decreasing spatial concentration, with the share of homelessness found in the top 20 SA3s declining to 28.9 per cent and the share found in the top 33 (10%) of regions declining to 39.4 per cent.

Figure 8: Share of national homelessness accounted for by the top 20 and top 33 (10%) SA3s, 2001, 2006, 2011, 2016 and 2021



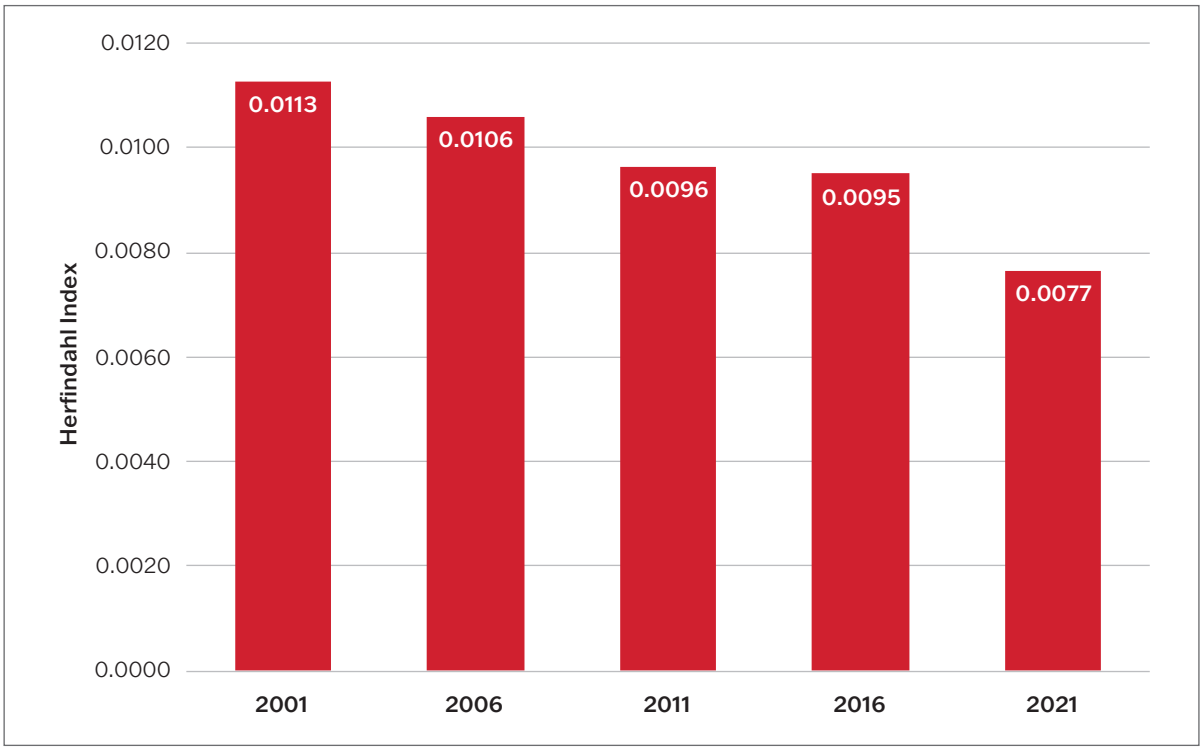
Source: Authors' calculations using ABS homelessness estimates.

Herfindahl index

While concentration ratios examine the concentration of homelessness among those regions with the highest shares of homelessness, the Herfindahl index assesses the concentration of homelessness across all regions in Australia.

The index uses the squared value of each SA3 region's share of national homelessness and sums them to produce an overall index value. The index ranges from 0 to 1, and the closer the index is to 1 the more spatially concentrated homelessness is. Our earlier findings signalled that area-level homelessness was generally becoming less concentrated between 2001 and 2016; however, the fall between 2011 and 2016 was only marginal compared with those observed in 2001–06 and 2006–11. Inclusion of data from the 2021 Census shows a continued decrease in the spatial concentration according to the Herfindahl index. Values for the index remain low across all years, as the SA3 with the highest share in 2021 was 2.83 per cent of national homelessness, indicating homelessness is fairly dispersed. However, as previously noted, the index is sensitive to levels of aggregation, with the value of the index decreasing the more units (in our case 334) are included.

Figure 9: Herfindahl index for homelessness shares, 2001, 2006, 2011, 2016 and 2021



Source: Authors' calculations using ABS homelessness estimates.

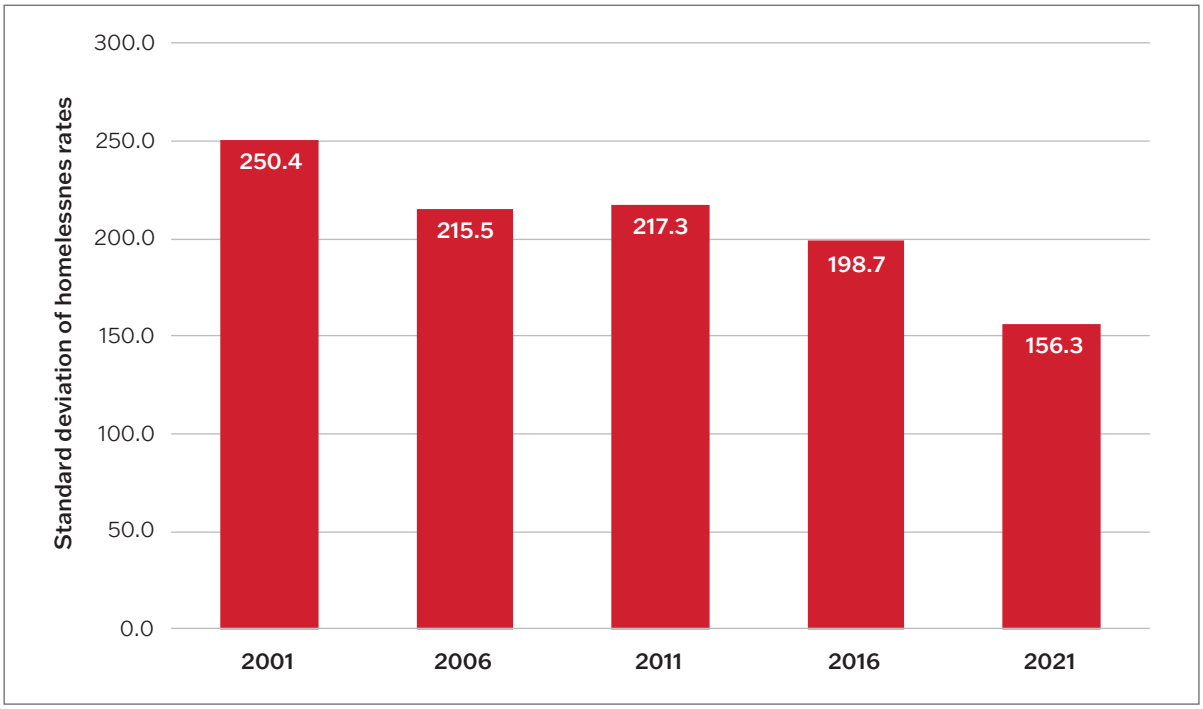
Sigma convergence

Consistent with Wood, Batterham et al. (2014) and Parkinson, Batterham et al. (2019), we used two different measures to calculate sigma convergence: the standard deviation for the rate per 10,000 persons and the national share.

Sigma convergence measures the variation in a rates/shares over time by looking at the standard deviation (or, in some instances, coefficient of variation) of these measures. When standard deviations increase over time homelessness rates/shares are becoming more dispersed and can be said to be diverging. Alternatively, when the standard deviation in homelessness rates/shares decreases over time, this indicates that the distribution of homelessness is converging across areas, indicating sigma convergence.

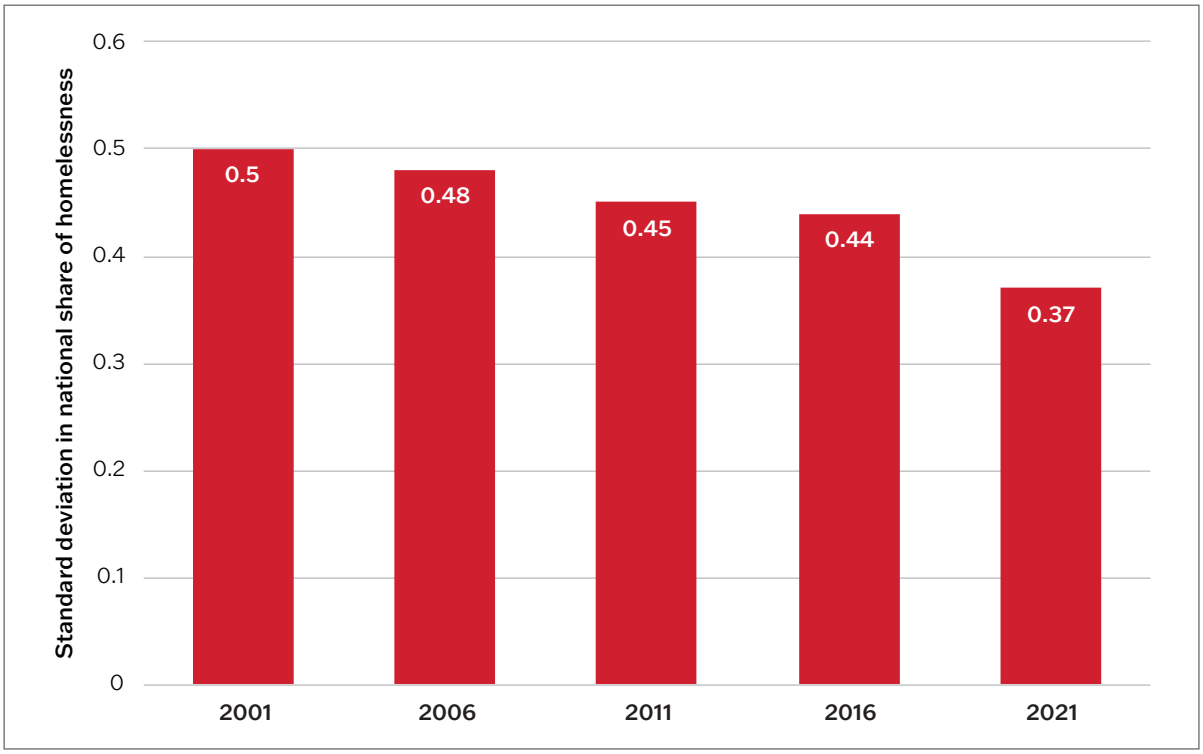
As can be seen from Figures 10 and 11, homelessness is continuing to converge across areas as it becomes less spatially concentrated.

Figure 10: Sigma convergence using the rate of homelessness per 10,000 persons, 2001, 2006, 2011, 2016 and 2021



Source: Authors' calculations using ABS homelessness estimates.

Figure 11: Sigma convergence using the national share of homelessness, 2001, 2006, 2011, 2016 and 2021



Source: Authors' calculations using ABS homelessness estimates.

2.5 What proportion of people experiencing homelessness move across SA3 boundaries and how does this compare to other groups?

This report relies on point-in-time data to explore the spatial distribution of homelessness in Australia and its relationship to structural factors measured using point-in-time, area-based data on housing, labour markets, inequality and demographics.

However, if people experiencing homelessness are highly mobile across SA3 boundaries and large geographic areas, then point-in-time homelessness estimates will provide only limited insight into the geography of homelessness and, relatedly, spatially informed policies to address it. This issue was raised by Wood, Batterham et al. (2015) in the first set of reports in this data series. Batterham (2023) explored the mobility of people experiencing homelessness descriptively using data from Journeys Home[10] and found that, while this group moved frequently, similar to low-income private renter households, they tended to make multiple short-distance moves rather than move across larger geographic areas. While these findings provide some reassurance, the homelessness estimates in ABS TableBuilder (2016 and 2021) allow a direct assessment of the movement of people experiencing homelessness, and other groups, across SA3 boundaries. These data can provide a critical assessment of the utility of the homeless estimates for policy and planning purposes and are an important validity check on our work.

10 Journeys Home is an Australia longitudinal microdata panel dataset that follows people experiencing or vulnerable to homelessness over time. The panel ran for six waves between 2011 and 2014.

To explore the mobility of those experiencing homelessness, we relied on a variable that asked the location of people's place of usual residence one year before the Census along with their current location at the time of Census collection. We also used an indicator for whether someone was at the same address one year prior to, and during, the Census collection.

Given that the 2021 Census was collected during the COVID-19 pandemic – at a time when Australia's two largest capital cities were in lockdown, and other states and territories were enforcing restrictions on interstate travel – it is possible that low geographic mobility using the 2021 data is due to COVID-19 travel restrictions. As such, these indicators for 2016 were also examined.

To contextualise the mobility of those experiencing homelessness, we compared them to a similar non-homeless group: low-income private renters (Q1 + Q2 private rental sector [PRS] households). Existing research suggests that those renting privately are more likely to change address than those in owner occupation (ABS 2022; Productivity Commission 2014; Whelan and Parkinson 2017). For context, we also provided some preliminary statistics for all Australians. Due to issues with small numbers, we were unable to examine the mobility indicator by each operational group. However, it was possible to analyse those in severely crowded dwellings as this is the operational group with the largest population.

After reporting overall descriptive statistics for the mobility of these groups across the two Census periods, we drilled down into the mobility of those experiencing homeless and low-income private renters.

Table 7 presents a summary of responses for the mobility indicator for the four comparison groups in the last two Census periods. There is a large amount of 'not stated' responses for people experiencing homelessness: in 2016, 17.8 per cent of persons experiencing homeless did not state their place of usual residence one year prior to Census night (and 21.5% in 2021). This compares with 8.5 per cent of all persons in 2016 and 5.9 per cent for all persons in 2021.[11] In calculating percentages for this table, we report valid percentages in the upper part of the table (excluding 'not stated' responses) and report 'not stated' responses as a percentage of total responses in the final row of the table. A detailed table with raw numbers can be found in Appendix 4.

11 Of concern is that the not stated information is not even across greater capital city and balance of state areas in 2021, with the percentage of information not stated for people experiencing homelessness ranging from 5.6 per cent in the rest of the Northern Territory (outside Darwin) to 38.9 per cent in Greater Perth. The reasons for these differences are unclear. For a detailed table of the proportion of not stated responses for people experiencing homelessness by GCCSA see Appendix 4.

Table 7: Place of usual residence one year prior to the Census, all persons, persons in low-income PRS dwellings, people experiencing homelessness* and persons in severely crowded dwellings, 2016 and 2021, Australia

	2016				2021			
	All persons[1]	Persons living in low-income, PRS dwellings[2]	Persons experiencing homelessness	Persons in severely crowded dwellings	All persons[1]	Persons living in low-income, PRS dwellings[2]	Persons experiencing homelessness	Persons in severely crowded dwellings
Usual residence one year prior to the Census								
Same address	82.4	65.8	61.4	74.3	83.3	71.2	64.2	81.5
Different address, same SA3	6.5	14.9	4.0	6.8	6.4	12.8	5.2	7.7
Different SA3	7.8	13.6	17.3	7.5	8.3	13.4	18.9	7.6
Overseas	1.9	3.8	7.5	10.1	0.7	1.0	1.6	1.6
No usual address[3]	0.1	0.0	8.3	0.0	0.1	0.0	8.8	0.0
Not applicable[4]	1.3	1.8	1.4	1.5	1.2	1.6	1.4	1.5
Total % (stated)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total stated	**21,415,808**	**1,680,946**	**95,673**	**49,585**	**23,921,924**	**1,888,861**	**96,049**	**46,700**
Total not stated[5]	**1,980,281**	**55,166**	**20,751**	**1,509**	**1,495,241**	**21,374**	**26,384**	**1,215**
% not stated	**8.5**	**3.2**	**17.8**	**3.0**	**5.9**	**1.1**	**21.5**	**2.5**

*Note: [1]Includes persons living in non-private dwellings. [2]Excludes persons experiencing homelessness (e.g. in severely crowded dwellings). [3]Persons who had no fixed residential address and can include, for example, travellers moving across Australia but also those with no fixed address due to family conflict or eviction (among other reasons). [4]Persons under one year old on Census night and thus not born one year prior. [5]Where the person usually lived one year ago was not stated on the Census form. *Persons enumerated using the Census short form (e.g. rough sleepers) are not asked where they usually resided one year ago. NB: Percentages for people experiencing homelessness include those in severely crowded dwellings. It may be that other presentations of homelessness have higher levels of mobility; however, the very high proportion of missing information makes this unclear.*

Source: ABS Census TableBuilder, place of usual residence and estimating homelessness datasets, 2021 and 2016. Combination of 'Usual Address One Year Ago Indicator' and 'Place of Usual Residence One Year Ago (SA3)'.

The majority of people experiencing homelessness are at the same address as they were one year prior to Census night. This may seem counterintuitive, but it is important to bear in mind that homelessness includes arrangements such as staying temporarily with other households, staying in SHS supported accommodation, staying in boarding houses and staying in severely crowded dwellings. It would seem that many of these arrangements endure for long periods of time. Further, those sleeping rough are not included in these numbers, as the short form used does not collect this indicator.

When compared with all Australians in both Census periods, people experiencing homelessness are less likely to be at the same address one year ago and more likely to be in a different SA3 than the one they were enumerated in on Census night. However, compared with low-income private renters in 2016, they are only slightly less likely to be at the same address one year ago, and slightly more likely to be in a different SA3 if they have moved. People experiencing homelessness are more likely to report no usual address than all other groups.

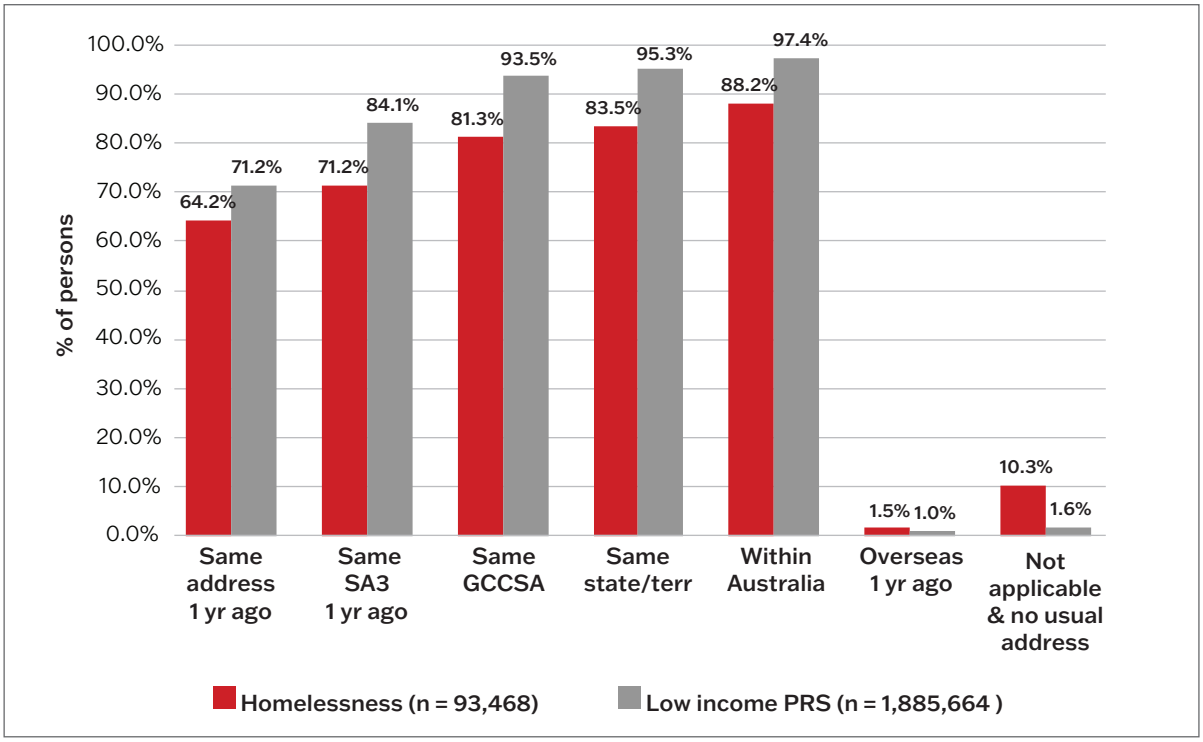
Persons in severely crowded households have similar mobility characteristics to all Australians and appear more stable than low-income private renters. This supports the relevance of a place-based approach to addressing this manifestation of homelessness.

As mentioned in the literature review at the beginning of this chapter, people experiencing homelessness who engage with the SHS system may be required to move to access services or accommodation. Some level of mobility among this group is, therefore, to be expected.

Some important differences emerge when comparing responses from 2016 and 2021 that are likely connected to responses to the COVID-19 pandemic. There is a slightly higher percentage of people at the same address as one year ago in 2021 compared with 2016 across all groups, though this is more marked for low-income private renters and people in severely crowded dwellings. People are much more likely to report their usual address one year ago as overseas in 2016 compared with 2021 – a reflection of border closures in response to the COVID-19 pandemic. Those experiencing homelessness and, particularly, those experiencing severe crowding were more likely to have a usual address as overseas one year prior to the 2016 Census, which is consistent with the over-representation of recently arrived migrants in severe crowding numbers.

To explore mobility among those experiencing homelessness and low-income private renters further, we extracted more detailed information for 2021. This enabled us to determine whether people were in the same greater capital city or balance of state area and whether they were in in the same state or territory as where they were enumerated on Census night. Figure 12 presents the cumulative percentage of people at the same address and then within successively larger spatial units.

Figure 12: Cumulative percentage of persons experiencing homelessness and low-income private renters moving within and across different spatial units, Australia, 2021



Note: Percentages exclude not-stated responses.

Source: Authors' calculations using ABS Census TableBuilder, place of usual residence and estimating homelessness datasets, 2021 and 2016. Combination of 'Usual Address One Year Ago Indicator' and 'Place of Usual Residence One Year Ago (SA3)'.

Figure 12 clearly shows that the majority of people experiencing homelessness (71.2%) were in the same SA3 one year ago as they were on Census night, while even more were in the same greater capital city or balance of state area (81.3%). While this group is slightly more mobile than low-income private renters, there remains a higher proportion of persons experiencing homelessness with not applicable responses or reporting no usual address that could explain some of the difference.

There are some limitations to this analysis. Census data provide a sample of a household's mobility at a point in time rather than a detailed picture over time, and we are unable to determine how many times someone has changed address in the past year. It was not possible to break down the analysis by operational group beyond severe crowding due to small numbers and the fact that the data are not collected for some operational groups (rough sleepers and many in temporary accommodation in 2021). However, these operational groups have the smallest numbers of all operational groups and seem unlikely to skew the overall results significantly.

There is also a significant amount of missing data for people experiencing homelessness compared with other groups. This missing information is due to multiple factors. The reliance on administrative data in the 2021 Census means that this indicator was not collected for some groups. Further, the Census short form, which is used for people sleeping rough, does not include questions on place of residence one year ago.

Despite its limitations, the data presented here provide an important validity check on the use of point-in-time data to explore the geography and drivers of homelessness in Australia. While those experiencing homelessness are more mobile than the general population, they are only slightly more mobile than low-income private renters. These findings are consistent with Batterham (2023), who argues that while people experiencing homelessness move more they tend to make multiple, short distance moves rather than moving across large geographical areas en masse.

These findings suggest that the use of point-in-time estimates to explore the geography of homelessness provide useful spatial information about the distribution of homelessness and its connection to area-based factors such as local housing supply, labour markets, inequality and local demographic profiles.

2.6 Policy implications

Homelessness remains a significant and stubborn problem in Australia that exists across capital cities, regional and remote areas. It is becoming more dispersed and is increasingly urbanised.

Further gains have been made in reducing homelessness in remote and very remote parts of Australia, with the Northern Territory continuing to show ongoing declines in homelessness (both rates and shares). While we are aware of some coverage issues for the 2021 Census in these areas, these reductions are on trend with previous years. We believe these results are linked to the National Partnership on Remote Indigenous Housing and highlight the positive impact increasing dedicated housing for very low-income groups has on homelessness.

The majority of people experiencing homelessness remain in the same SA3 as they were in 12 months ago, and even more remain within their greater capital city or balance of state areas. This finding provides an important validity check on our analysis and supports the use of point-in-time data to explore both the geography of homelessness and its structural drivers. It also highlights the importance of localised responses to homelessness and the importance of targeting resources to areas where homelessness is highest for greatest impact.

Improving the place of usual residence indicator by including it in the Census short form would be helpful, as would assist in exploring and addressing the reasons for the high amounts of not stated information for those experiencing homelessness.

In the next chapter, we examine how homelessness is related to supplies of affordable housing (both private rental and public housing), such housing being critical to responding to homelessness when it occurs. We also explore how well placed SHSs are to respond to homelessness and whether local supplies of affordable housing affect the operation of SHSs. Finally, we make some preliminary comments about the housing response required to address homelessness at the greater capital city and balance of state level and make recommendations for data improvements.

3. The geography of support and housing: homelessness, SHS capacity and affordable rental housing

- This chapter explores where people experiencing homelessness are located in relation to the supports and housing they need to address and resolve their homelessness.
- There remains a significant mismatch between the location of people experiencing homelessness and SHS capacity. A third of SHS capacity (both support places and accommodation places) would need to shift across SA3 boundaries to match the distribution of homelessness across the nation (using 2021–22 data). This represents a mild improvement from 2016–17. This mismatch is most severe in New South Wales and the Northern Territory and least severe in Tasmania.
- Homelessness is higher in areas with a poorer supply of low-cost rentals (R1) relative to local demand.
- A higher percentage of SHS clients are deemed homeless upon presentation and are returning for assistance in areas with relatively lower levels of affordable rental housing (R1 stock) relative to demand.
- In order to provide housing to clients who accessed an SHS in 2021–22, we estimate that around 158,000 one- to two-bedroom dwellings and 25,000 three-or-more-bedroom dwellings are needed nationally. This estimate is for one financial year only, with a similar volume needed year on year.
- Improvements in the collection of household type information in the Census would enable a more detailed picture of the housing response required to address point-in-time homelessness at the local area level.
- The development of a unique household identifier in the Specialist Homelessness Services Collection (SHSC) would also be useful in determining the scale of housing response required to address homelessness.

3.1 Introduction

Specialist homelessness services, and SHS-managed crisis accommodation specifically, are heavily concentrated in greater capital city areas and have less capacity in regional and remote parts of Australia (Batterham, Tually et al. 2023; Parkinson, Batterham et al. 2019). Yet our findings in Chapter 2 highlight that homelessness is high in remote areas and is distributed across suburbs in greater capital cities, major cities and regional areas. The alignment of SHSs with overall homelessness is of interest to policy makers, and understanding this misalignment can assist in understanding where new service capacity should be located. Wood, Batterham et al. (2014) and Parkinson, Batterham et al. (2019) investigated the alignment between homelessness and SHS capacity and found a significant degree of mismatch. We update and repeat this exercise in this report using SHSC data for the 2016–17 and 2021–22 financial years.

The degree of alignment between SHS capacity and homelessness must be understood within the constraints of the current SHS system. At present, the SHS system is unable to meet demand (Spinney, Beer et al. 2020) due to limited funding, limited support places available, and limited crisis and longer-term housing options. On average, 300 people are turned away every day, and, across the 2021–22 financial year, 105,000 unassisted requests were made (AIHW 2022a). This number has fluctuated but increased overall since 2016–17 when there were 95,392 unassisted requests across the final year (AIHW 2022b). While almost half of unassisted requested are supported by services at some point in the financial year, these figures demonstrate a high and sustained level of demand for SHSs over time. A survey of the community sector in Australia found that 36 per cent of housing and homelessness services reported rarely or never being able to meet demand, 91 per cent reported that demand had increased or increased significantly, and 76 per cent reported that the number of clients they were unable to support had increased (Cortis and Blaxland 2020). Existing research from the General Social Survey highlights that there is further unexpressed demand for support, with the majority of people who were homeless in the past 10 years (67%) not presenting to services for assistance during their most recent episode of homelessness (ABS 2014).

In addition to being under-resourced relative to demand, the SHS system is hampered by a lack of suitable exit options for people experiencing homelessness (Batterham, Tually et al. 2023). Suitable exit options need to be affordable, accessible and appropriately located for people on very low incomes. The lack of exit options creates backlogs in the system, as services keep clients for longer, as well as greater repeat presentations over time as clients are exited to substandard and unsuitable housing options (Batterham, Tually et al. 2023). The lack of exit options from an SHS is a product of a heavily residualised social housing sector and growing shortage of private rental sector (PRS) dwellings relative to demand for very low-income households.

Growth in the PRS sector has outpaced growth in households nationally over consecutive Census periods, with more households renting than ever before (Reynolds, Parkinson et al. 2024). However, much of the growth in the PRS sector has been at mid-market and high-market levels, with a growing shortage of PRS stock relative to the number of lower-income households over time (Reynolds, Parkinson et al. 2024). Overall, Reynolds, Parkinson et al. (2024) estimate a national shortage of 255,000 dwellings affordable for Q1 PRS households.

While there was growth in the rental stock affordable to Q2 households, both Q1 and Q2 households were often displaced by higher-income groups (Q3–Q5 households), meaning that the vast majority of Q1 PRS households (82%) are in housing affordability stress (paying more than 30% of their income on rent), as are just over a quarter (27%) of Q2 PRS households (Reynolds, Parkinson et al. 2024). Once occupation by higher-income groups is taken into account, the shortage of affordable PRS dwellings for Q1 PRS households is estimated to be 348,000 dwellings.

Research also indicates that while there was a temporary increase in PRS stock affordable to Q2 PRS households (R2 stock) at the time of the 2021 Census connected to the COVID-19 pandemic response, conditions have since returned to pre-pandemic levels, with increasing rents in the R2 stock and low vacancy rates (Reynolds, Parkinson et al. 2024).

A key policy challenge for governments and social housing providers is understanding both current and future demand for affordable rental housing. Existing research has attempted to quantify housing need in Australia. This work has a broad focus: it looks beyond those experiencing homelessness to renters in housing stress (Lawson,Pawson, et al. 2018; van den Nouwelant, Troy et al. 2023), key workers (SGS Economics and Planning 2019) and those at risk of homelessness (Batterham, Nygaard et al. 2021), and illustrates how quantifying housing need/demand from the perspective of vulnerable groups might inform policy. We draw on this approach in the final section of this chapter to estimate the housing required for those accessing an SHS in the 2021–22 financial year.

This chapter addresses our second research question: **Where are people experiencing homelessness located in relation to specialist homelessness services and affordable rental housing (both private and public)?** In answering this question, we draw on numerous indicators derived from the SHSC as well as measures derived from the ABS Census Time Series Profile (TSP) and customised data from the ABS Census collection.

We begin by examining the alignment between homelessness and both accommodation and support capacity in the SHS system at the greater capital city and balance of state level. This alignment or mismatch is then quantified by calculating the mismatch measure used in previous reports (Parkinson, Batterham et al. 2019; Wood, Batterham et al. 2014). Next, the relationship between homelessness and the location of affordable rental housing supply is examined using three key indicators: the supply of social housing dwellings; the supply of PRS dwellings affordable to Q1 households (R1 stock); and the net supply of affordable PRS dwellings for Q1 households (NSARH), which quantifies supply of R1 PRS dwellings relative to local demand from Q1 PRS households. We compare these to the raw number of people experiencing homelessness in greater capital city and balance of state areas and use Pearson's correlations to explore relationships in a preliminary way ahead of the detailed modelling exercise presented in Chapter 4.

We then draw on new indictors obtained from the SHSC to explore whether local supplies of affordable rental housing impact on SHSs. The supply of SHS capacity is fairly unresponsive to changes in demand and relies on additional government funding to increase its response. As such, client characteristics are analysed to explore this relationship – namely, whether clients were deemed to be homeless or at risk on presentation to an SHS, and whether clients were returning for support after being previously assisted or were presenting for the first time.

Finally, information on presenting unit type is analysed to outline the housing response required for those accessing an SHS in the 2021–22 financial year. These results are presented nationally, for greater capital city and balance of state areas, along with detailed maps at the SA3 level. We discuss improvements needed to the Census collection to enable the use of household type and relationship indicators to estimate the household response required for the broader homeless population at a point in time.

3.2 The alignment between specialist homelessness service capacity and homelessness

This section explores the alignment between SHS capacity and homelessness. We acknowledge that SHS support, and especially accommodation, is not a resource that can be easily redeployed elsewhere. Yet, our results can be used to inform where new capacity should be targeted to better match the distribution of homelessness.

As described in Section 1.6.3 in Chapter 1, the SHSC data were obtained at the SA3 level for the total number of clients who were supported by an SHS and the total number who were provided with accommodation in both the 2016–17 and 2021–22 financial years (see Appendix 1 for a definition of these and other variables). While similar data were obtained in Parkinson, Batterham et al. (2019), the SHSC has undergone a range of data improvements and the method in which clients are allocated to geographic areas has improved. As such, these results are not comparable with those in Parkinson, Batterham et al. (2019).

In Table 8, the national share of SHS support capacity and SHS accommodation capacity is compared with the national share of homelessness in each capital city and balance of state area for 2016–17 and 2021–22. Because our measure of homelessness includes persons staying in supported accommodation as one of the six operational groups, the measure was recalculated to exclude this group, giving a more precise measure of the relationship between SHS service capacity and persons experiencing homelessness outside the SHS system.

Table 8: Share of national homelessness (less operational group 2), SHS support and accommodation capacity by greater capital city and balance of state area for 2016–17 and 2021–22 financial years

	2016–17			2021–22		
Greater capital city or balance of state area	**Share of national homelessness (less op. group 2)**	**National share of SHS support capacity**	**National share of accom. capacity**	**Share of national homelessness (less op. group 2)**	**National share of SHS support capacity**	**National share of accom. capacity**
Greater Sydney	24.91	10.54	9.93	20.54	10.25	8.17
Rest of NSW	7.49	14.75	10.76	8.03	14.87	9.39
NSW	**32.39**	**25.29**	**20.69**	**28.56**	**25.12**	**17.56**
Greater Melbourne	17.63	24.30	19.29	19.62	23.17	24.11
Rest of Vic	3.70	12.75	9.75	5.36	13.17	12.26
Vic	**21.34**	**37.05**	**29.04**	**24.98**	**36.34**	**36.37**
Greater Brisbane	8.02	5.22	7.45	7.35	4.99	5.50
Rest of Qld	10.63	9.31	13.41	10.98	10.37	10.72
Qld	**18.66**	**14.53**	**20.86**	**18.33**	**15.36**	**16.22**
Greater Adelaide	3.98	5.37	4.06	4.54	4.99	2.72
Rest of SA	1.34	2.31	1.72	1.51	2.06	1.53
SA	**5.33**	**7.68**	**5.78**	**6.05**	**7.05**	**4.25**
Greater Perth	4.56	4.96	6.35	4.73	4.70	5.85
Rest of WA	3.19	3.22	6.87	3.23	4.40	8.72
WA	**7.75**	**8.18**	**13.22**	**7.97**	**9.10**	**14.57**
Greater Hobart	0.73	1.37	1.71	0.88	1.28	2.08
Rest of Tas	0.66	1.59	1.87	1.02	1.40	2.18
Tas	**1.39**	**2.96**	**3.58**	**1.90**	**2.68**	**4.26**
Greater Darwin	1.51	1.05	1.55	1.62	0.98	1.30
Rest of NT	10.28	2.05	3.73	9.12	2.30	3.92
NT	**11.79**	**3.10**	**5.28**	**10.74**	**3.28**	**5.22**
ACT	**1.36**	**1.20**	**1.55**	**1.46**	**1.06**	**1.55**

Source: Authors' calculations using the ABS homelessness estimates and customised SHSC data.

While homelessness is concentrated in Greater Sydney, both support and accommodation capacity are spread more evenly between greater capital city and balance of state areas.

Victoria's share of SHS support and accommodation capacity is far greater than its share of national homelessness. Though similar to New South Wales, there is a greater share of support and accommodation and support capacity in balance of state areas relative to the distribution of homelessness.

In Queensland, consistent with slightly higher shares of homelessness in the rest of the state, SHS support and accommodation capacity is weighted more in favour of the rest of the state compared with Brisbane.

South Australia has a reasonable match between national shares of homelessness and SHS support and accommodation capacity, as does the Australian Capital Territory and Western Australia, the latter having experienced a modest increase in SHS accommodation capacity outside of Perth.

Tasmania has slightly higher service capacity on both measures compared with its share of national homelessness, whereas the Northern Territory has a much larger share of homelessness compared with its SHS service capacity as well as a larger gap in areas beyond Darwin.

Table 8 highlights the variable alignment between shares of homelessness and shares of SHS service capacity across the nation in both the 2016–17 and 2021–22 financial years. To explore this alignment further, we follow Wood, Batterham et al. (2014) and Parkinson, Batterham et al. (2019) to calculate the mismatch measure (M) for two different indicators of service capacity: accommodation and support capacity. The mismatch measure was calculated first at the national level, then at the state and territory level as well as for capital cities and balance of state areas. The formula is defined as:

$$M = {}^{1}/_{2} \sum_{i=1}^{n} \left| \frac{S_i}{S} - \frac{H_i}{H} \right| \qquad (3.1)$$

Where *Si* is a measure of resource support (e.g. bed spaces) in region *i, S* is the measure of resource support in the nation, *Hi* is the homeless count in region *i* and *H* is the homeless count in the nation. The *M* value ranges from 0 to 1 and indicates the proportion of service capacity (support places or accommodation places) needed to shift across SA3 boundaries to align perfectly with the distribution of homelessness. If there are only two regions and we obtain an *M* value equal to 1, it means that all support capacity (e.g. accommodation places) needs to be reallocated from their current location in one of the two regions to a location within the boundaries of the other region to ensure perfect alignment. A value of zero suggests that the current alignment of resource support is perfectly matched to the location of the homeless.

The first two columns in Table 9 report the mismatch coefficients for SHS support capacity for both years (2016–17 and 2021–22) at the national level, for each state and territory and for capital cities and balance of state areas. Columns 3 and 4 report the mismatch coefficients for SHS accommodation capacity.

Table 9: Mismatch coefficients for the relationship between homelessness and SHS support and accommodation capacity at the national, state/territory and capital city balance of state area

	2016–17	2021–22	2016–17	2021–22
	Persons supported by SHS over the financial year (1)	Persons supported by SHS over the financial year (2)	Persons accommodated in SHS over the financial year (3)	Persons accommodated in SHS over the financial year (4)
National	0.38	0.33	0.34	0.33
NSW	0.43	0.39	0.38	0.36
Vic	0.31	0.28	0.27	0.26
Qld	0.29	0.28	0.28	0.22
SA	0.22	0.16	0.20	0.21
WA	0.16	0.19	0.18	0.30
Tas	0.23	0.15	0.25	0.15
NT	0.42	0.37	0.38	0.37
ACT	0.21	0.12	0.23	0.14
Capital cities	0.34	0.29	0.32	0.31
Balance of state areas	0.42	0.36	0.36	0.34

Source: Authors' calculations using the ABS homelessness estimates and customised SHSC data.

Some states show a marked improvement in the match between support capacity and homelessness between 2016–17 and 2021–22, as demonstrated by decreases in the mismatch coefficient between these periods. South Australia, for example, has a decline in the mismatch coefficient, from 0.22 to 0.16. Tasmania and the Australian Capital Territory see similar improvements in support capacity.

A number of states/territories also see improvements in the alignment of SHS accommodation capacity and homelessness. Queensland, for example, sees a fall from 0.28 to 0.22 over the period, while Tasmania sees a decrease from 0.25 to 0.15, similar to the Australian Capital Territory. However, Western Australia saw an increase in the mismatch coefficient from 0.18 to 0.30, suggesting that accommodation capacity is increasingly misaligned with the distribution of homelessness.

While the mismatch coefficients suggest that some areas are better resourced relative to demand, this is not to say that any areas are over or even adequately resourced. Indeed, recent research has documented the shortfall of SHS-managed accommodation relative to demand across the country (Batterham, Tually et al. 2023).

3.3 Homelessness and the location of affordable rental housing

This section explores the relationship between homelessness and supplies of rental housing affordable to households with the lowest incomes (Q1). We include both private rental and social housing and use three key measures:

- proportion of PRS dwellings affordable to Q1 households (R1 stock)
- number of R1 dwellings less the number of Q1 PRS households (NSARH)
- number of social housing dwellings.

We explore this relationship using raw numbers, the percentage of stock and the percentage change in these measures over time.

PRS dwellings that are affordable to Q1 households are defined as those that rent for no more than 30 per cent of the upper value of the Q1 income range. All dwelling rents that fall below this threshold are deemed affordable to Q1 PRS households. These dwellings are referred to as 'R1 stock' and the measure is expressed as a raw number of dwellings and as a percentage of all private rental dwellings in an area for which rent information was stated. The number of social housing dwellings is a simple count of dwellings that were rented through state and territory housing authorities or community housing providers including cooperatives, community groups and churches.

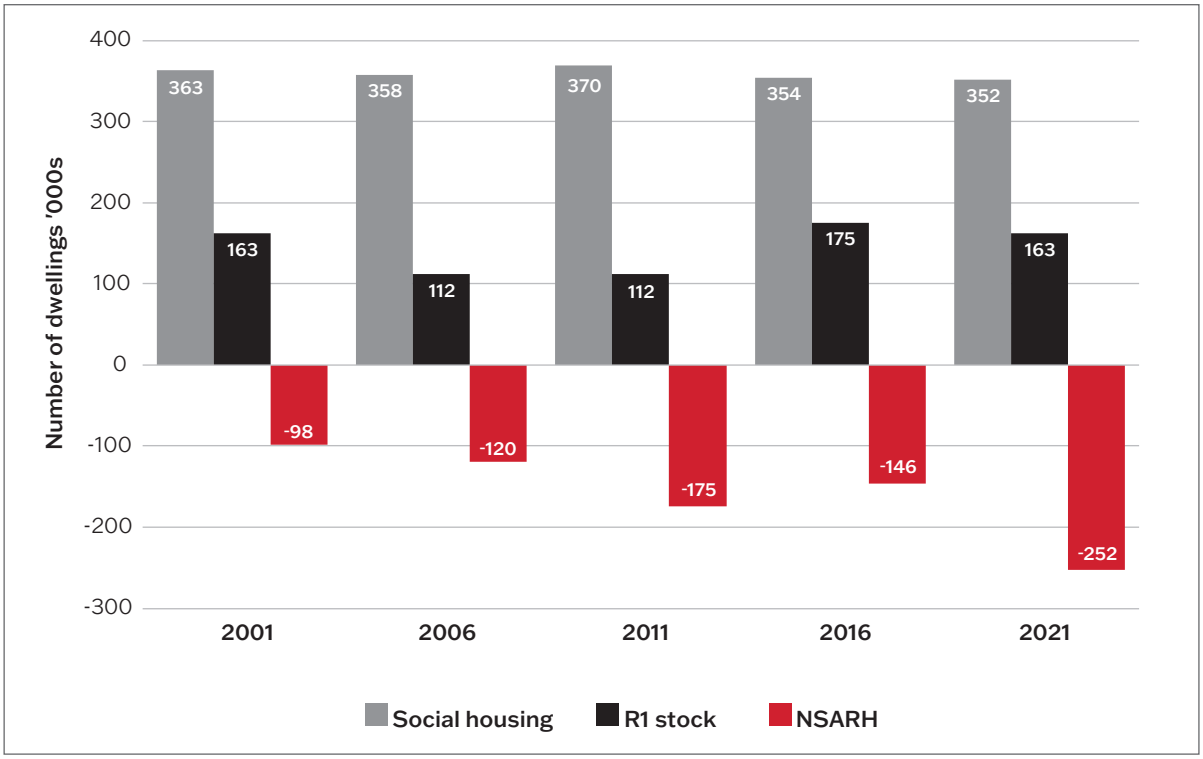
Previous research has demonstrated that, in Australia, low-cost rental stock tends to be concentrated in areas with more low-income households and higher homelessness (Batterham 2012; Wood, Batterham et al. 2015). This relationship is likely the product of the ongoing processes driving socio-spatial inequality across Australia's cities and regions described in Chapter 1.

Previous work has theorised that once demand from local low-income households has been accounted for, areas with higher homelessness will have a shortage of affordable rental housing relative to demand – a so-called shortage hypothesis (Batterham 2012; 2020; Parkinson, Batterham et al. 2019; Wood, Batterham et al. 2015). This idea was inspired partly by another long-run series of reports investigating supply and demand for affordable rental housing in Australia (Hulse, Reynolds, et al. 2019; Reynolds, Parkinson et al. 2024; Wulff and Yates 2001). To investigate this, we calculated what we refer to as a net supply measure of affordable rental housing (NSARH).

The net supply of affordable PRS dwellings for Q1 households (NSARH) subtracts the number of low-income private renter households from the number of dwellings that are affordable to them (R1 as calculated above) to indicate a shortage or surplus relative to demand. The measure reflects the number of dwellings relative to local demand in each SA3.[12] The raw number of social housing dwellings, R1 dwellings and the surplus/shortage of R1 dwellings using the NSARH in each year of the panel are graphed in Figure 13.

12 These variables are further described in Appendix 1, Section 3 along with descriptives nationally for each year.

Figure 13: Number of social housing dwellings, R1 dwellings and the net supply of affordable PRS dwellings for Q1 households (NSARH) in 2001, 2006, 2011, 2016 and 2021, Australia



Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

At the national level, the graph shows that the number of social housing dwellings declines slightly over the 2001–21 period, while the number of R1 dwellings fluctuates. It is important to note that the threshold for R1 dwellings changes each Census year in line with the income threshold for Q1 households. Importantly, while the R1 stock is fluctuating over time, the NSARH shows that there is a growing shortage of R1 dwellings relative to demand from low-income (Q1) households over the 20-year period.

To explore the relationship between homelessness and affordable housing supply, Table 10 reports the number of people experiencing homelessness, the net shortage or surplus of PRS dwellings (NSARH), and the number of social housing dwellings for greater capital city and balance of state areas in each year of the panel.

Table 10: Number of people experiencing homelessness, net supply of affordable rental housing and number of social housing dwellings by greater capital city and rest of state area, Australia, 2001, 2006, 2011, 2016, 2021

	Number people experiencing homelessness					Net supply of affordable private rental sector dwellings for Q1 households (NSARH)					Number of social housing dwellings				
	2001	2006	2011	2016	2021	2001	2006	2011	2016	2021	2001	2006	2011	2016	2021
Sydney	15,364	15,378	19,735	28,978	25,154	−28,595	−31,282	−39,425	−35,130	−61,766	78,728	76,887	79,545	78,780	78,215
Rest of NSW	7,677	6,829	7,737	8,711	9,830	−10,563	−15,471	−22,249	−11,079	−24,210	48,441	47,427	47,506	44,525	43,698
Melbourne	13,857	13,681	18,108	20,518	24,033	−21,059	−25,475	−33,845	−37,273	−58,936	40,507	41,533	42,999	42,898	42,267
Rest of Vic	4,297	3,721	4,144	4,308	6,561	1,347	−3,002	−5,962	73	−8,540	20,934	21,073	21,328	19,339	19,296
Brisbane	6,357	6,570	7,065	9,337	8,997	−13,502	−14,029	−19,210	−20,619	−33,894	28,932	28,396	31,080	30,048	29,744
Rest of Qld	12,959	12,309	12,013	12,373	13,451	−12,616	−13,234	−23,644	−16,595	−25,422	28,498	30,122	33,027	31,974	32,258
Adelaide	3,259	3,771	4,099	4,634	5,562	−5,429	−7,280	−11,887	−11,442	−14,478	38,788	36,236	35,039	31,820	30,549
Rest of SA	2,585	1,829	1,745	1,563	1,848	1,867	936	−276	2,777	1,572	11,265	10,684	10,123	9,002	8,526
Perth	4,008	3,975	4,716	5,300	5,795	−9,146	−9,253	−12,740	−13,900	−19,523	22,567	21,724	23,877	22,774	23,111
Rest of WA	5,791	4,283	4,479	3,714	3,960	429	481	−1,280	−410	−872	11,668	12,353	13,598	13,257	13,041
Hobart	498	446	729	848	1,081	−301	−1,018	−2,220	−1,531	−2,494	6,047	5,470	5,589	5,345	5,765
Rest of Tas	766	702	793	768	1,246	958	−434	−1,674	342	−1,471	6,417	6,069	6,306	5,962	6,059
Darwin	1,774	1,613	1,267	1,757	1,986	−487	−225	−157	−219	−596	3,636	3,265	2,948	2,758	2,938
Rest of NT	15,174	13,668	14,071	11,955	11,171	12	78	140	126	−48	6,649	6,619	6,491	6,524	6,827
ACT	943	958	1,738	1,586	1,789	−886	−656	−374	−1,101	−1,606	10,191	9,771	10,066	9,321	9,687
Total	95,309	89,733	102,439	116,350	122,464	−97,971	−119,864	−174,803	−145,981	−252,284	363,268	357,629	369,522	354,327	351,981

Source: Authors' calculations using pooled panel data set — ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table 10 shows that in greater capital city and balance of state areas where homelessness is increasing over the 20-year period, the net supply of R1 PRS housing (NSARH) is declining. This is the case in Greater Sydney, the rest of New South Wales, Melbourne, Brisbane, Adelaide, Perth, Hobart and the rest of Tasmania. The rest of Victoria has fluctuating homelessness numbers but a significant increase in homelessness from 2016 to 2021 that corresponds to a drop in the NSARH.

In the rest of Western Australia and the Northern Territory, where the private rental market is extremely small, declining homelessness numbers coincide with modest increases in the supply of social housing. Alternatively, Darwin's increase in homelessness numbers coincides with a decrease on social housing supply, while the rest of South Australia follows no discernible pattern.

While this table reports only changes in raw numbers over time it suggests that supplies of affordable rental stock are connected to changes in the number of people experiencing homelessness.

We explored these relationships using Pearson's correlations[13] between the raw number of people experiencing homelessness, the NSARH, the number of social housing dwellings and R1 PRS dwellings in each year of the panel. Contemporaneous Pearson's correlation coefficients (i.e. homelessness in 2001 correlated with each of the three affordable housing measures in 2001, and so on for each year) are shown in Table 11.

Table 11: Contemporaneous correlations between the raw number of people experiencing homelessness, the number of social housing dwellings, R1 PRS dwellings and the net supply of affordable PRS dwellings for Q1 households (NSARH), 2001–21, Australian SA3s

	Raw number of people experiencing homelessness				
	2001	**2006**	**2011**	**2016**	**2021**
Social housing dwellings	0.3143*	0.3774*	0.4623*	0.5787*	0.5906*
R1 PRS dwellings	0.0029	0.0197	−0.0057	0.0428	0.1780*
NSARH	−0.119*	−0.1782*	−0.278*	−0.416*	−0.5069*

*Note: *Denotes coefficient is statistically significant at 0.05 or less.*

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table 11 shows a consistent pattern in all years, namely that the number of R1 PRS dwellings is not correlated with the number of people experiencing homelessness, with the exception of 2021. The number of social housing dwellings is moderately positively correlated with homelessness numbers and becomes more so over the course of the panel. That is, there are more people experiencing homelessness in areas with more social housing. This is consistent with Batterham (2012; 2020) and Wood, Batterham et al. (2014), which documented the concentration of low-cost PRS and social housing in low-income areas.

However, once local demand from low-income (Q1) PRS households is taken into account using the NSARH, the supply of R1 dwellings is negatively related to homelessness numbers. That is, there are more people experiencing homelessness in areas with a greater shortage of R1 PRS dwellings relative to demand and this relationship becomes stronger over time.

13 Pearson correlations report the strength of the linear relationship between two variables. The coefficient can range between 0 and 1, with 0 indicating no relationship and 1 indicating a perfect correlation. Coefficients can also be positive or negative. A positive coefficient means that as one variable increases, so does the other. A negative correlation means that as one variable increases the other decreases.

Wood, Batterham et al. (2015) and Batterham (2020) argued that the size of the at-risk population in an area may mediate the relationship between supplies of low-cost rental housing and homelessness. The current findings are consistent with this argument, with Q1 PRS households acting as a reasonable proxy for households at risk of homelessness.

These apparent relationships could be because lower levels of affordable rental housing can precipitate homelessness (Johnson, Scutella et al. 2015b) or because a lack of exit options means that people remain homeless for longer periods of time. The relationship between supplies of affordable rental housing and homelessness is explored further in Chapter 4.

In the next section we explore the relationship between supplies of affordable rental housing and the characteristics of SHS clients.

3.4 Do local supplies of affordable private rental housing impact on specialist homelessness services?

In addition to our measures of service capacity (both support and accommodation) from the SHSC, for this report we also obtained additional data about the characteristics of clients at the SA3 level. This includes the number of clients in a region who are returning (as opposed to new clients who are presenting for assistance for the first time), and the number who were deemed to be homeless (as opposed to at risk or not stated) on presentation to services.[14]

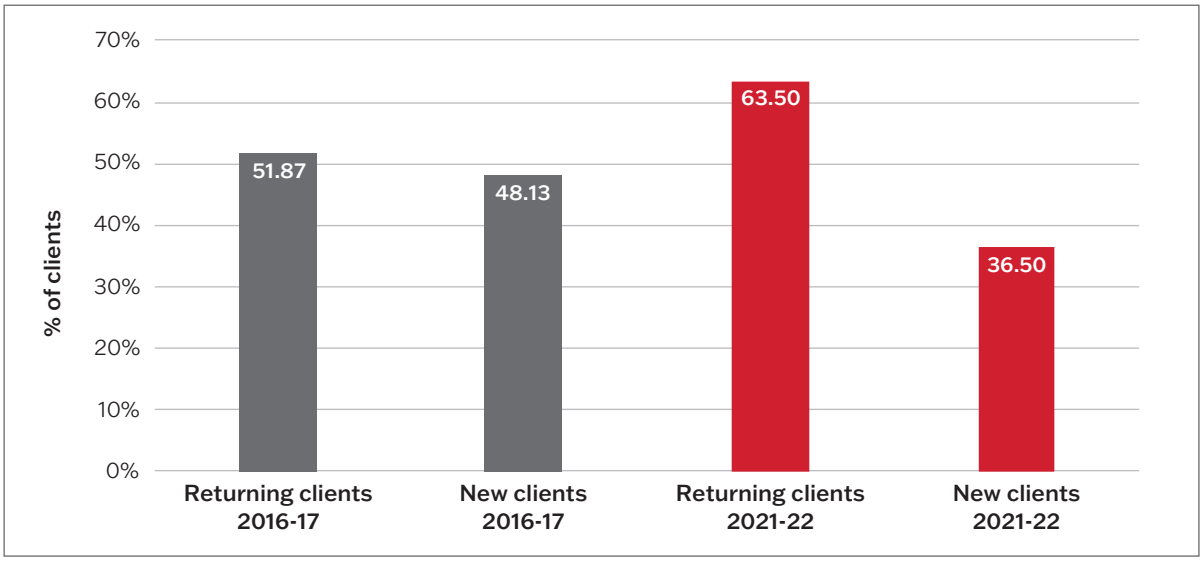
Changes in SHS support and accommodation capacity over time are slow and dependent on changes in government funding; hence, they are unlikely to be influenced by, or respond to, changes in local housing market conditions. However, it may be that local housing market conditions impact on the operation of SHSs by influencing who presents for assistance. In line with the findings of Johnson, Scutella et al. (2015b), local supplies of affordable rental housing may influence entries into homelessness. This may be reflected in SHS data such that areas with a poorer supply of low-cost private rental housing may have more clients assessed as homeless on presentation for assistance.[15]

Additionally, a lack of local affordable exit options may mean that more clients return for assistance either because their homelessness could not be resolved or because they are unable to sustain their exits from homelessness in tight private rental market conditions. This section explores these issues and begins with a national overview of two indicators.

At the national level, more than half of SHS clients are returning for assistance as opposed to presenting for the first time. Further, there was an increase in the proportion of clients who are returning, from 51.9 per cent in the 2016–17 financial year to 63.5 per cent in the 2021–22 financial year. To a degree, this is to be expected, as the longer the collection continues, the more opportunities there are for clients to re-present for assistance.

14 Please note that these data items are based on clients first presentation for assistance in the relevant financial year.
15 Please note that the definition of homelessness used in the SHSC is different and more restrictive than the ABS statistical definition used throughout this report.

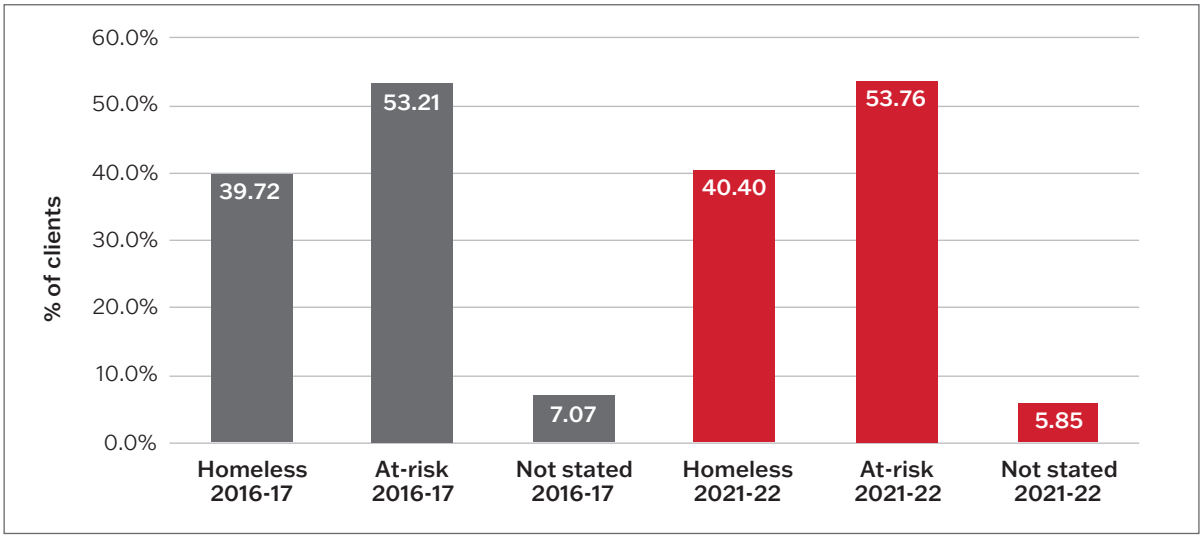
Figure 14: Percentage of SHS clients who are new vs returning, 2016–17 and 2021–22 financial years, Australia



Source: Authors' calculations using customised SHSC data.

Conversely, there was little shift in the percentage of clients who are deemed homeless or at risk upon presentation to an SHS. Around 40 per cent in both 2016–17 and 2021–22 were classified as homeless, as opposed to at risk or not stated.

Figure 15: Percentage of SHS clients who are homeless, at risk or not stated at presentation, 2016–17 and 2021–22 financial years, Australia



Source: Authors' calculations using customised SHSC data.

To explore whether the percentage of returning clients and the percentage of homelessness clients varied spatially, we calculated the percentage of returning and homelessness clients for each greater capital city and balance and state area for both the 2016–17 and 2021–22 financial years. We include with this breakdown the percentages for states and territories along with all of Australia in Table 12.

Table 12: Net supply of PRS dwellings affordable to Q1 households, the number of social housing dwellings, the number of SHS clients who are returning and the number of SHS clients who are homeless in 2016–17 and 2021–22 by greater capital city/balance of state areas

	Net supply of affordable PRS housing 2016	Number of social housing dwellings (2016)	Number of SHS clients who are returning for assistance 2016–17	Number of SHS clients who are homeless 2016–17	Net supply of affordable PRS housing 2021	Number of social housing dwellings 2021	Number of SHS clients who are returning for assistance 2021–22	Number of SHS clients who are homeless 2021–22
Greater Sydney	−35,130	78,780	10947	11389	−61,766	78,215	12469	9,862
Rest of NSW	−11,079	44,525	19274	16583	−24,210	43,698	24114	16,741
Greater Melbourne	−37,273	42,898	32589	20309	−58,936	42,267	37717	19,204
Rest of Vic	73	19,339	18439	11252	−8,540	19,296	22729	11,912
Greater Brisbane	−20,619	30,048	5955	7609	−33,894	29,744	7086	6,509
Rest of Qld	−16,595	31,974	12173	10722	−25,422	32,258	16541	12,915
Greater Adelaide	−11,442	31,820	8052	5957	−14,478	30,549	7927	5,860
Rest of SA	2,777	9,002	3522	2057	1,572	8,526	3438	1,892
Greater Perth	−13,900	22,774	6136	5318	−19,523	23,111	6940	5,406
Rest of WA	−410	13,257	4266	2748	−872	13,041	6912	3,346
Greater Hobart	−1,531	5,345	1884	1637	−2,494	5,765	2156	1,711
Rest of Tas	342	5,962	2115	1904	−1,471	6,059	2232	1,871
Greater Darwin	−219	2,758	1322	843	−596	2,938	1576	1,024
Rest of NT	126	6,524	2935	1342	−48	6,827	4009	1,208
ACT	−1,101	9,321	1726	1203	−1,606	9,687	1916	1,363
Australia (total)	−145,981	354,327	131335	98969	−252,284	351,981	157762	98,953

Source: Authors' calculations using ABS Census data and customised data from the ABS Census and SHSC.

At first glance there appears to be little relationship between the measures of affordable housing supply and either the percentage of returning or homeless clients. However, when we explore this relationship further using Pearson's correlations (Table 13), we find significant results.

Table 13: Contemporaneous Pearson's correlations between the raw number of returning and raw number of homeless clients, SHS clients and affordable rental supply measures, 2016–17 and 2021–22, Australian SA3s

	Number of returning clients		Number of homeless clients	
	2016–17	**2021–22**	**2016–17**	**2021–22**
Social housing dwellings	0.4954*	0.4708*	0.5841*	0.5273*
R1 private rental sector dwellings	0.4029*	0.5050*	0.4577*	0.5676*
NSARH	−0.3818*	−0.4408*	−0.4787*	−0.5342*

*Notes: *Indicates significance at 0.05 per cent or less. NSARH = net supply of affordable rental housing.*
Source: Authors' calculations using ABS Census data and customised data from the ABS Census and SHSC.

The coefficients in Table 13 show that both the number of returning clients and number of clients deemed homeless on presentation to an SHS are positively correlated with the number of affordable rental dwellings (both social and PRS), but negatively correlated NSARH. This suggests that local supplies of affordable rental housing do impact on the effectiveness of SHSs. Specifically, the worse the shortage of affordable PRS relative to demand from low-income PRS households, the higher the number of returning clients and the higher the number of clients who were homeless at presentation to an SHS.

3.5 What is the scale and type of affordable housing response required to address homelessness?

People experiencing homelessness require access to long-term affordable, safe and appropriate housing to resolve their homelessness. This is the case regardless of whether such housing is provided through a staircase or stepped service response or as part of a housing first approach. But how much housing is needed and where is it needed?

Next, we look beyond the existing relationship between homelessness and supplies of affordable housing to better understand the housing response required to address homelessness. We do this by exploring available data on household type and making some broad assumptions about the types of dwellings required based on household composition and size to present a worked example of housing need estimates using the SHSC. Building on this work, improved data on household type and composition could be used to map and plan for the housing response required to address homelessness.

Information about household and family relationships is limited in the ABS homelessness estimates. The estimates enumerate persons in three broad situations: not in a dwelling, in a private dwelling and in a non-private dwelling. In published Census data, different types of information are available for these different dwelling categories; however, the Census does not collect household-level information for all categories, and thus it is not available. Those not counted in a dwelling (i.e. rough sleepers) and those counted in non-private dwellings (i.e. supported accommodation, boarding houses and other temporary accommodation) are not classified as living in a 'household' and do not have household or relationship information collected. Only those counted in private dwellings are classified as living within a household and have household-level information collected and assigned. However, for those enumerated as 'staying temporarily with others', this household-level information relates to the household they are *visiting* and, as such, does not apply to the person staying temporarily who is experiencing homelessness. Further, no personal relationship information is recorded for such visitors to a household, even if they are there with a partner or child. In sum, the sole operational group with household/family composition and other household information available is the severely crowded group.[16]

The above limitations of Census data make this data source unfeasible to use to examine relationships and household compositions across all those experiencing homelessness and, therefore, the housing response required to address homelessness at a point in time. This is an important area for future data improvement and development.

The SHSC does include information on household and family relationships and is available for multiple financial years. Information on 'presenting unit'[17] at the SA3 level for both the 2016–17 and 2021–22 financial years was obtained in our customised request. Examining both years of data was important to understand whether the distribution of household types varied significantly over time or was potentially impacted by the pandemic response.

Unfortunately, the SHSC does not include a unique indicator for households, and, while an indicator is available for presenting unit heads, this is also not unique over time. At present, we can only determine whether *individuals* re-present for assistance over time; we cannot determine if the same *household* does. This is an important area for data improvement in this collection.

The presenting unit variable includes six different presenting unit types: lone persons, couples with children, single parents with children, couples without children, other family groupings and other groups. Table 14 presents the number of people by presenting unit type for each greater capital city and balance of state area, along with the national total. At the national level, the most common presenting unit type to an SHS is lone person (154,951 persons), followed by single parents with children (71,019 people).

By converting these 'presenting unit types' into 'households' we can estimate the number and size of dwellings required, where one household requires one dwelling.

It is possible to estimate the number of households for lone person and couple households based on individual data, assuming that both individuals in the couple are counted. We assume that lone person and couple households require a one- to two-bedroom dwelling[18] and, based on this assumption, we estimate that 157,837 such dwellings are required to house only the lone person and couple household presenting unit types: that is, 65 per cent of those accessing SHSs in 2021–22.

16 In Appendix 2, Table A19 summarises the availability, or otherwise, of household/family relationship information for persons experiencing homelessness by operational group.
17 Please note that presenting unit information was based on clients first presentation for assistance in the relevant financial year.
18 Some people presenting alone to an SHS are parents who would like to regain or share custody of their children and require an additional bedroom to do so (Barker, Kolar et al. 2011; Burt, Aron et al. 1999; Paquette and Bassuk 2009).

Because of the limitations noted earlier, it is not possible to determine how many household members are contained within other household types such as single parents with children, couples with children, other family and other group households. Exploration of the SHSC data cubes shows that 62 per cent of persons presenting in single-parent households (and 49% in couple households with children) have children that are under 15 years of age. So it is clear that children are regularly being recorded as individual clients. For illustrative purposes, we assume such households have, on average, three household members who are counted as individuals in the above table and that each such household requires a dwelling with three or more bedrooms. This equates to 24,907 households (and thus dwellings) nationally.

Table 14: Number of people receiving assistance from an SHS by presenting unit type and greater capital city and balance of state area, 2021–22[19]

	Lone persons	Couples with children	Single parents	Couples without children	Other family types	Other groups	Number of one- to two-bedroom dwellings required*	Number of three-or-more-bedroom dwellings required^
Sydney	15,349	1,152	8,492	297	133	50	15,498	2,892
Rest of NSW	21,076	2,124	11,863	1,088	461	326	21,620	4,217
Melbourne	36,393	2,591	16,422	1,401	385	375	37,094	5,727
Rest of Vic	24,075	1,163	6,216	797	273	195	24,474	2,228
Brisbane	6,487	1,105	4,336	285	47	127	6,630	1,503
Rest of Qld	13,009	2,148	9,475	789	140	208	13,404	3,274
Adelaide	8,971	606	2,304	160	178	179	9,051	887
Rest of SA	4,024	175	686	116	59	59	4,082	268
Perth	7,520	418	3,435	187	66	43	7,614	1,181
Rest of WA	6,052	835	3,502	340	125	68	6,222	1,232
Hobart	2,579	23	500	60	14	14	2,609	176
Rest of Tas	2,778	59	547	74	6	9	2,815	187
Darwin	1,471	128	746	80	20	2	1,511	256
Rest of NT	3,406	326	1,796	85	72	36	3,449	635
ACT	1,761	136	699	12	28	5	1,767	244
Australia	**154,951**	**12,989**	**71,019**	**5,771**	**2,007**	**1,696**	**157,837**	**24,907**

**Estimated by summing lone persons and half of the couples without children.*

^Estimated by summing single parents, couples with children, other family types and other groups and diving by three.

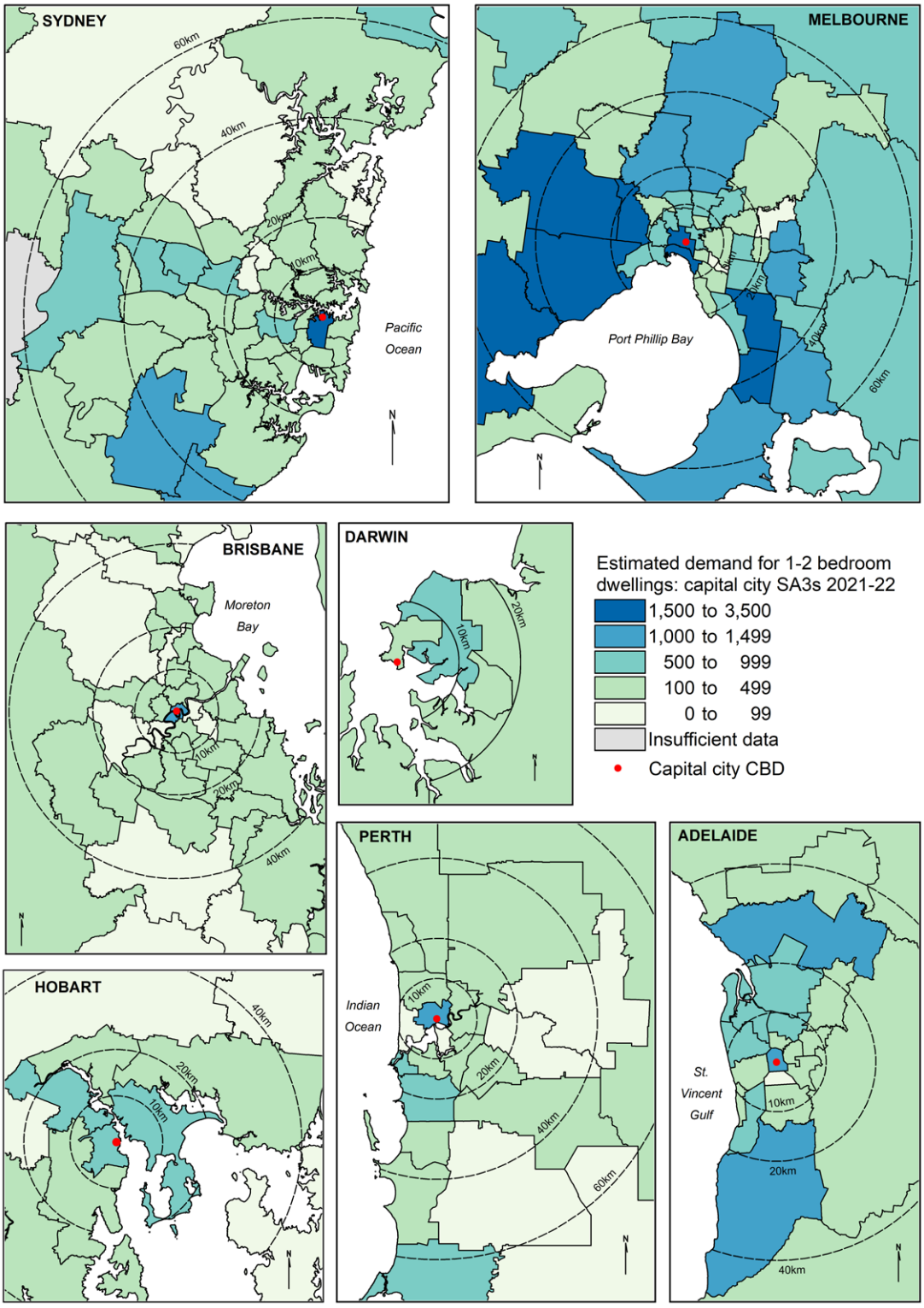
Source: Authors' calculations based on customised SHSC data.

19 In reporting these figures we rely on data for all SHS clients. While customised information was available by homelessness and risk status, the definition of homelessness used in the SHSC includes only some of the operational groups deemed homeless using the ABS definition. For example, those deemed to be at risk of homelessness (rather than experiencing homelessness) in the SHSC definition include those in severely crowded dwellings and people in boarding houses (AIHW 2019). As such, for consistency with the ABS homelessness estimates, we include clients regardless of homelessness and risk status in these figures.

It is important to note that these numbers largely reflect the existing capacity of the SHS system in different states/territories and do not reflect unmet need or the unexpressed demand noted at the beginning of this chapter.

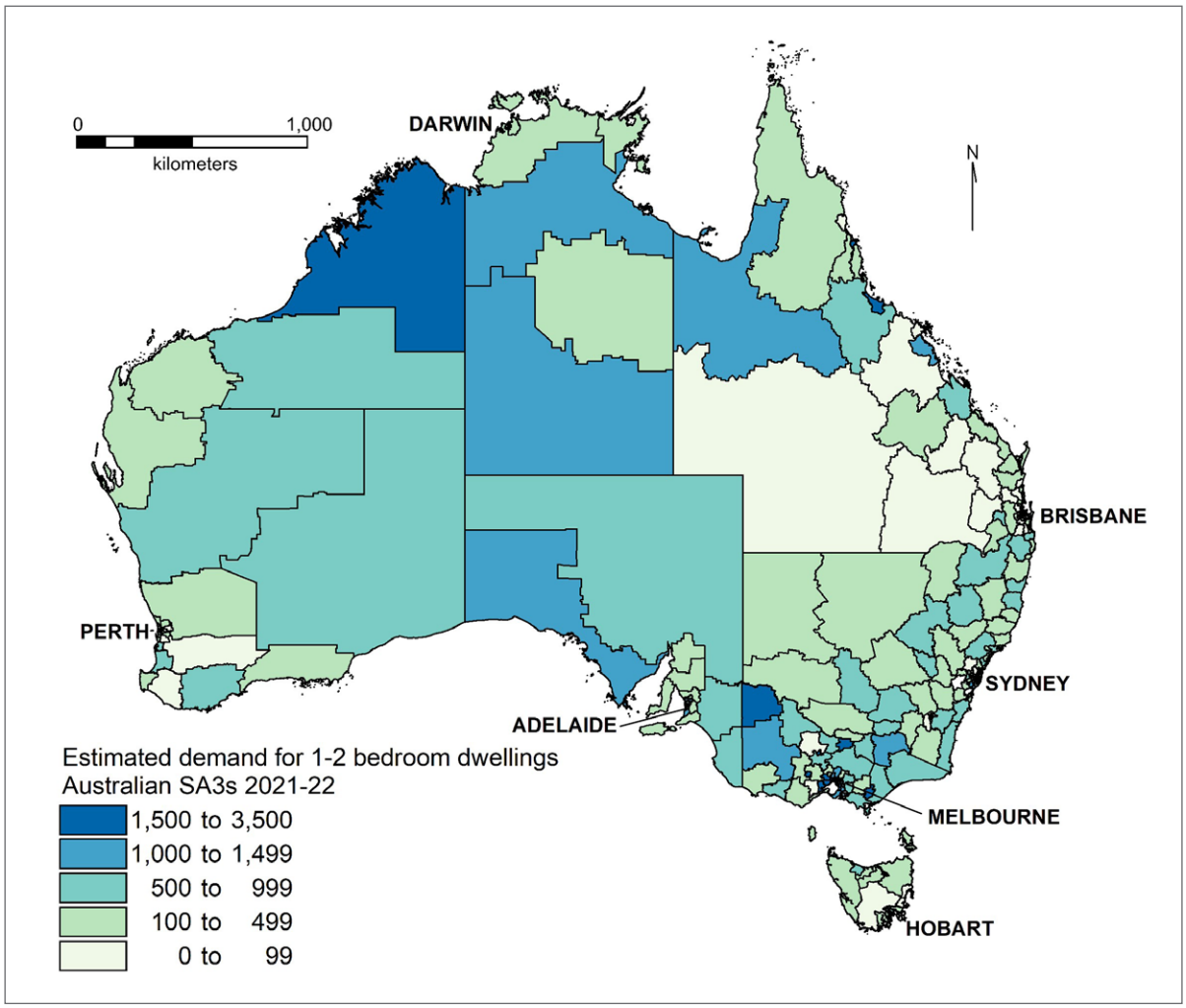
A useful way of understanding the scale of affordable housing need and where it might be best located is to look at the reported location of clients one week prior to presenting to an SHS for assistance. Figure 16 maps these locations and the number of households requiring one- to two-bedroom dwellings (lone persons and couples without children) at the SA3 level in greater capital cities and nationally.

Figure 16: Estimated number of additional one- to two-bedroom dwellings required to house demand from lone person and couple households presenting to an SHS, capital city SA3s, 2021–22



Source: Authors' calculations using customised SHSC data.

Figure 17: Estimated number of additional one- to two-bedroom dwellings required to house demand from lone person and couple households presenting to an SHS, Australia SA3s, 2021–22



Source: Authors' calculations using customised SHSC data.

While some areas, such as the inner regions of most capitals, already have a supply of one- to two-bedroom dwellings, these dwellings must be affordable and accessible to those with very low incomes. Our earlier analysis highlights the existing overwhelming shortage of R1 PRS stock and social housing relative to the number of Q1 PRS households. We note that 79 per cent of SHS clients aged 15 years and over in 2021–22 were reliant on income support payments as their main source of income (AIHW 2022a). It seems likely that this new supply will need to be built/added to or heavily subsidised to ensure affordability for this cohort, as the vast majority of dwellings are not affordable within the existing supply.

3.6 Policy implications

A mismatch between SHS capacity and homelessness persists nationally and is spatially uneven, affecting states/territories differently. Yet there has been mild improvement since 2016–17. This analysis helps point to where additional SHS support and accommodation capacity is needed based on local demand and the locations of clients prior to seeking assistance.

Our results suggest that a shortage of R1 dwellings relative to demand from Q1 PRS households is related to higher homelessness. This is the case in most capital cities and some balance of state areas. Further, in balance of state areas in Western Australia and the Northern Territory, where the PRS is relatively small, declining homelessness numbers coincide with modest increases in the supply of social housing; however, there is still a significant shortfall of affordable and appropriately sized dwellings.

Local supplies of affordable private rental housing impact on the effectiveness of the SHS response. Specifically, areas with lower supplies of affordable private rental housing relative to demand have more clients deemed to be homeless on presentation as well as more clients returning for assistance. Low-cost private rental housing is a major exit option from an SHS and returning clients contribute demand for SHSs. This finding highlights that policy makers must understand the effectiveness of SHSs within local housing market conditions and work towards increasing the supply of low-cost rental options for people experiencing homelessness.

Our findings, while preliminary, suggest that around 158,000 one- to two-bedroom dwellings and 25,000 dwellings with three or more bedrooms are required nationally to address homelessness just among most of those accessing an SHS in one financial year. These findings emphasise that a dedicated and significant housing response is required to address homelessness, and this must be planned at the local level. Further, the scale of need in regional areas suggests a regional housing strategy is needed.

To improve understanding of the housing response required, data improvements are needed in the Census collection and SHSC to ensure that we can identify households. For the Census, this requires improvements to the Census short form and the options available to those staying temporarily with friends and family or in severely crowded dwellings to ensure the size and composition of households can be identified. For the SHSC, a unique household identifier is required in addition to the unique client identifier along with information about relationships within presenting units. However, we acknowledge that such changes are costly and require complex planning. Linked data may also be a feasible option for addressing these limitations in the future.

4. The role of structural factors in driving homelessness

This chapter presents detailed modelling of the structural factors that may be driving aggregate rates of homelessness.

After incremental testing to carefully document sources of error and bias in our sample we settle on spatial Durbin error models with fixed effects, which we report nationally and for greater capital city and rest of state areas.

Homelessness is higher in greater capital city areas with a greater shortage of affordable private rental housing relative to demand.

Specifically, an increase in affordable private rental housing by 1,000 dwellings in greater capital city SA3s will reduce homelessness rates in those regions by around 10 per cent.

Homelessness is higher in areas with smaller supplies of social housing. This is the case in the national models and balance of state areas but not greater capital city areas.

An increase in social housing in a state/territory will significantly reduce homelessness rates within that state/territory.

Demographic profiles of regions are important predictors of homelessness across area types. This is likely because they are indicators of both the size of the local homeless population and the population at risk of homelessness.

Areas with more men, more First Nations people and more people speaking a language other than English have higher rates of homelessness, as do areas with more couple households without children, one-parent households and group household types.

4.1 Introduction

In this chapter we implement a spatial modelling exercise to examine **RQ3: What role do structural factors such as supplies of affordable private rental housing, demographics, labour markets, poverty and inequality play in shaping differences in rates of homelessness across Australia?**

The modelling exercise presented in this chapter draws on a collection of studies investigating the impact of structural factors on aggregate rates of homelessness using area-level data.

Numerous studies have been conducted in the United States that use a cross-sectional approach to examine how variations in homelessness rates across metropolitan areas might be related to variations in housing and labour markets at a point in time (e.g. Appelbaum, Dolny et al. 1991; Bohanon 1991; Early and Olsen 2002; Elliott and Krivo 1991; Florida, Mellander et al. 2012; Honig and Filer 1993; Lee, Price-Spratlen et al. 2003). Similar work has also been conducted in the United Kingdom (Bramley 1993; Bramley and Fitzpatrick 2017). There are also a handful of panel studies across the US and UK that have examined these relationships over time (in the US, see Quigley and Raphael 2001; Quigley, Raphael et al. 2001; in the UK see Kemp, Lynch et al. 2001).

Both the cross-sectional and panel studies using area-based measures from the US find that areas with higher rents (Bohanon 1991; Early and Olsen 2002; Florida, Mellander et al. 2012; Hanratty 2017; Honig and Filer 1993; Lee, Price-Spratlen et al. 2003; Quigley and Raphael 2001; Quigley, Raphael et al. 2001) or a smaller supply of low-cost rental housing (Elliott and Krivo 1991) tend to have higher homelessness. Appelbaum, Dolny et al. (1991) and the two US panel studies (Quigley and Raphael 2001; Quigley, Raphael et al. 2001) also found that lower vacancy rates were associated with higher homelessness.

A number of studies in the US also report that higher levels of poverty are important (e.g. Hanratty 2017; Muniz 2021), but findings are mixed (e.g. Elliott and Krivo 1991; Florida, Mellander et al. 2012). Findings are also mixed in relation to labour market effects, with only Appelbaum, Dolny et al. (1991), Bohanon (1991) and Burt (1997, cited in Johnson, Scutella et al. 2015b) reporting a statistically significant positive relationship between homelessness rates and unemployment.

Findings from UK are more mixed. Bramley (1993) found that higher homelessness was associated with lower supplies of social rental housing but that this relationship fluctuated over time. Alternatively, Kemp, Lynch et al. (2001) found that higher unemployment was associated with higher homelessness, while cross-sectional analysis in the more recent years of their panel dataset showed that local authorities with higher vacancy rates and lower rents had higher homelessness – the opposite to a number of US studies.

More recently, a number of studies have combined area-level and individual-level data to explore these relationships. Bramley and Fitzpatrick (2017) found that poverty, and childhood poverty in particular, is associated with greater risk of homelessness. Yet, after demographics, poverty and other indicators were accounted for, better supplies of local private and social rental housing lowered the risk of homelessness, while greater local demand for affordable rental housing increased the risk of homelessness.

While international research is instructive, differences in institutional arrangements and the definitions of homelessness used means that these relationships may or may not hold in the Australian context.

In Australia, Wood, Batterham et al. (2015) found that the demographic profiles of areas were the strongest predictors of homelessness rates, along with area-based income inequality and the types of dwellings present in the local housing market. They argue that area-level demographics and greater income inequality are proxies for the size of the local population at risk of homelessness.

Parkinson, Batterham et al. (2019) extended Wood, Batterham et al.'s (2014; 2015) analysis and, after controlling for spatial autocorrelation, found that homelessness was higher in areas with higher median rents and with a smaller supply of private rental stock affordable to those on the lowest incomes. Parkinson, Batterham et al. (2019) also found that the relationship between homelessness and private rental market indicators was strongest in greater capital cities – areas that have substantial private rental markets.

Merging both area-level and individual-level data, Johnson, Scutella et al. (2015a) found that private rental markets matter for those with less complex behavioural and health needs, and that they matter for entries into, but not exits from, homelessness. Others, drawing on micro panel and macro data, identify the cushioning impact of public and social housing provision in reducing homelessness risk among low-income households when compared with similarly low-income people renting privately (O'Donnell 2021; Prentice and Scutella 2020).

In addition to housing market, labour market, and measures of poverty and inequality, studies across countries also highlight the role of demographics in understanding the geography of homelessness. In the US, young single males were found to have higher rates of visible homelessness and rough sleeping. The growth of this cohort, as a share of the homeless population relative to older men, is historically linked to weakening labour markets and structural unemployment among lower-skilled males during the 1980s and 1990s. The structural determinants underpinning rising homelessness among lone women and women with children can be linked to the cumulative and intersectional power relations of gendered violence, inequality and feminisation of poverty that deplete both incomes, resources and housing choices in a declining affordable rental market over time (Hastings 2023; Hastings and Craig 2023; Irish and Stoeffler 2023; for gender inequality, see Dys, Steeves-Reece et al. 2023; Segalo and Ennin 2023).

Internationally, migrant and First Nations communities disproportionately occupy doubled up, multigenerational and or crowded housing. While different cultural practices, kinship and familial relations underpin larger household sizes, a common element is shaped by intersecting relations of racial discrimination in accessing adequate rental housing and service responses, including inadequate public social housing dwellings according to household need (Fowle 2022; Hermans, Dyb et al. 2020; Memmott, Lansbury et al. 2022). In the Australian context specifically, First Nations people continue to be impacted by the legacy of colonisation, dispossession and intergenerational trauma, making them especially vulnerable to homelessness – in particular, severe crowding.

The importance of demographic predictors in our earlier modelling work (Parkinson, Batterham et al. 2019; Wood, Batterham et al. 2015) may indicate the presence of a larger pool of people at risk of homelessness in areas with higher homelessness. Batterham, Nygaard et al. (2021) enumerated and profiled the at-risk population in Australia. Compared with the national not-at-risk population, Australians at risk of homelessness experience multiple indicators of poverty and disadvantage. Specifically, people at risk of homelessness were more likely to experience poorer health, have a First Nations background, have lower educational attainment and incomes, or be in receipt of government income support.

After summarising relevant findings from the literature, we describe our analytical approach to modelling. Then, in the body of the chapter, we take an incremental approach to specifying our models, beginning with a basic pooled ordinary least squares (OLS) framework then extending to fixed effect (FE) and random effects (RE) specifications. After testing for spatial autocorrelation, we then move to spatial autoregressive models where we finalise our models and discuss the variables most important in understanding the changing geography of homelessness. We conclude the chapter with a discussion of the policy implications of our findings.

4.2 Analytical approach

The precision of linear regression models can be dubious when outcomes are spatially correlated,[20] meaning that outcomes in one area might be influenced by the outcomes or covariates in adjacent areas. Spatial modelling techniques extend the linear regression model by accounting for the likelihood that homelessness rates in one SA3 are influenced by (i) homeless rates in adjacent areas (spatial lag of outcome); (ii) structural factors of adjacent areas (spatial lag of covariates); and (iii) errors from adjacent areas (spatially autoregressive errors). Spatial modelling techniques are well suited for our purposes since they deal with the statistical biases that inevitably arise in area-based studies where observations are spatially clustered.

In the present study, spatial clustering can take many different forms. The recent COVID pandemic serves as a vivid example of the influence of spatial clustering in all its manifestations, encompassing everything from variations in localised outbreaks and vaccination uptake to resource allocation and travel restrictions at the state government level. Beyond the pandemic, spatial dependence arises in a multitude of ways. We know from our earlier reports that homelessness rates are more concentrated in remote regions as well as in the CBD and adjacent areas. Moreover, our findings indicated that growth in homelessness is higher in urban areas with a shortage of affordable housing stock and rising rental costs. Ignoring the spatial configurations of areas and the settlement patterns of the homeless population may lead to less precision in the sample mean by underestimating the real variance in the data (Ward and Gleditsch 2019).

In Parkinson, Batterham et al. (2019), spatial autoregressive models were applied to model homelessness on a pooled national sample, and also separately for capital cities, regional and remote areas. To account for the increasing urbanisation of persons living in overcrowded housing conditions, separate regression models were estimated for the overcrowding category (operational group 6) in addition to models on the total incidence of homelessness. In the present study, we rely primarily on aggregate homelessness estimates and do not endeavour to disaggregate the model samples by operational groups.

20 In this report, we attempt to curtail the effect of spatial clustering on our model estimates; however, there are also non-geographic interactions that might influence model outcomes, such as social networks, which are beyond the scope of this report.

Modelling results

4.2.1 Modelling homelessness using ordinary least squares fixed effects and random effects

Pooled ordinary least squares models

Let us begin by momentarily setting aside panel and spatial clustering concerns and consider a standard linear regression model to measure area-level correlates between socio-economic and demographic factors, housing affordability and national homelessness rates. We start by applying a pooled ordinary least squares (OLS) regression model, where SA3-level observations from all five Census years spanning 2001–21 are pooled into a long dataset to analyse the rate of homelessness, *h*, in region *i* and time *t*, represented as h_{it}. The key assumption underpinning the pooled OLS specification is that homelessness rates are independent both across different areas and over time. This strong assumption of independence, while challenged by our earlier work as well as the extant literature, serves as a useful starting point by providing us with a foundational OLS framework that we can subsequently build on with more complex model specifications. Equation 4.1 below algebraically presents the pooled OLS specification:

$$h_{it} = \beta_0 + \beta X_{it} + e \quad (4.1)$$

where the dependent variable, h_{it}, denotes homelessness rates per 10,000 persons, β_0 represents the intercept, X_{it} denotes a vector of independent area-level characteristics measured time *t* for region *i*. The last term, *e*, measures the error term capturing factors not included in X_{it} and that affect the outcome, h_{it}.[21] We estimate a log-linear model where the homelessness rates are log-transformed, while the independent variables are measured linearly. We do this for two reasons: first, to normalise the dependent variable; second, to simplify the interpretation of our results by converting a linear variable into a percentage. Included in the vector of explanatory variables are a series of demographic and socio-economic variables pertaining to region *i* and measured in year *t*, as well as housing indicators that indicate the dominant forms of dwelling types, indigeneity and ethnicity in the region, and structural indicators to measure housing tenure status including affordable housing supply, income inequality and labour market factors. To account for geographical effects, year and state dummies are included in the OLS models to control for state and time-level fixed effects.

Following our findings in Chapter 3 about the importance of the match between the supply of, and demand for, housing affordable for Q1 households, we use the net supply of affordable PRS housing (NSARH) in our modelling. A positive (negative) figure indicates a surplus (deficit) in the number of private rental dwellings that are affordable to low-income households in region *i*, respectively. In addition to this, we include a second measure of affordable housing to capture the proportion of social housing dwellings, which is the sum of public housing and community housing dwellings in a region. The statewide eligibility of social housing dwellings means this variable will not provide us with a direct measure of the effect of social housing on regional homelessness rates.[22] Nonetheless, it provides insight into the general provision of affordable housing options in the region, and their indirect effects on area-level homelessness rates.

21 The validity of the OLS model findings hinge on the variability in the error terms being constant. However, this assumption is unlikely to hold, particularly in the case of repeated cross-sectional time-series datasets like the Census where the data are grouped by regions.

22 Applications for social housing (either public or community housing) are made through a centralised register with a waitlist and an option to only select broadly preferred areas. While the process varies across states and territories, local supplies of social housing do not necessarily translate to greater access to that stock for those staying in its immediate vicinity.

Column 1 of Table 15 reports the estimates from the pooled OLS model on national homelessness rates where spatial and temporal correlations are unaccounted for. In this model, demographic factors alone significantly explain area-level correlates of homelessness rates. Specifically, the proportion of males in a region as well as the prevalence of group households are positively associated with an increase in homelessness rates, with estimated effects ranging from 11 to 14 per cent, respectively, all else remaining equal. The presence of First Nations persons in a region and the proportion of single-parent households also emerge as significant but less influential factors. The OLS model does not indicate a significant relationship between the net supply of affordable PRS housing for Q1 households (NSARH), area-level disadvantage (as measured by the percentage of households in Q1 per region) and homelessness rates.

It is important to note that we approach these simplified results with caution since they fail to consider unobserved heterogeneity, a non-trivial issue that commonly arises in panel datasets like the Census where the same regions are tracked over time. They often occur when unobservable observations are correlated with explanatory variables or when error terms are not constant (i.e. they are heteroskedastic), ultimately resulting in model misspecification or biased estimates.

Table 15: Model estimates from pooled ordinary least squares (OLS), fixed effects (FE) and random effects (RE) models, Australia, 2001–21[23]

	Explanatory variables	Pooled OLS[1]	FE	RE
		b/se	**b/se**	**b/se**
Demographic	% Male	0.115**	0.087***	0.096***
		0.04	0.02	0.02
	% Indigenous	0.064***	0.071***	0.057***
		0.01	0.01	0.01
	% Speaks other language	0.014**	0.016***	0.009***
		0	0	0
Household type	% Couples only	0.025*	0.037***	0.040***
		0.01	0.01	0.01
	% One-parent households	0.059*	0.069**	0.065***
		0.03	0.02	0.02
	% Group households	0.138***	0.104***	0.136***
		0.03	0.02	0.02
Housing	% Renting from real estate	0	−0.042***	−0.018**
		0.01	0.01	0.01
	Net supply of affordable private rental sector housing – Q1 households (thousands of dwellings)	0.03	−0.133**	−0.05
		0.05	0.04	0.03
	% Social housing	−0.002	−0.051***	−0.021**
		0.01	0.01	0.01
Income inequality	% Income in bottom 20% (Q1)	0.01	−0.002	0.007
		0.01	0.01	0.01
	_cons	−6.968**	−5.392***	−7.348***
		2.67	1.34	1.04
	R squared	0.7251	0.4697	0.6883
	No. of observations	1,669	1,669	1,669

Note: Also included in the models are nine-yearly age dummies, post school qualification, labour force status, marital status, household type, housing tenure type, year and state indicators (state indicator variables only in OLS and RE models). See Appendix 5 for complete set of results. 1The Breusch-Pagan Lagrange multiplier test confirms heteroskedasticity in the residuals, and we remedy this by clustering the standard errors to adjust them for area-level heteroscedasticity. Estimates for the OLS specification use clustered standard errors to address this.

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

23 A table of definitions for just those variables used in modelling is available in Appendix 5. A table of descriptive statistics for these variables pooled across years is also included along with the complete results, including dummy variables.

4.2.2 Panel models: fixed and random effects

In this section of the empirical analysis, we enhance the OLS framework to accommodate the panel structure of the dataset. We modify equation 4.1 in the following way:

$$h_{it} = \beta_0 + \beta_1 X_{it} + u_i + e_{it} \quad (4.2)$$

where u_i represents the region-specific component of the error term that remains fixed over time, and e_{it} represents idiosyncratic disturbances that vary over both regions and time. If neglected, unobserved heterogeneity in the form of u_i can bias the β coefficients as well as the dependent variable h_{it}.

To mitigate this, we apply two commonly used panel model specifications, (i) random effects (RE) and (ii) fixed effects (FE), as reported in columns 2 and 3 in Table 15. The key distinguishing feature between the two models is how they deal with unobserved heterogeneity, c_i: RE models assume that unobserved effects are uncorrelated with the explanatory variables while FE models do not enforce this restriction and allow them to be correlated. If the latter assumption holds, u_i is eliminated, leaving only time-varying residuals, e_{it}.

We report estimates for both FE and RE panel models in columns 2 and 3 of Table 15. We first turn our attention to the FE results, reported in column 2. The results indicate that the proportion of males and First Nations persons, as well as ethnic diversity and household type, emerge as important correlates in homelessness rates. These findings are broadly consistent with the results obtained from the pooled OLS results. In contrast with the OLS model results, however, housing-related factors also emerge as significantly related to homelessness rates after eliminating the influence of time invariant factors in the FE models. We obtain a coefficient of −0.134 on the net supply of affordable PRS housing variable (NSARH), suggesting that an increase in the supply of affordable private rental housing for Q1 households by 1,000 dwellings will reduce homelessness rates by 13.4 per cent. This is consistent with our a priori expectations of the relationship between affordable housing supply and homelessness rates.

Similar results are generated from the social housing variable in terms of the negative and significant coefficient. However, given that social housing is accessible by marginalised households across the state and not exclusively by those who reside in the region, a statistically significant coefficient does not signify a direct correlation with homelessness rates in that region. Rather, the social housing variable might be capturing a more generalised relationship between social housing and homelessness rates, with the benefits of social housing on homeless rates extending beyond the regions where social housing is located. We also cannot entirely rule out endogeneity in the social housing variable, which might be reflecting selection effects. For instance, social housing might be allocated in regions with a strong presence of homeless support services. To account for income inequality within regions, we include a measure for the share of low-income households in a region (bottom quintile of wealth distribution) to portray the level of income inequality in the region.[24] The coefficient on the income inequality variable is insignificant, indicating that homelessness rates as per the FE model are driven largely by local and wider housing market factors rather than by income inequality. Nevertheless, we deem the inclusion of income inequality measures important since they help to mitigate some of our endogeneity concerns that might confound the relationship between social housing and homelessness rates.

We test the robustness of the FE model estimates to alternative panel model specifications by also estimating an RE model, reported in Table 15, column 3. The RE findings are generally consistent with the FE model outcomes, especially in terms of demographic influences and the significance of social housing. Notable is the change in the level of significance of the NSARH variable, which reduces to insignificance in the RE models.

24 We experimented with a range of different model specifications to test the robustness of the coefficient on social housing to alternative measures of income inequality. In one alternative specification, we included a measure for the share of high-income households in the region (top 20%) instead of low-income households. In a separate model, we substituted the income inequality variable with median household weekly income. Despite these changes, the level of significance on the social housing variable and our various measures of income remained unchanged from those reported in Table 3.2.

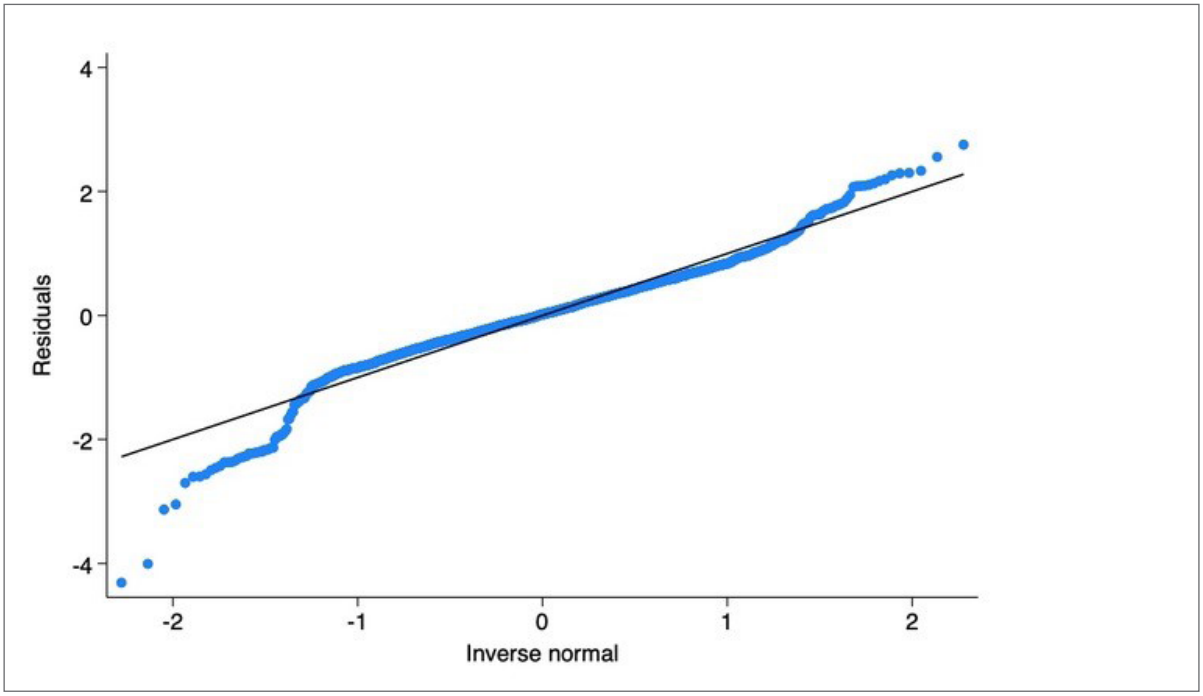
To establish which of the two panel models – FE or RE – provides us with the most reliable estimates, we conduct a Hausman test for comparison. The null hypothesis supposes that the explanatory variables are not correlated with the error term, e_it. If the null hypothesis holds, we can assume that the RE model provides consistent and efficient estimates. However, the results from the Hausman test led us to reject the null hypothesis, indicating that the explanatory variables are in fact correlated with the error terms. Thus, the FE specification is our preferred panel model choice. Nevertheless, the FE model does not resolve all our econometric concerns, particularly those related to spatial interdependencies. Acknowledging this, in the next section we extend our empirical analysis to account for spatial dependencies in the data using spatial econometric techniques.

Testing for spatial autocorrelation

Another dimension of unobserved heterogeneity that was not considered in the earlier model specifications and that might also be an important source of bias is *spatial autocorrelation* in the residuals. For reasons mentioned in the introduction of this chapter, we are concerned that regional observations might not be independent from each other. We can employ both informal and formal methods to detect spatial autocorrelation. The quartile-quartile (Q-Q) plot is an informal graphical technique that allows us to visually detect non-normality in the error terms. It is used to plot the residuals from the FE models against those expected under a normal distribution to determine whether they follow the expected pattern.

Figure 18 presents a Q-Q plot, with the solid curve representing the normal distribution and the dotted blue line representing the actual residual. If the FE model captured the model accurately, the actual residuals will travel along the solid curve. That the residuals deviate from the normal curve, particularly at the tail ends of the distribution, is indicative that the FE model does not fully capture the relationship between homelessness and area-level characteristics, potentially due to spatial clusters of high and low homeless rates.

Figure 18: Q-Q plot to test normality



Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

We also apply a more formal test for the presence of spatial autocorrelation using Moran's test. To carry out the test, we must first define the spatial relationships to be used in the construction of a spatial weighting matrix.[25] Two commonly used matrices are (i) contiguous-based and (ii) distance-based. Contiguous matrices assume that only adjacent neighbourhoods are correlated, placing a weight of 1 for regions that share a common boundary and 0 otherwise. Distance-based matrices, on the other hand, assign non-binary weights and consider the distance between two geographical points, assuming that correlations between regions are proportional with how distant they are from each other. Inverse-distance matrices take on non-binary weights that lend greater weight to closer regions. We assess spatial autocorrelation using both a contiguous-based matrix and inverse-distance matrices. Moran test results produce significant results for both types of spatial relationships, indicating that homelessness rates in a region are correlated with homelessness rates in adjacent neighbourhoods, with the strength of the correlation diminishing as distance increases.

4.2.3. Final models: spatial Durbin error model with fixed effects

Based on these findings we employ spatial lag models and spatial error models in an FE setting to take spatial dependencies in the dependent variable and the residual into account, known formally as the spatial Durbin error model with fixed effects (SDEM). This model is comprehensive in that it addresses our main econometric concerns related to unobserved heterogeneity, all while taking into account spatial dependencies in both the dependent variable and the error term.

We carry this out by reformulating the panel model expressed in equation 4.1 in the following way:

$$h_{it} = \beta_0 + \beta_1 X_{it} + \rho W_i h_{it} + u_i + e_{it} \quad (4.3)$$

where $\rho W_i h_{it}$ represents the spatial lag in the dependent variable using contiguous-based weights[26] that equal 1 for contiguous regions, zero otherwise. A significant ρ implies the presence of spillovers, indicating that homelessness rates in region *i* are geographically determined by homelessness rates in adjacent regions.

To address concerns relating to the influence of spatial clustering in the residual on rates of homelessness, we incorporate a spatial error lag term into the model. We modify the disturbance term, e_{it}, in equation 4.3 to the following:

$$e_{it} = \lambda W e_t + \nu_{it}, \quad (4.4)$$

where $\lambda W e_t$ denotes the spatial error term, λ is the autoregressive term and ν_{it} is a random disturbance term.

The vector of covariates in X_{it} in equation 4.3 includes a similar array of explanatory variables as those found in the non-spatial FE model outlined in equation 4.2. However, year-specific indicators cannot be entered into the spatial fixed effects model, which can accommodate for region-specific effects but cannot control for variations across time (Lee and Yu 2010). We therefore omit year indicators from equation 4.3, while retaining all other explanatory variables.

25 To define spatial relationships, we sourced SA3 spatial coordinates from the ABS's 2021 SA3 digital boundary files (accessed from https://www.abs.gov.au/statistics/standards/australian-statistical-geography-standard-asgs-edition-3/jul2021-jun2026/access-and-downloads/digital-boundary-files) and merged these with the homeless estimates database to create a spatial weighting matrix.

26 We chose contiguity-based weight matrices over inverse-distance matrices given that our unit of analysis – SA3 regions – are relatively large and diverse, thereby preventing us from gaining a nuanced understanding of distance-based spillover effects. Contiguity matrices are arguably better suited for our analysis, focusing on immediate spatial relationships that are likely to influence the homelessness rates within adjacent areas.

We report model estimates for whole of Australia (national) but also present separate estimates for greater capital cities and rest of state areas. We separate out greater capital cities from rest of state areas in recognition of the distinctiveness in housing market factors between those regions. Reynolds, Parkinson et al. (2024) highlight an acute national shortage of affordable rental housing for low-income households that is especially pronounced in major cities. Their findings indicate that 90 per cent of low-income households paid unaffordable rents in greater capital cities as compared to 70 per cent in non-metropolitan regions. Further, results from Parkinson, Batterham et al. (2019) highlighted different relationships between homelessness rates and a range of area-level variables across area types. Given these housing market disparities, it is likely that greater capital city regions are more sensitive to variations in the affordable PRS housing stock relative to regional and especially remote areas. Also relevant are differences in the composition of housing markets, particularly the ratio of social housing relative to private rental dwellings in balance of state areas. The lack of private rental dwellings in remote areas has meant that social housing plays a more important role in these regions, providing shelter for low-income households. We might therefore expect a more pronounced effect on social housing in rest of state areas in view of the limited availability of private rental options. Pooling greater capital city and rest of state areas into a single econometric analysis could dilute these nuanced effects.

Table 16: Estimates from spatial Durbin error model with fixed effects (SDEM-FE), national, greater capital city and rest of state areas

	Explanatory variables	SDEM FE national	SDEM FE greater capital city	SDEM FE rest of state
		b/se	**b/se**	**b/se**
Demographic	% Male	0.090***	0.110***	0.083***
		0.02	0.03	0.02
	% Indigenous	0.077***	0.054	0.047*
		0.02	0.03	0.02
	% Speaks other language	0.019***	0.007	0.030*
		0	0	−0.01
Household type	% Couples only	0.037**	−0.053**	0.055**
		0.01	0.02	0.02
	% One-parent households	0.073***	0.073*	0.076*
		0.02	0.03	0.03
	% Group households	0.095***	0.138***	−0.005
		0.02	0.03	0.04
Housing	% Renting from real estate	−0.030***	−0.019*	−0.014
		0.01	0.01	0.01
	Net supply of affordable PRS housing – Q1 households [NSARH] (thousands of dwellings)	−0.143***	−0.095*	−0.141
		0.04	0.05	0.08
	% Social housing	−0.050***	0.017	−0.048**
		0.01	0.01	0.02
Income inequality	% Income in bottom 20% (Q1)	−0.004	0.003	−0.011
		0.01	0.01	0.01
	Spatial lagged variables			
	Log of homelessness rates (lagged)	−0.109	0.183	−0.12
		0.22	0.2	0.15
	Error term (lagged)	0.325	−0.113	0.323
		0.21	0.26	0.17
	Standard deviation of errors			
	_cons	0.292***	0.254***	0.298***
		0.01	0.01	0.01
	Pseudo R-squared	0.4392	0.4799	0.5515
	No. of observations	1,665	875	790

*Note: See Appendix 5 for complete set of results. Also included in the models are nine-yearly age dummies, post school qualification, labour force status, marital status, household type and housing tenure type. All models account for spatial lags in the dependent variable as well as the error terms. ***Significant at 0.1 per cent. **Significant at 1 per cent. *Significant at 5 per cent.*

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Results for the spatial FE models are presented in Table 16. It should be noted that the spatial regression model estimates cannot be directly compared with the OLS and panel model estimates reported in Table 15. This is because the spatial models produce distinct estimates for direct and indirect effects that cannot be obtained from the coefficient estimates alone. Stata's post-estimation command 'estat impact' enables us to obtain the direct and spillover effects of select housing variables on homelessness rates. We report these in Table 17.

In column 2 of Table 16 we provide model estimates for the whole of Australia; in columns 3 and 4 we report on greater capital city and rest of state areas, respectively. Notable is the stronger level of significance in the national models as compared to the region-specific estimates. This is likely due to the relatively larger sample numbers in the national models and the smaller standard errors. Turning to demographic factors, it can be seen that they remain an important determinant of homelessness rates in these econometrically robust sets of modelling estimates. At the national level, all key demographic factors are strongly correlated with homelessness rates even after controlling for spatial correlations. These findings align with the OLS and panel model findings. However, differences begin to arise in certain variables in terms of the level of significance and strength of the relationships when we contrast the region-specific models. Let us take the proportion of First Nations persons, for instance. The coefficient is positive across all three models; however, it is strongly significant in the national and rest of state regions and only weakly significant in greater capital city regions. This finding likely reflects the disproportionately larger presence of First Nations households experiencing homelessness in remote areas as compared to greater capital cities.

The picture becomes more nuanced, however, when we compare the magnitude of the effects on homelessness rates within both regions. In columns 3 and 4 of Table 17, the direct effect of First Nations status is remarkably similar across the two regions. That is, a 1 percentage point increase in First Nations households will increase homelessness rates by around 5 per cent within both regions. This finding suggests that the substantive influence on homelessness rates is similar in urban and non-urban areas alike. Table 17 also produces estimates on the indirect effects of the explanatory variables on homelessness rates in adjacent regions. Based on the spatial model findings, there is no statistical evidence to suggest that First Nations status impacts on homelessness rates in neighbouring regions.

Next, we turn to the relationship between net supply of affordable PRS housing and homelessness rates. Consistent with the earlier estimates, the coefficient on the NSARH variable is negative across all three models but only strongly significant in the national and greater capital city regions. Specifically, an increase in the net supply of private rental housing affordable to Q1 households by 1,000 dwellings in greater capital city SA3s will reduce homelessness rates in those regions by around 10 per cent. In the rest of state regions, the effect is even larger (14.1%) but is only weakly significant, possibly due to the smaller sample size.

The reverse pattern is observed with respect to the relationship between social housing and homelessness rates in balance of state areas. The significance of the social housing variable, when we confine the analysis to balance of state areas, could indicate that they are more accessible there or that they account for a larger proportion of the housing market. That is, the differential impact of social housing on homelessness rates across different parts of the country likely mirrors the contrasting housing market dynamics between urban and regional areas. For instance, the greater prevalence of social housing in the outer city coupled with limited alternative housing options as compared to major city regions may lead households in the outskirts of the state to become more reliant on social rental tenure. As a result, changes in the social housing stock may exert greater influence on homelessness rates in balance of state areas as compared to greater capital cities. In greater capital cities, on the other hand, where there is a greater tenure mix, the role of social housing on overall homelessness rates appears to be more subdued.

Table 17: Direct, indirect and total impact of key variables on homelessness rates

	SDEM FE national	SDEM FE greater capital city	SDEM FE rest of state
(1) Direct effects			
% Indigenous	0.077***	0.054*	0.047**
Net supply of affordable private rental sector (PRS) housing – Q1 households (thousands of dwellings)	−0.143***	−0.096**	−0.141*
% Social housing	−0.050***	0.017	−0.048***
% Speaks other language	0.019***	0.007	0.030**
% Lone-parent households	0.073***	0.073**	0.076**
(2) Indirect effects			
% Indigenous	−0.006	0.009	−0.004
Net supply of affordable PRS housing – Q1 households [NSARH] (thousands of dwellings)	0.011	−0.016	0.012
% Social housing	0.004	0.003	0.004
% Speaks other language	−0.001	0.001	−0.002
% Lone-parent households	−0.006	0.012	−0.006
(3) Total effects			
% Indigenous	0.071***	0.063	0.043**
Net supply of affordable PRS housing – Q1 households (thousands of dwellings)	−0.131***	−0.111*	−0.130*
% Social housing	−0.046***	0.020	−0.044***
% Speaks other language	0.017***	0.008	0.028**
% Lone-parent households	0.067***	0.085**	0.070**

*Note: SDEM FE= spatial Durbin error model with fixed effects. ***Significant at 1 per cent. **Significant at 5 per cent. *Significant at 10 per cent.*

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

4.3 Policy implications

Our results demonstrate the quantifiable benefits of increasing supplies of rental housing that is affordable to Q1 households and show that policy responses need to be geographically informed. In greater capital city areas, increases of 1,000 PRS dwellings that are affordable to Q1 PRS households are associated with decreases in the rate of homelessness by 10 per cent. While there is a need to ensure such households actually gain access to this stock, the benefit is clear.

Further, our findings suggest that the provision of additional social housing in rest of state areas will also lead to reductions in homelessness in these areas. Given that social housing is governed by eligibility requirements once these options are available, unlike PRS stock, it is likely to be allocated to those most in need. To reduce homelessness, direct interventions by governments are needed to increase housing options for this group and to ensure access to them.

There is evidence to suggest that increases in affordable private rental housing have a greater impact on homelessness rates in remote areas. However, we place less confidence in these results due to small sample numbers.

There is a clear over-representation of First Nations people in the homeless population. This is a product of the poverty and intergenerational trauma brought about by Australia's history of colonisation and dispossession (AHV 2020). There has been a shift towards improving responses to First Nations Australians with the development of the Aboriginal Cultural Safety Framework for the SHS (Samms 2022) that is critically important. However, this shift towards culturally safe practices and services is in its infancy.

The importance of social housing in our rest of state models is indicative of the specific need for affordable rental housing in areas where there is limited or no PRS. This is particularly the case in remote and very remote areas within First Nations communities. Previous policy initiatives, such as the National Partnership on Remote Indigenous Housing, aimed to maintain existing properties and increase the supply of housing in remote communities, with falling rates of homelessness in remote areas likely connected to these increases in supply. We believe that similar policy initiatives should be reinstated and that efforts be made to maintain and expand social housing in these communities to address homelessness.

5. Policy development options

Building on a time series analysis spanning 20 years, this research finds that homelessness continues to be unevenly distributed across areas, with different structural drivers in greater capital cities and balance of state areas. The spatial distribution of homelessness follows broader processes of socio-spatial inequality and the growing 'suburbanisation of disadvantage' in Australia and internationally.

Effective housing and homelessness policies require evidence about these broader structural processes shaping aggregate rates of homelessness, such as rising inequality, poverty, supplies of affordable rental housing, labour markets and area-level demographics. They also require detailed understandings of where homelessness is rising and falling and whether existing services are well located to meet growing demand. The analysis in this report on the long-term changing geography of homelessness and service provision provides a solid evidence base that can inform more nuanced place-based policy and service delivery responses to better target and end homelessness.

This project responded to the overarching policy question: **What structural factors are important in driving short and longer-term changes in the incidence and geography of homelessness over the period 2001–21? To what extent is the location of specialist homelessness services and affordable rental housing adequate to respond to this changing geography?**

This broad policy question was answered through a detailed spatial analysis of a specially constructed panel dataset spanning five Census periods from 2001 to 2021. Three research questions guided the analysis:

RQ1: How does the incidence of homelessness vary within and between regions, states and territories over time? Moreover:

a. Is homelessness becoming more or less spatially concentrated?

b. Is the composition of the homeless population (in terms of operational groups and demographics) changing over time across regions, states and territories?

c. What proportion of people experiencing homelessness move across SA3 boundaries and how does this compare to other groups?

RQ2: Where are people experiencing homelessness located in relation to specialist homelessness services and affordable rental housing (both private and public)?

RQ3 What role do structural factors such as supplies of affordable private rental housing, demographics, labour markets, poverty and inequality play in shaping differences in rates of homelessness across Australia?

Drawing on the findings presented in our empirical chapters (Chapters 2–4), we summarise the answers to each of these questions in turn and discuss the implications for policy. We also highlight improvements to existing data collections that would enable the production of more detailed evidence to inform and improve responses to homelessness in Australia. The forthcoming National Housing and Homelessness Plan, with its focus on increasing the supply of affordable housing, will assist in preventing and addressing homelessness in the longer term; however, more immediate and targeted responses are urgently needed to overcome the current growing private rental affordability crisis plaguing both cities and regional areas.

5.1 How has the geography of homelessness changed over the 20-year study period?

While the national rate of homelessness has not shifted significantly over the past 20 years, the geography of homelessness at the small area level has changed substantially. Homelessness is continuing to become more urbanised, with increasing shares of the national homeless population found in our capital cities relative to balance of state areas.

Remote areas experienced the largest decline in homelessness over the 20-year period, coinciding with declining rates of homelessness among First Nations communities. Previous policy interventions to increase the supply of social housing in remote communities have worked to address homelessness in these areas, yet further supply in these areas is needed. While rates of homelessness in the Northern Territory have declined a staggering 40 per cent over the period, the rate of homelessness in the Northern Territory is 504.4 per 10,000 persons – 10 times the national average.

Most homelessness is in the greater capital city areas of the most populous states. In the latest period, the share of homelessness in Victoria increased well above the growth in the share of the national population. Sydney, however, continues to have the highest share across major cities. The distribution in these larger cities has also become more suburbanised, with areas of high and rising homelessness dispersing to the middle and outer suburbs.

Together, these trends mean that homelessness is becoming less spatially concentrated over time across the nation.

There were some shifts in the presentation of homelessness on Census night across the operational groups that are attributable to the measures in place to address the COVID-19 pandemic: specifically, a large spike in those staying in temporary accommodation. This highlights that the presentation of homelessness is responsive to policy intervention and, viewed alongside other published data on homelessness, suggests that there is significant unexpressed demand for support.

Our investigation of mobility highlights that while people experiencing homelessness are more likely to move than other groups, most moves occur within SA3 regions or within the same greater capital city and balance of state area. In addition to providing confidence in the use of point-in-time data, this highlights the importance of place-based strategies and interventions for homelessness.

5.2 Are specialist homelessness services well placed to respond?

There is a significant mismatch between the location of SHS support and accommodation capacity and those experiencing homelessness. While our results suggest that around one-third of service capacity would need to shift across regions to align with the distribution of homelessness, our results should be understood within the context of the persistent unmet demand for assistance made evident in existing collections. Rather than relocate existing service capacity, more capacity is clearly needed in some areas. This report provides robust evidence of where additional service capacity might be located.

Our results also highlight that local supplies of affordable rental housing impact on the efficiency of the SHS response. Areas with a poorer supply of PRS stock affordable to Q1 households relative to demand have more clients presenting who are deemed homeless and more clients returning for assistance. This is likely due to both a lack of affordable PRS supply precipitating entries into homelessness and a lack of exit options preventing its resolution. In addressing homelessness, policy makers must consider not only adequate SHS capacity, but also adequate exit options from homelessness. On this front, it is promising to see the connection of homelessness and affordable housing policy through the forthcoming National Housing and Homelessness Plan. However, affordable housing must be available for, and affordable to, those with very low (Q1) incomes.

5.3 What affordable rental housing supply is needed to address homelessness?

Shortages of R1 dwellings relative to demand from Q1 PRS households are associated with higher rates of homelessness. This is the case in most capital cities and some balance of state areas. Further, in balance of state areas in Western Australia and the Northern Territory, where the PRS is relatively small, declining homelessness numbers coincide with modest increases in the supply of social housing. Consistent with existing research (Parkinson, Batterham et al .2019; Reynolds, Parkinson et al. 2024), the ongoing decline in the supply of R1 stock relative to demand from Q1 households has become so significant that this stock is unlikely to be available for those experiencing homelessness. Dedicated effort is required to boost the supply of R1 PRS stock, along with social housing, to help prevent homelessness and ensure timely exits from homelessness and SHS support when it occurs.

Spatial estimates of housing need that specify the number of dwellings, along with the size of the dwellings (in terms of number of bedrooms), at the small-area level are critically helpful in informing policy. We believe that the SHSC and ABS homelessness estimates, with some improvements, would be useful in both informing assessments of housing need, and understanding the scale of housing response required, to fully address current and future homelessness.

Using data from the SHSC, we presented a worked example of how such data could be used to estimate the housing response required to address homelessness at a point in time. The response required for those accessing an SHS over a single financial year alone is substantial. Around 158,000 one- to two-bedroom dwellings are required as well as 25,000 larger dwellings with three or more bedrooms. Our mapping exercise identified where these dwellings are needed and highlighted that housing responses must be planned at the local level.

5.4 What structural factors are most important in driving changes in the aggregate rate of homelessness over time?

Our detailed spatial modelling exercise emphasised the importance of affordable rental supply as a driver of the changing geography of homelessness in Australia and quantified the impact of increasing supply.

Increasing the supply of PRS dwellings affordable to Q1 households by 1,000 dwellings in greater capital city regions will see reductions in homelessness rates in those regions by around 10 per cent. Given existing research that shows that lower-income households are often displaced by higher-income households in affordable PRS stock (Reynolds, Parkinson et al. 2024), it will also be important to ensure that Q1 households are able to access this stock and are not displaced by households with higher incomes.

The low incomes of people experiencing homelessness make a market-based housing response particularly challenging. Increasing the supply of housing that is affordable to this group is about not only increasing supply but also increasing the purchasing power of low-income people. Increases to income support payments, increases to Commonwealth Rent Assistance (CRA) and the expansion of CRA to other payment types will help ease affordability pressures (Davidson, Bradbury et al. 2023; Liu, Valentine et al. 2023).

Increasing the supply of R1 dwellings in balance of state areas by 1,000 dwellings will see reductions in the rate of homelessness by 14 per cent. However, in outer regional and remote areas, increases in affordable rental supply require direct investment by governments in the form of social housing. Because access to social housing is determined centrally within states/territories, improvements in the supply of social housing will reduce homelessness across that state/territory. Those local benefits may be evident through reduced returns to homelessness.

The importance of improvements to local supplies of affordable PRS and public housing are underscored by the results showing that most people experiencing homelessness move within their local region or greater capital city/balance of state area.

Dedicated effort is required to boost the supply of private rental dwellings affordable for those on the lowest incomes, along with social and public housing, to help prevent homelessness and ensure timely exits from homelessness and SHS support when it occurs.

A number of demographic factors were important predictors of homelessness across area types. Areas with more men, more First Nations people and more people speaking a language other than English have higher rates of homelessness, as do areas with more one-parent households and group households. While the number of men and group households is likely related to the measurement of homelessness in the Census, other demographic markers, such as speaking a language other than English and being in a sole-parent household, suggest groups in need of dedicated assistance and intervention.

There is a clear over-representation of First Nations people in the homelessness population that is a product of the poverty and intergenerational trauma brought about by Australia's history of colonisation and dispossession (AHV 2020). There is a shift towards improving responses to First Nations Australians with the development of the Aboriginal Cultural Safety Framework for the SHS sector (Samms 2022) that is critically important. However, this shift towards culturally safe practices and services is in its infancy. In addition to improving service responses for this group, there is an ongoing need to invest in housing in remote communities. Results so far suggest that such housing will be extremely effective in reducing homelessness.

In general, we believe that area-level demographics are important predictors of homelessness because they are indicators of both the size of the local homeless population and the population at risk of homelessness.

Building on earlier theorising in Wood, Batterham et al. (2015), we find that broader processes driving socio-spatial inequality are concentrating those at risk of homelessness into areas with more disadvantage, more low cost PRS dwellings and lower incomes over time. As a result, these areas take on particular demographic profiles reflecting the larger population at risk. Those at risk then transition into homelessness in these regions, giving these areas higher homelessness rates compared to other areas. Drawing on the literature and our findings, we hypothesise that transitions into homelessness will be higher, and durations of homelessness longer, in areas with a greater shortage of PRS supply affordable to Q1 households relative to local demand. Further, drawing on our findings, SHSs will have more difficulty resolving people's homelessness in these areas and those experiencing homelessness will find it harder to sustain exits without access to housing that is affordable to them.

5.5 Data improvements and future research

The inclusion of additional data items and the expansion of earlier work (Parkinson, Batterham et al. 2019; Wood, Batterham et al. 2014; 2015) highlighted several areas where data could be improved to ensure better evidence for policy makers. We acknowledge that a clear use case must be made for changes to existing national collections.

The Census homelessness estimates could be improved by including indicators for place of usual residence one year prior to Census night on the Census short form. This would enable cursory examination of the mobility of people sleeping rough. Further, while people experiencing homelessness are not a 'household' as such, because many are not in a private dwelling, information about the people they are currently with, and their relationships, is important in understanding the housing response required for this group. Further improvements to the collection of information for people in severely crowded households and staying temporarily with friends and family would also be useful to this end. We acknowledge, however, that changes to the Census are costly and require detailed technical planning and expertise.

The SHSC could also be improved in relation to the information collected on households. At present, the collection has a unique identifier for individuals who are assisted but no unique identifier for households. Such an identifier would support more robust estimations of the volume and type of housing required to address the homelessness of those accessing the SHS sector. We acknowledge, however, that this is a substantial piece of work.

We are aware that the SHSC includes an indicator of clients' addresses one week prior to presenting for assistance. It would be useful to include an additional indicator in this collection to ask for people's location one to two years before presenting for assistance. This would enable further exploration of the geographic mobility of this group and ensure that service provision, and particularly prevention initiatives, could be expanded in areas where they are needed most.

Given the significant cost and effort in changing existing collections, existing linked data may prove useful in addressing some of these issues if an indicator of homelessness or SHSC data could be included. For example, the Person Level Integrated Data Asset (PLIDA), auspiced by the ABS combines data across a range of government departments and collections including health, income, taxation, education, income support and demographics. The inclusion of homelessness measures in this dataset could be used to partly address the limitations of existing collections.

With Journeys Home having concluded almost a decade ago, there is an urgent need for current detailed microdata on people experiencing homelessness. Perhaps, over time, the ABS and AIHW might consider the development of microdata, or an integrated dataset, on homelessness based on the Census homelessness estimates and the SHSC. Such data would enable the combination of individual and area-level data with repeated cross sections to explore the drivers of homelessness. Further, our models signal correlations between one-parent households and homelessness rates, and most one-parent households are headed by women. Further development of individual level or microdata in either collection may enable examination of the role of family violence in homelessness for this group.

5.6 Final remarks

Our findings strongly emphasise the importance of rental housing (both private and social) that is affordable (and available) to very low-income households in addressing homelessness. Increasing the supply of rental housing, both private and social housing, for this group will lead to quantifiable reductions in homelessness and improve the efficacy of the SHS response. This must be policy priority.

The very low incomes of Q1 households make housing for this group a considerable challenge. Increasing their incomes through measures such as increasing income support payments and CRA must be considered along with increasing the supply of rental housing targeted at this group. These issues must be a focus of the forthcoming National Housing and Homelessness Plan and broader policies moving forward to address and reduce homelessness.

Finally, our framing of the processes shaping the changing geography of housing and labour markets, socio-spatial inequality and disadvantage reinforces the view that homelessness is a manifestation of poverty and is connected to widening inequality at a societal level. Accordingly, initiatives to reduce poverty and inequality will have positive impacts on homelessness.

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AHV – see Aboriginal Housing Victoria

AIHW – see Australian Institute of Health and Welfare

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Appendix 1: Variables and descriptive tables by data source

The following tables of variables and descriptive information relate to the data sources described in Chapter 1, namely: homelessness estimates (ABS Census), Time Series Profile and TableBuilder (ABS Census), special request files (ABS Census) and the Specialist Homelessness Services Collection (AIHW).

1 ABS Census: homelessness estimates

Table A1: ABS Census homelessness estimate variables

Variable	Unit of analysis	Variable details
Total homeless persons	Persons	Total number of persons experiencing homelessness within SA3 *i* in year *X*
Total homeless persons in operational group 1	Persons	Number of persons within SA3 *i* who are in improvised dwellings, tents or sleeping out in year *X*
Total homeless persons in operational group 2	Persons	Number of persons within SA3 *i* in supported accommodation for the homeless in year *X*
Total homeless persons in operational group 3	Persons	Number of persons within SA3 *i* staying temporarily with other households in year *X*
Total homeless persons in operational group 4	Persons	Number of persons within SA3 *i* staying in boarding houses in year *X*
Total homeless persons in operational group 5	Persons	Number of persons within SA3 *i* in other temporary lodging in year *X*
Total homeless persons in operational group 6	Persons	Number of persons within SA3 *i* living in 'severely' crowded dwellings in year *X*

Source: Authors.

Table A2: Key homeless measures derived from the ABS homelessness estimates

Key measures*	Unit of measurement	Variable details
Homelessness rate	Persons	Number of homeless persons within SA3 *i* per 10,000 persons in year *X*
Homelessness share	%	SA3 *i*'s national share of homelessness in year *X*
Change rate/share	%	Percentage change in the homelessness rate or share in SA3 *i* between years 2001 2021
Decile distributions	Deciles	10 equal groups of nationwide homeless rates or shares, measured in year *X*

**Rates, shares and change were also calculated for each of the six homelessness operational groups.*

Source: Authors.

Table A3: Descriptive statistics – rate of homelessness per 10,000 persons by operational group and overall total homelessness: Australian SA3s, 2001, 2006, 2011, 2016 and 2021

	Year	N	Mean	SD	Median	Min	Max
Rate of rough sleepers per 10,000 persons	2001	334	7.66	18.6	1.65	0	157.67
	2006	334	5.47	14.16	1.15	0	152.11
	2011	334	4.21	8.92	1.26	0	75.2
	2016	334	4.58	10.08	1.38	0	79.15
	2021	334	3.95	7.71	1.02	0	53.06
Rate of persons in specialist homelessness services per 10,000 persons	2001	334	7.88	7.62	5.58	0	58.39
	2006	175	9.58	9.65	6.89	0	52.25
	2011	334	10.05	13.41	6.33	0	155.99
	2016	334	8.95	13.35	6.19	0	175.44
	2021	334	9.66	13.22	6.53	0	133.44
Rate of persons staying temporarily with other households per 10,000 persons	2001	214	10.51	4.68	9.89	0	35.74
	2006	326	9.59	4.77	8.49	0	36.91
	2011	334	8.78	4.29	8.25	0	36.08
	2016	334	8.6	4.79	7.57	0	31.31
	2021	334	7.89	5.90	6.25	0	53.99
Rate of persons in boarding houses per 10,000 persons	2001	216	14.72	28.12	6.28	0	236.28
	2006	184	10.51	24.98	2.74	0	169.56
	2011	334	6.2	15.2	1.57	0	133.41
	2016	334	6.73	16.19	1.62	0	146.55
	2021	334	6.60	13.99	2.30	0	145.74
Rate of temporary lodgings per 10,000 persons	2001	334	0.23	0.6	0	0	5.47
	2006	334	0.29	0.58	0	0	3.8
	2011	334	0.34	0.71	0	0	4.64
	2016	334	0.32	0.65	0	0	5.03
	2021	334	1.31	2.45	0.39	0	24.66
Rate of severely crowded persons per 10,000 persons	2001	334	38.03	233.46	3.74	0	3103.53
	2006	334	32.98	203.14	3.93	0	2512.77
	2011	334	35.33	208.81	6.06	0	2821.18
	2016	334	34.06	184.28	7.88	0	2794.26
	2021	334	30.35	147.41	8.50	0	2044.75
Rate of homelessness per 10,000 persons	2001	334	75.58	250.36	31.48	0	3226.22
	2006	334	64.17	215.53	26.81	0	2572.97
	2011	334	64.92	217.25	30.22	0	2877.12
	2016	334	63.1	198.72	31.28	0	2967.98
	2021	334	59.70	156.27	34.63	0	2100.87

Note: The ABS suppressed some cells in 2001 and 2006 for confidentiality reasons. Descriptive statistics above are calculated based on those SA3s without suppressed cells for each operational group. This is why the number of cases varies for some operational groups (people staying in supported accommodation, people staying temporarily with other households and people in boarding houses) in some years, particularly 2001 and 2006.

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table A4: Descriptive statistics – national share of homelessness for each operational group and for homelessness overall: Australian SA3s, 2001, 2006, 2011, 2016 and 2021

	Year	N	Mean	SD	Median	Min	Max
National share of rough sleepers	2001	334	0.3	0.63	0.09	0	6.11
	2006	334	0.3	0.62	0.08	0	4.73
	2011	334	0.3	0.61	0.1	0	7.22
	2016	334	0.3	0.66	0.09	0	7.79
	2021	334	0.3	0.59	0.09	0	5.49
National share of persons in specialist homelessness services	2001	334	0.3	0.34	0.18	0	3.06
	2006	175	0.57	0.65	0.35	0	4.17
	2011	334	0.3	0.38	0.16	0	3.18
	2016	334	0.3	0.39	0.17	0	2.71
	2021	334	0.3	0.37	0.17	0	3.10
National share of persons staying temporarily with other households	2001	214	0.47	0.27	0.42	0	1.73
	2006	326	0.31	0.19	0.28	0	1.55
	2011	334	0.3	0.18	0.28	0	1.1
	2016	334	0.3	0.19	0.26	0	1.08
	2021	334	0.3	0.2	0.26	0	1.34
National share of persons in boarding houses	2001	216	0.46	0.85	0.16	0	6.01
	2006	184	0.54	1.23	0.13	0	8.21
	2011	334	0.3	0.79	0.06	0	7.67
	2016	334	0.3	0.81	0.06	0	9.42
	2021	334	0.3	0.79	0.07	0	8.88
National share of temporary lodgings	2001	334	0.3	0.71	0	0	7
	2006	334	0.3	0.62	0	0	4.39
	2011	334	0.3	0.62	0	0	4.81
	2016	334	0.3	0.59	0	0	4.7
	2021	334	0.3	0.82	0.08	0	9.67
National share of persons in severely crowded dwellings	2001	334	0.3	1.18	0.05	0	11.46
	2006	334	0.3	1.12	0.07	0	11.39
	2011	334	0.3	0.9	0.08	0	9.98
	2016	334	0.3	0.71	0.09	0	7.43
	2021	334	0.3	0.64	0.11	0	5.93
National share of homelessness	2001	334	0.3	0.5	0.16	0	4.18
	2006	334	0.3	0.48	0.17	0	4.2
	2011	334	0.3	0.45	0.17	0	4.12
	2016	334	0.3	0.44	0.17	0	4.28
	2021	334	0.3	0.37	0.18	0	2.86

Note: The ABS suppressed some cells in 2001 and 2006 for confidentiality reasons. Descriptive statistics above are calculated based on those SA3s without suppressed cells for each operational group. This is why the number of cases is low for some operational groups (people staying in supported accommodation, people staying temporarily with other households and people in boarding houses) in some years.

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

2 ABS Census: Time Series Profile and TableBuilder

Table A5: ABS Time Series Profile and TableBuilder variables

Variable	Unit of analysis	Variable details
Age	Persons	Percentage of persons within SA3 *i* in age brackets 0–14 years, 15–24 years, 25–34 years etc. in year *X*.
Gender	Persons	Percentage of persons within SA3 *i* of specified gender (male or female) in year *X*.
Household type	Household	Percentage of households within SA3 *i* of specified household type (lone person, one-parent family, couple with children, couple only, group household, other family) in year *X/*
Marital status	Persons	Percentage of persons aged 15 years and over within SA3 *i* who were married, divorced, separated, widowed or never married in year *X*.
Indigenous	Persons	Percentage of persons within SA3 *i* who identify as Aboriginal, Torres Strait Islander or both in year *X*.
Labour force status: unemployed	Persons	Percentage of persons aged 15 years and over within SA3 *i* who were employed full-time, employed part-time, away from work or hours not stated, unemployed, employed, not in the labour force, not stated or aged 15–24 and unemployed in year *X*.
Speaks other language at home	Persons	Percentage of persons within SA3 *i* who speak English at home, speak a language other than English at home, language spoken at home not stated in year *X*.
Dwelling tenure	Dwellings	Percentage of occupied private dwellings within SA3 *i* that were owned outright, purchased with a mortgage, public housing, community housing, rented from a person outside the household, rented from a real estate agent, rented privately rented from any source, other landlord type, other, tenure not stated, in year *X*.
Dwelling type	Dwellings	Percentage of occupied private dwellings within SA3 *i* of specified dwelling type (separate house; semi-detached row or terrace; flat, unit or apartment; other dwelling type; dwelling type not stated) in year *X*.
Post-school qualification	Persons aged 15 years and over	Percentage of persons aged 15 years and over within SA3 *i* who had a post-school qualification, certificate, diploma or advanced diploma, bachelor's degree, graduate diploma or graduate certificate, post-graduate degree, qualification inadequately described, qualification level not stated in year *X*.
Total population	Persons	Count of persons within SA3 *i*, on Census night (excluding overseas visitors), in year *X*.

Source: Authors.

Table A6: Descriptive statistics – gender, Indigenous status, language spoken at home (% of population) and total population: Australian SA3s, 2001, 2006, 2011, 2016 and 2021

Variable	Year	N	Mean	SD	Median	Min	Max
Female	2001	334	50.25	1.85	50.56	36.09	54
	2006	334	50.28	1.89	50.68	39.89	53.54
	2011	334	50.21	2.39	50.71	32.31	53.28
	2016	334	50.31	2.4	50.78	31.31	53.3
	2021	334	50.37	2.14	50.81	34.09	53.27
Male	2001	334	49.75	1.85	49.44	46	63.91
	2006	334	49.72	1.89	49.32	46.46	60.11
	2011	334	49.79	2.39	49.29	46.72	67.69
	2016	334	49.69	2.4	49.22	46.7	68.69
	2021	334	49.63	2.14	49.19	46.73	65.91
Indigenous	2001	334	3.19	7.07	1.37	0	59.43
	2006	334	3.33	7.11	1.4	0.11	59.55
	2011	334	3.63	7.14	1.68	0	58.57
	2016	334	3.98	7.3	1.96	0.17	64.73
	2021	334	4.44	6.91	2.47	0	58.93
Language at home English only	2001	334	83.16	13.59	88.67	25.37	95.52
	2006	334	81.8	14.17	87.49	22.39	96.92
	2011	334	80.35	14.81	85.92	20.94	95.76
	2016	334	76.57	15.19	82.33	20.02	92.58
	2021	334	76.02	15.51	81.38	20.33	92.87
Language at home not English	2001	334	12	12.91	6.62	0.79	65.91
	2006	334	12.46	13.17	6.8	0.97	67.05
	2011	334	14.41	14.27	8.33	1.31	70.42
	2016	334	16.31	15.32	9.82	1.24	71.65
	2021	334	17.5	15.55	11.47	1.94	71.48
Language at home not stated	2001	334	4.85	2.08	4.32	1.19	18.69
	2006	334	5.73	3.14	4.9	0.77	24.5
	2011	334	5.25	3	4.49	1.82	25.7
	2016	334	7.12	3.65	6.28	1.92	38.86
	2021	334	6.48	4.1	5.47	1.71	40.2
Total population (raw number)	2001	334	56160.57	35065	47209	12.03	170625
	2006	334	59418.54	36515	49956	9.26	171040
	2011	334	64350.50	39730	53868	17.72	186717
	2016	334	70018.74	44597	57895	465.00	231523
	2021	334	76084.64	49432	61486	460.00	296175

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table A7: Descriptive statistics – age groups (% of population): Australian SA3s, 2001, 2006, 2011, 2016 and 2021

Variable	Year	N	Mean	SD	Median	Min	Max
0–14 years	2001	334	21.2	3.88	21.97	6.8	30.84
	2006	334	20.07	3.56	20.6	5.78	29.48
	2011	334	19.47	3.66	19.73	5.53	41.77
	2016	334	18.51	3.13	18.49	5.52	27.3
	2021	334	17.89	3.12	17.74	6.09	26.62
15–24 years	2001	334	13.28	2.39	13.2	7.25	27.71
	2006	334	13.17	2.52	13.12	6.31	28.49
	2011	334	12.9	2.43	12.89	3.85	26.74
	2016	334	12.27	2.47	12.18	5.74	27.1
	2021	334	11.56	2.07	11.47	2.61	22.39
25–34 years	2001	334	14.3	3.33	13.85	8	28.25
	2006	334	13.06	3.53	12.56	6.86	29.8
	2011	334	13.13	4.07	12.59	6.69	31.31
	2016	334	13.65	4.38	12.66	6.54	31.7
	2021	334	13.63	4.14	13.04	5.8	34.91
35–44 years	2001	334	15.3	1.2	15.17	11.45	18.77
	2006	334	14.77	1.44	14.63	10.73	20.25
	2011	334	14.1	1.7	13.92	10.05	20.85
	2016	334	13.16	1.99	12.92	8.65	21.49
	2021	334	13.23	2.3	13.03	7.93	22.01
45 years and over	2001	334	35.93	5.81	36.22	17.45	54.35
	2006	334	38.92	6.02	38.94	21.55	57.07
	2011	334	40.4	6.72	40.32	21	58.86
	2016	334	42.43	7.53	42.31	18.41	63.68
	2021	334	43.69	7.64	43.54	18.29	67.41

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table A8: Descriptive statistics – household type (% of population): Australian SA3s, 2001, 2006, 2011, 2016 and 2021

Variable	Year	N	Mean	SD	Median	Min	Max
Lone person	2001	334	23.82	6.36	23.98	9.92	49.62
	2006	334	24.23	6.1	24.87	0	52.69
	2011	334	24.43	5.88	25.12	0	52.6
	2016	334	24.95	5.85	25.75	10.21	52.66
	2021	334	25.98	5.95	26.44	10.08	49.61
One-parent family	2001	334	10.78	2.27	10.76	5.23	19.2
	2006	334	10.87	2.47	10.82	0	20.41
	2011	334	10.88	2.52	10.86	0	20.5
	2016	334	10.86	2.49	10.74	3.1	19.08
	2021	334	10.99	2.5	10.8	4.3	19.54
Couple with children	2001	334	34.19	8.28	33.83	9.48	56.51
	2006	334	32.54	7.99	31.95	0	56.59
	2011	334	31.83	7.87	31.05	0	56.02
	2016	334	31.62	8.02	30.55	9.57	58.49
	2021	334	30.46	7.94	29.61	8.76	58.37
Couple only	2001	334	26.26	3.74	26.11	16.35	39.92
	2006	334	27.15	4.21	26.83	0	40.67
	2011	334	27.76	5.53	27.13	16.56	100
	2016	334	27.43	3.94	27.22	17	39.51
	2021	334	27.77	4.18	27.57	17.16	42.19
Group household	2001	334	3.73	2.42	2.84	1.4	16.36
	2006	334	3.75	2.53	2.84	0	17.52
	2011	334	3.93	2.59	3.01	0	16.65
	2016	334	3.99	2.64	3.09	1.26	20.92
	2021	334	3.67	2.05	3.07	1.13	13.75
Other Family	2001	334	1.23	0.61	1.05	0	5.85
	2006	334	1.17	0.58	1.02	0	5.65
	2011	334	1.17	0.54	1.05	0	4.65
	2016	334	1.16	0.48	1.06	0	3.57
	2021	334	1.13	0.42	1.05	0	3.26

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table A9: Descriptive statistics – marital status (% of population): Australian SA3s, 2001, 2006, 2011, 2016 and 2021

Variable	Year	N	Mean	SD	Median	Min	Max
Married	2001	334	51.93	5.89	53	29.8	62.58
	2006	334	50.16	5.85	51.06	26.58	63.34
	2011	334	49.06	5.34	49.81	27.55	61.11
	2016	334	48.33	5.24	48.91	27.89	61.34
	2021	334	36.02	6.07	34.89	21.74	64.56
Divorced	2001	334	7.46	1.31	7.36	3.94	12.33
	2006	334	8.33	1.43	8.26	4.36	15.66
	2011	334	8.59	1.47	8.59	4.68	13.42
	2016	334	8.78	1.63	8.73	4.78	12.92
	2021	334	9.07	1.7	9	5.11	13.95
Separated	2001	334	3.49	0.64	3.5	1.42	6.31
	2006	334	3.17	0.63	3.21	0	7.17
	2011	334	3.12	0.61	3.21	0.9	5.62
	2016	334	3.26	0.7	3.35	1.21	4.97
	2021	334	5.07	1.39	5.09	1.25	8.97
Widowed	2001	334	6.05	1.67	6.24	2.06	11.56
	2006	334	5.82	1.58	5.99	1.9	10.24
	2011	334	5.48	1.54	5.51	1.23	9.83
	2016	334	5.28	1.49	5.28	1.13	9.27
	2021	334	3.31	0.68	3.37	1.79	6.11
Never married	2001	334	31.06	5.7	29.83	18.92	54.6
	2006	334	32.53	6.02	31.29	20.6	59.79
	2011	334	33.75	5.89	32.53	21.79	59.82
	2016	334	34.36	5.95	33.17	21.8	61.01
	2021	334	46.53	5.55	46.83	25.57	61.4

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table A10: Descriptive statistics – labour force status (% of population): Australian SA3s, 2001, 2006, 2011, 2016 and 2021

Variable	Year	N	Mean	SD	Median	Min	Max
Employed	2001	334	56	7.01	56.13	34.6	80.45
	2006	334	57.42	6.5	57.66	39.01	80.67
	2011	334	57.79	6.41	57.98	38.51	76.53
	2016	334	55.59	6.77	55.83	35.26	78.09
	2021	334	57.32	7.14	58.11	33.21	79.93
Employed full-time	2001	334	36.01	5.97	36.21	20.22	56.39
	2006	334	36.63	5.65	36.66	21	53.68
	2011	334	36.46	5.98	36.3	20	54.69
	2016	334	34.39	6.14	33.6	19.05	57.88
	2021	334	33.83	5.99	33.97	18.03	57.83
Employed part-time	2001	334	15.99	2.26	15.96	9.96	29.39
	2006	334	16.94	2.45	16.93	9.69	25.58
	2011	334	17.6	2.77	17.77	6.64	25.29
	2016	334	18.06	2.95	18.44	7.41	24.77
	2021	334	18.8	3.24	19.23	7.62	27.08
Employed away from work or hours not stated	2001	334	4.01	0.8	3.81	2.64	9
	2006	334	3.85	0.72	3.67	2.61	8.67
	2011	334	3.73	0.73	3.55	2.24	9.03
	2016	334	3.14	0.67	2.97	1.93	8.2
	2021	334	4.69	1.47	4.21	1.3	11.76
Unemployed	2001	334	4.41	1.27	4.38	0.75	8.79
	2006	334	3.05	0.84	2.92	0.92	5.92
	2011	334	3.35	0.81	3.33	0.82	5.44
	2016	334	3.94	1.05	3.86	0.61	7.55
	2021	334	2.95	0.76	2.87	1.34	5.35
Youth unemployment 15–24 years	2001	334	14.04	4.45	13.94	0	29.49
	2006	334	10.07	3.06	9.69	0	21.74
	2011	334	11.97	3.28	11.68	0	24.77
	2016	334	14.28	3.98	14.28	0	40.05
	2021	334	10.29	3.33	9.94	0	35.52
Not in labour force	2001	334	35.37	6.21	35.37	18.8	56.96
	2006	334	33.06	6.16	32.99	16.56	51.79
	2011	334	33.16	6.39	33.09	11.11	51.68
	2016	334	33.27	6.41	33.47	11.42	53.03
	2021	334	33.28	6.43	33.28	11	55.98
Labour force status not stated	2001	334	4.22	1.86	3.9	0	16.7
	2006	334	6.47	3.16	5.6	0	24.73
	2011	334	5.7	2.79	4.99	1.76	22.86
	2016	334	7.2	3.3	6.4	2.54	22.48
	2021	334	6.47	3.86	5.55	1.69	30.41

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table A11: Descriptive statistics – post-school qualifications (% of population aged 15 years and over): Australian SA3s, 2001, 2006, 2011, 2016 and 2021

Variable	Year	N	Mean	SD	Median	Min	Max
Over 15 with post-school qualification	2001	334	45.36	7.78	43.91	30.87	69.47
	2006	334	51.78	7.65	50.06	38.26	75.4
	2011	334	55.3	7.44	54.21	39.76	77.51
	2016	334	59.92	6.93	58.94	40.4	79.3
	2021	334	62.8	7.11	61.88	41.63	80.99
Qualification – certificate level	2001	334	36.38	9	39.02	10.81	50.67
	2006	334	34.5	9.65	37.63	9.94	49.09
	2011	334	35.21	10.79	39.02	9.37	51.97
	2016	334	33.82	10.89	36.91	7.75	51.64
	2021	334	32.92	11.37	35.71	8.21	52.27
Qualification – advanced diploma and diploma level	2001	334	12.63	1.85	12.48	8.12	19.89
	2006	334	13.15	2.05	13.19	6.94	18.17
	2011	334	13.94	2.1	14.08	7.02	19.44
	2016	334	14.41	2.22	14.61	7.68	18.61
	2021	334	14.49	2.24	14.66	7.23	19.52
Qualification – bachelor's degree level	2001	334	19.09	7.83	16.17	7.33	40.79
	2006	334	19.93	7.97	16.96	7.89	40.82
	2011	334	21.8	8.52	18.81	8.87	43.29
	2016	334	22.65	9.03	20.02	9.38	44.29
	2021	334	24.89	9.13	22.76	9.25	45.81
Qualification – graduate diploma and graduate certificate level	2001	334	2.84	1.26	2.55	0	7.89
	2006	334	2.64	1.2	2.35	0.79	7.37
	2011	334	2.95	1.26	2.64	0.87	7.97
	2016	334	3.17	1.28	2.87	0.97	7.72
	2021	334	3.66	1.3	3.36	1.25	8.22
Qualification – post-graduate degree	2001	334	3.27	2.62	2.26	0.67	14.11
	2006	334	4.14	3.23	2.86	0.78	16.47
	2011	334	5.47	4.06	3.8	1.02	19.61
	2016	334	6.82	4.89	4.88	1.36	21.84
	2021	334	8.84	5.84	6.9	1.81	26.59
Qualification – inadequately described	2001	334	2.84	0.54	2.84	1.17	4.39
	2006	334	2.83	0.51	2.83	1.46	4.85
	2011	334	2.47	0.76	2.24	1.07	4.61
	2016	334	1.29	0.29	1.26	0	2.16
	2021	334	0.98	0.24	0.98	0	1.55

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table A12: Descriptive statistics – dwelling structure (% of dwellings): Australian SA3s, 2001, 2006, 2011, 2016 and 2021

Variable	Year	N	Mean	SD	Median	Min	Max
Separate house	2001	334	77.67	17.35	83.93	3.33	100
	2006	333	77.61	17.52	83.37	4.72	100
	2011	334	76.95	17.9	82.89	4.26	100
	2016	334	74.82	19.37	81.34	1.97	99.33
	2021	334	74.29	20.05	80.95	2.13	98.17
Semi-detached row or terrace	2001	334	7.75	6.56	5.67	0	42.96
	2006	333	8.06	6.51	6.38	0	42.12
	2011	334	8.65	6.34	7.02	0	40.47
	2016	334	11.13	7.86	9.87	0	52.29
	2021	334	11.45	7.18	10.02	0	37.73
Flat unit or apartment	2001	334	10.88	12.57	5.88	0	68.34
	2006	333	11.7	13.43	6.64	0	76.87
	2011	334	11.82	13.81	6.48	0	79.31
	2016	334	11.15	15.34	4.77	0	83.92
	2021	334	11.69	16.53	4.39	0	86.16
Other dwelling type	2001	334	2.89	5.47	1.3	0	47.2
	2006	333	2.56	4.68	1.12	0	44.56
	2011	334	2.4	4.89	1	0	46.41
	2016	334	2.25	4.39	0.93	0	43.36
	2021	334	2.01	4.68	0.76	0	45.12
Dwelling type not stated	2001	334	0.81	0.57	0.66	0	4.41
	2006	333	0.07	0.22	0.03	0	3.53
	2011	334	0.18	0.5	0.07	0	6.2
	2016	334	0.65	0.63	0.45	0	4.7
	2021	334	0.55	0.95	0.24	0	8.42

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table A13: Descriptive statistics – tenure (% of dwellings): Australian SA3s, 2001, 2006, 2011, 2016 and 2021

Variable	Year	N	Mean	SD	Median	Min	Max
Owned outright	2001	334	39.21	9.11	40.43	2.85	60.59
	2006	334	32.86	8.24	33.95	0	50.49
	2011	334	31.51	7.98	32.38	0	48.69
	2016	334	30.3	7.75	31.08	2.38	46.8
	2021	334	31.14	8.29	31.55	3.64	51.01
Owner purchaser	2001	334	26.23	8.89	24.86	1.02	53.96
	2006	334	31.64	9.16	30.41	0	60.08
	2011	334	32.48	8.79	31.46	1.12	60.77
	2016	334	31.63	8.98	30.61	0.67	65.85
	2021	334	32.14	9	31.24	0.9	62.87
Public housing	2001	334	4.44	3.78	3.59	0	29.16
	2006	334	3.97	2.94	3.4	0	19.57
	2011	334	4.01	3.48	3.35	0	27.41
	2016	334	3.6	3.61	2.87	0	33.61
	2021	334	3.02	2.9	2.4	0	24.41
Rented from housing cooperative, community group or church	2001	334	1	3.05	0.46	0	29.82
	2006	334	1.03	3.12	0.48	0	32.24
	2011	334	0.78	1.12	0.55	0	10.82
	2016	334	0.67	0.73	0.53	0	6.96
	2021	334	0.88	1.18	0.64	0	13.9
Rented from person outside household	2001	334	8.46	3.14	7.91	2.83	24.71
	2006	334	6.75	2.56	6.6	0	28.08
	2011	334	6.89	2.96	6.65	2.04	42.86
	2016	334	6.17	1.79	6.14	1.42	11.94
	2021	334	5.42	1.8	5.27	1.17	20.21
Rented from real estate agent	2001	334	10.28	5.5	9.64	0	28.95
	2006	334	12.17	6.16	11.68	0	39.17
	2011	334	13.95	6.56	12.99	0	39.99
	2016	334	15.71	7.39	14.67	0	43.92
	2021	334	16.82	8.45	15.47	0	52.13
Private renters	2001	334	18.74	7.05	17.74	3.18	46.64
	2006	334	18.92	6.97	17.76	0	48.08
	2011	334	20.84	7.34	19.49	4.01	48.77
	2016	334	21.88	7.78	20.45	4.29	52.87
	2021	334	22.24	8.61	20.87	3.83	58.66
All renters	2001	334	28.19	10.22	26.89	10.03	86.79
	2006	334	27.22	9.36	26.22	0	86.06
	2011	334	28.85	9.56	27.48	9.6	87.97
	2016	334	28.9	9.75	27.71	9.26	83.64
	2021	334	28.34	9.75	27.03	8.54	62.93
Landlord type not stated	2001	334	0.73	0.41	0.63	0.23	3.41
	2006	334	0.99	0.65	0.75	0	4.14
	2011	334	0.8	0.57	0.59	0	3.95
	2016	334	0.68	0.58	0.48	0	6.67
	2021	334	0.18	0.09	0.17	0	0.74
Other landlord type	2001	334	3.28	4.48	1.79	0.62	43.1
	2006	334	2.29	3.82	1.17	0	37.18
	2011	334	2.41	4.51	1.18	0	43.24
	2016	334	2.05	3.88	1.03	0.15	36.45
	2021	334	2.02	3.21	1.17	0.18	28.34
Other	2001	334	1.54	0.76	1.39	0.46	6.87
	2006	334	0.93	0.55	0.81	0	5.23
	2011	334	0.96	0.52	0.86	0	4.68
	2016	334	0.98	0.5	0.85	0.27	4.67
	2021	334	2.34	1.77	1.86	0.62	19.79
Tenure not stated	2001	334	4.82	2.43	4.22	1.73	17.19
	2006	334	7.04	3.22	6.12	0	24.42
	2011	334	6.16	2.44	5.6	0	21.21
	2016	334	8.22	2.9	7.73	2.73	21.47
	2021	334	6.06	3.09	5.45	1.72	29.25

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21

3 ABS Census: special request files

Table A14: ABS special request data file variables

Variable	Unit of analysis	Variable details
Household income in quintile Q	Households	Percentage of households in SA3 *i*, within each national household income quintile (quintiles [Q] calculated for each Census year – see $ values below), in year *X*.
Median weekly private rent	Dollar	SA3 median weekly rent paid to private landlords – CPI adjusted to 2021-dollar values. GCCSA (capital city and rest of state balance for each state and territory with ACT as one value) median weekly private rent paid – CPI adjusted to 2016-dollar values.
Household income by affordable private rent paid (see measures below)	Households in private rental dwellings	Matrix: private renter households by national household income quintile and corresponding affordable private rent category (30% of household income upper quintile value – see values below).

Source: Authors.

Table A15: Household income quintile values (national, all households, gross income) and corresponding affordable private rent category values, 2001–21

Household income quintile	Affordable rent category
2001	
Quintile 1 ($1–$360)	R1: $1–$108
Quintile 2 ($361–$654)	R2: $109–$197
Quintile 3 ($655–$996)	R3: $198–$299
Quintile 4 ($997–$1,501)	R4: $300–$451
Quintile 5 (More than $1,501)	R5: More than $451
2006	
Quintile 1 ($1–$401)	R1: $1–$121
Quintile 2 ($402–$763)	R2: $122–$229
Quintile 3 ($764–$1,191)	R3: $230–$358
Quintile 4 ($1,192–$1,858)	R4: $359–$558
Quintile 5 (More than $1,858)	R5: More than $559
2011	
Quintile 1 ($1–$528)	R1: $1–$159
Quintile 2 ($529–$981)	R2: $160–$295
Quintile 3 ($982–$1,590)	R3: $296–$477
Quintile 4 ($1,591–$2,487)	R4: $478–$747
Quintile 5 (More than $2,487)	R5: More than $747
2016	
Quintile 1 ($1–$686)	R1: $1–$206
Quintile 2 ($687–$1,104)	R2: $207–$332
Quintile 3 ($1,105–$1,802)	R3: $333–$541
Quintile 4 ($1,803–$2,719)	R4: $542–$816
Quintile 5 (More than $2,719)	R5: More than $816
2021	
Quintile 1 ($1–$737)	R1: $1–$220
Quintile 2 ($737–$1,368)	R2: $221–$409
Quintile 3 ($1,369–$2,228)	R3: $410–$667
Quintile 4 ($2,229–$3,277)	R4: $668–$983
Quintile 5 (More than $3,278)	R5: More than $984

Source: ABS Census Special Request 2001, 2006, 2011, 2016, 2021.

Private rental sector (PRS) affordability measures:

The 'household income by private rent' special request matrix obtained from the ABS enabled the calculation of several measures of PRS affordability:

1. R1: number/per cent of dwellings affordable for Q1 (households in income quintile 1 or very low income) PRS households (this is the count/per cent of what we refer to as R1 dwellings)
2. number/per cent of very low (Q1) and low (Q2) income private renter households
3. net supply of affordable PRS housing for Q1 households (R1) relative to demand from Q1 households (R1–Q1).

Table A16: Descriptive statistics – ABS special request data file, household income quintiles Australian SA3s, 2001, 2006, 2011, 2016 and 2021

Variable	Year	N	Mean	SD	Median	Min	Max
% of households in household income quintile 1 (Q1)	2001	334	23.56	7.03	24.13	0	39.48
	2006	333	21.84	6.71	21.94	6.62	38.18
	2011	334	20.65	6.67	20.62	0	39.17
	2016	334	20.93	6.18	20.61	4.18	35.3
	2021	334	23.11	7.00	22.82	5.74	40.99
% of households in household income quintile 2 (Q2)	2001	334	19.15	4.11	19.86	0	27.81
	2006	333	19.07	4.13	19.42	5.66	28.18
	2011	334	20.26	6.77	20.15	4.41	100
	2016	334	20.05	4.69	20.56	4.14	30.16
	2021	334	19.62	3.70	20.11	8.00	26.90
% of households in household income quintile 3 (Q3)	2001	334	18.64	2.66	19.07	0	24.59
	2006	333	20.21	2.35	20.48	10.85	25.63
	2011	334	20.31	3.3	20.58	0	26.58
	2016	334	20.11	2.75	20.67	10.16	25.92
	2021	334	19.06	2.46	19.42	10.34	25.70
% of households in household income quintile 4 (Q4)	2001	334	19.64	3.64	19.36	0	29.34
	2006	333	19.57	3.3	19.15	10.94	29.92
	2011	334	19.42	3.68	19.21	0	29.86
	2016	334	19.76	3.6	19.58	10.55	28.79
	2021	334	19.10	3.44	19.26	10.31	28.58
% of households in household income quintile 5 (Q5)	2001	334	18.7	10.08	15.93	0	54.75
	2006	333	19.31	9.93	16.6	5.04	53.76
	2011	334	19.35	10.99	16.33	0	66.25
	2016	334	19.14	9.88	16.79	4.72	49.66
	2021	334	19.10	9.44	16.49	4.97	48.86

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table A17: Descriptive statistics – ABS special request file, median weekly PRS rents and affordable stock, Australian SA3s, 2001, 2006, 2011, 2016 and 2021

Variable	Year	N	Mean	SD	Median	Min	Max
PRS weekly rents median CPI adjusted to 2021 $	2001	334	259.84	80.38	240.36	0	656.99
	2006	334	286.83	80.81	276.12	0	621
	2011	334	364.96	126.97	359.82	0	1,319.34
	2016	334	378.25	104.58	378.03	175.06	731.99
	2021	334	381.28	92.43	380.00	200.00	740.00
% dwellings in affordable rent category R1	2001	333	17.88	16.04	12.86	0	70.14
	2006	333	12.52	13.16	7.16	0.55	61.54
	2011	333	10.86	12.64	5.34	0	77.5
	2016	334	14.44	15.91	7.4	0	73.66
	2021	334	11.80	13.06	5.93	0	66.26
Net supply of affordable PRS dwellings for Q1 households (NSARH)	2001	334	−293.33	427.8	−244.5	−1,764	583
	2006	334	−358.87	411.51	−272.5	−1,995	418
	2011	334	−523.36	521.57	-416	−2,699	391
	2016	334	−437.07	585.3	−357.5	−3,429	992
	2021	334	−755.34	870.75	−568	−7,684	733

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

4 Specialist Homelessness Services Collection: AIHW

AIHW: Specialist Homelessness Services Collection

Specialist homelessness services (SHSs) are not-for-profit organisations that are funded by government to provide support and accommodation to people who are homeless or at imminent risk of homelessness. We requested information on the number of people who received accommodation from an SHS across a financial year (2016–17 or 2021–22), which we called accommodation capacity. We also requested the number of people receiving support from an SHS across a financial year – regardless of whether they also received accommodation. This is the total number of clients who received assistance from an SHS. We called this measure SHS support capacity.

In addition to accommodation and support capacity, we obtained data items detailing the number of clients who were new to SHSs and the number who were returning, the number who were recorded as homeless on presentation and the number recorded as being at risk of homelessness. We also obtained variables indicating the household type people were in when they first presented for assistance in a given financial year – known as presenting unit. Definitions for these variables are show in Table 19 with further detail on data items available in AIHW (2019).

Table A18: Measures from the Specialist Homelessness Service Collection

Variable	Unit of analysis	Variable details
Specialist homelessness service (SHS) support capacity	National share, rate per 10,000 persons	Persons supported by an SHS in SA3 i in financial year X (2016–17 or 2021–22)
SHS accommodation capacity	National share, rate per 10,000 persons, percentage of clients in this SA3	Persons accommodated by an SHS in SA3 i in financial year X (2016–17 or 2021–22)
SHS homelessness indicator	Proportion of all clients in this SA3, national share	Persons supported by an SHS and deemed to be homeless at first presentation in SA3 i in financial year X (2016–17 or 2021–21)
SHS returning clients	Proportion of all clients in this SA3, national share	Persons supported by an SHS who had been supported in one or more previous financial years since 2011 in SA3 i in financial year X (2016–17 or 2021–21)[27]
SHS lone person	Number, proportion of all clients in this SA3, national share	Persons supported by an SHS who presented as a lone person on first presentation in SA3 i in financial year X (2016–17 or 2021–21)
SHS couple with children	Number, proportion of all clients in this SA3, national share	Persons supported by an SHS who presented in a couple with children on first presentation in SA3 i in financial year X (2016–17 or 2021–21)
SHS single parent	Number, proportion of all clients in this SA3, national share	Persons supported by an SHS who presented as a single parent on first presentation in SA3 i in financial year X (2016–17 or 2021–21)
SHS couple without children	Number, proportion of all clients in this SA3, national share	Persons supported by an SHS who presented in a couple without children on first presentation in SA3 i in financial year X (2016–17 or 2021–21)
SHS other family	Number, proportion of all clients in this SA3, national share	Persons supported by an SHS who presented in an other family group on first presentation in SA3 i in financial year X (2016–17 or 2021–21)
SHS other group	Number, proportion of all clients in this SA3, national share	Persons supported by an SHS who presented in an other group on first presentation in SA3 i in financial year X (2016–17 or 2021–21)

Source: Authors.

27 Note that the client may or may not have received a service in this same SA3 in previous years.

Table A19: Descriptive statistics – number, rate (per 10,000) and national share of clients supported, and clients accommodated, in an SHS for the 2016–17 and 2021–22 financial years, Australian SA3s

	Year	N	Mean	SD	Median	Min	Max
Specialist homelessness service (SHS) support capacity	2016–17	333	760.33	773.35	513.00	7	5,028
	2021–22	333	746.05	800.43	503	5	4,473
SHS accommodation capacity	2016–17	333	233.69	255.79	163	5	2,419
	2021–22	333	229.90	329.89	140	2	3,944

Source: Specialist Homelessness Services Collection (AIHW) 2016-17 and 2021-22.

Table A20: Descriptive statistics – number and share of SHS clients for a range of indicators for the 2016–2017 and 2021–-22 financial years, Australian SA3s.

Variable	Year	N	Mean	SD	Median	Min	Max
Specialist homelessness service (SHS) support capacity	2016–17	333	760.33	773.35	513	7	5,028
	2021–22	333	746.05	800.43	503	5	4,473
National share of support capacity	2016–17	333	0.3	0.31	0.2	0	1.99
	2021–22	333	0.3	0.32	0.2	0	1.8
SHS accommodation capacity	2016–17	333	233.69	255.79	163	5	2,419
	2021–22	333	229.9	329.89	140	2	3,944
National share of accommodation capacity	2016–17	333	0.3	0.33	0.21	0.01	3.11
	2021–22	333	0.3	0.43	0.18	0	5.15
Specialist Homelessness Service Collection (SHSC) at risk	2016–17	333	404.27	427.71	267	6	2,592
	2021–22	333	400.06	464.92	271	1	3,516
SHSC homeless	2016–17	333	302.92	309.53	215	1	2,098
	2021–22	333	302.77	333.07	183	4	2,352
SHSC homeless/risk status not stated	2016–17	316	56	115.3	22	1	1,126
	2021–22	313	45.97	89.63	21	1	816
SHSC share of clients at risk	2016–17	333	0.3	0.32	0.2	0	1.93
	2021–22	333	0.3	0.35	0.2	0	2.64
SHSC share of clients homeless	2016–17	333	0.3	0.31	0.21	0	2.08
	2021–22	333	0.3	0.33	0.18	0	2.33
SHSC share of clients not stated homeless/risk	2016–17	316	0.32	0.65	0.12	0.01	6.36
	2021–22	313	0.32	0.62	0.15	0.01	5.67
SHSC new client	2016–17	333	365.93	354.64	251	5	2,339
	2021–22	333	272.29	270.66	193	1	1,676
SHSC returning client	2016–17	333	394.4	431.06	253	2	2,689
	2021–22	333	473.76	540.41	299	4	3,084
SHSC share of returning clients	2016–17	333	0.3	0.33	0.19	0	2.05
	2021–22	333	0.3	0.34	0.19	0	1.95
SHSC share of new clients	2016–17	333	0.3	0.29	0.21	0	1.92
	2021–22	333	0.3	0.3	0.21	0	1.85
SHSC lone person	2021–22	333	465.32	514.96	296	3	3,382
SHSC single with children	2021–22	333	213.27	266.14	124	2	1,725
SHSC couple with children	2021–22	333	39.01	68.24	17	0	605
SHSC couple without children	2021–22	333	17.33	27.45	8	0	237
SHSC other family type	2021–22	333	6.03	10.75	2	0	110
SHSC other group	2021–22	333	5.09	8.64	2	0	59

Source: Specialist Homelessness Services Collection (AIHW) 2016-17 and 2021-22.

Appendix 2: Technical notes: ABS homelessness estimates

Defining and estimating homelessness

The Australian homelessness estimates underwent a methodological review in 2012 that resulted in the methodology for estimation being updated and, for the first time, applied consistently across Census periods (for detailed information on the estimation strategy see: ABS 2012a).[28] During this review, the ABS also adopted a definition of homelessness for use across all its relevant collections (for detailed information on this definition see: ABS 2012c).

Homelessness is inferred from responses to multiple questions on the Census form. A targeted Homelessness Enumeration Strategy is used to ensure participation from people experiencing homelessness. The strategy is focused on three broad groups: people not in a dwelling (sleeping rough), people in private dwellings (those staying temporarily with other households or in severely crowded households), and those in non-private dwellings (those staying in SHS-managed accommodation, those in boarding houses and those in brokered temporary accommodation).

ABS staff work with state and territory organisations to correctly identify accommodation and sites where homeless persons are likely to be found. Persons experiencing homelessness are also asked for information on areas where others experiencing homelessness might be staying. Some staff working at homelessness services, as well as people experiencing homelessness themselves, are recruited and trained by the ABS to use a shortened Census form to collect Census information (ABS 2012a; 2012c) from those experiencing homelessness, including those sleeping rough. Targeted collections for people sleeping rough are coordinated at the state/territory level. Additionally, staff at homelessness services explain to clients that they need to specify their usual address as 'none' on the Census form because this is a key way that homeless people are identified in estimation methods.

The specific strategy for estimating those sleeping rough uses several variables collected in the Census. First, a sample is selected from those who are staying in accommodation that is recorded by the Census collector as an 'improvised dwelling, tent or sleepers out', and who report either having no usual address or being at home on Census night. A number of people in these circumstances should not be considered homeless – for example, owner-builders living in a shed on their property while they build, or construction workers in temporary housing. To exclude those not homeless from this category, income, rent and mortgage payment details and employment details are used. Census collectors also make additional notes at some sites that help identify the circumstances of those in this dwelling type (see ABS 2012a: 26–29 for more detailed information).

28 Minor revisions were also made to the estimation methodology in 2016 for persons staying in supported accommodation for the homeless, persons staying in temporary lodgings and persons staying in boarding or rooming houses. This change was largely due to an additional step of cross-checking these three operational groups against people staying in category 20 of non-private dwellings, which includes backpacker hostels, ski lodges and other dwellings not elsewhere classified. These people were not automatically excluded but their personal characteristics were checked (e.g. income) and publicly available information about the dwelling was also used. More information is available here:https://www.abs.gov.au/methodologies/estimating-homelessness-census-methodology/2016. The only category where this has a noticeable effect was those staying in boarding or rooming houses: 'The number of persons in boarding houses in 2011 has been revised from 17,721 to 14,944'. See: https://www.abs.gov.au/methodologies/estimating-homelessness-census-methodology/2016.

Homeless estimates for 2001 and 2006 had been collected under an older geographical system. In response to our previous reports (Wood, Batterham et al. 2014; 2015), the ABS brought forward its plans to update its homelessness estimates to its new geographical structure (the ASGS), so that homelessness estimates would be available with both a consistent methodology and in consistent spatial units over time.

However, some operational group totals were suppressed at the local region (SA3) level for confidentiality reasons.[29] Further, estimates for persons staying in supported accommodation for the homeless (operational group 2) were not available for 2001 and needed to be imputed (see Wood, Batterham et al. 2014 for a description of the imputation process).

Updates to estimating homelessness methods for 2021

The homelessness estimates are subject to ongoing methodological improvements. In the 2021 collection, the ABS improved its estimates of boarding houses in Victoria by accessing the Victorian rooming house register. This enabled cross-referencing and several private dwellings were found to be boarding houses that were missed in previous Census years. As a result, the Victorian boarding house estimates for 2021 are not comparable with earlier years (ABS 2023a).

As part of the Homelessness Enumeration Strategy, improvements were made to the Census Household and Personal Forms, such as updating the wording for usual address as an option to list family conflict or eviction as reasons to report 'none' in the suburb/locality box. This made it more straightforward for people staying temporarily with another household and experiencing homelessness to identify their circumstances. The online household form was also updated to enable information to be collected on up to 25 people in the household instead of only 10. This enabled a more thorough collection of severely crowded households (ABS 2023a).

Impact of COVID-19

Rough sleepers

Usually on Census night, Census officers conduct fieldwork with Census short forms to collect basic information from people sleeping rough. However, both Greater Sydney and Greater Melbourne were in lockdown due to the COVID-19 pandemic at the time of the Census. In Sydney, no fieldwork was conducted for rough sleepers and administrative data from the NSW Department of Communities and Justice were used to estimate the rough sleeping population in Sydney (ABS 2023a).

In Melbourne, contactless or observational data were collected on rough sleepers. This was supplemented with data from Launch Housing's By-Name-List. These data were more extensive in the central city area and Port Phillip than the usual Census counts.

A comparison of rough sleeper numbers for Greater Melbourne and Greater Sydney is not recommended.

29 There has been a change from 2001 and 2006 to 2011 onwards in the technique for supressing cells due to confidentiality. In the earlier two Census periods, cells that were missing were flagged as 'not for publication'. In later years (2011, 2016,2021), cells were flagged as 'nil or rounded to zero (including null cells)' using perturbation, meaning there were less missing data in later years. While the 2006 data have been updated using the more recent perturbation methods, these updated data are available at the 2006 LGA and state and territory level, and were not used in the current project.

People staying in temporary accommodation

Many states and territories had pre-existing temporary accommodation programs in place in which people stay in hotels or motels using brokerage funds or vouchers when formal SHS-managed accommodation is full, not available or otherwise unsuitable. During the COVID-19 pandemic, many states provided additional targeted funding for such programs specifically for rough sleepers and for those in congregate accommodation settings who could not socially distance. This was especially the case in New South Wales and Victoria. Many states and territories provided lists of temporary accommodation and other administrative data, such as basic demographic information for people funded to stay in temporary accommodation. As such, the numbers of people in this operational group are higher than previous years (ABS 2023a). Practice wisdom suggests that many of these people would have likely been experiencing other forms of homelessness on Census night regardless (such as rough sleeping, or staying temporarily with other households). However, because of these policy and methodological changes, comparison of people staying in temporary accommodation between 2021 and earlier years is not recommended.

Severely crowded

While updates to the online Census form enabled more accurate collection for severely crowded households, this group is usually dominated by recently arrived migrants and international students as well as Indigenous Australians (ABS 2013). As such, border closures and the exodus of international students due to the COVID-19 pandemic contributed to a reduction in the number of people in severely crowded dwellings on Census night in 2021.

Household and demographic information

The ABS homelessness estimates enumerate persons in three broad situations who are:

- 'Not in a dwelling': this relevant for one operational group – 'people living in improvised dwellings, tents or sleeping out' (also known as people sleeping rough).
- 'In a private dwelling': this is relevant for two operational groups – 'people staying temporarily with other households' and 'people living in 'severely' crowded dwellings'.
- 'In a non-private dwelling': this relates to those in three operational groups – 'people in supported accommodation for the homeless', 'people living in boarding houses' and 'people in other temporary lodging' (ABS 2023a).

In published Census data, different types of information are available for these different dwelling categories; however, for some, the Census does not collect the information, particularly at the household level, and thus it is not available. Those who were not enumerated in a dwelling or were enumerated in a non-private dwelling are not classified as living within a household. Only those enumerated in private dwellings are classified to be living within a household and, thus, have household-level information collected and assigned. However, for those enumerated as 'staying temporarily with others', this household-level information relates to the household they are visiting and, as such, does not apply to the person visiting who is experiencing homelessness. In sum, the sole operational group with household composition and other household information available is the severely crowded group.

For the 2021 Census, there is some partial information for some operational groups relating to household information, but cases of 'not stated' and 'not applicable' are also very high, making the overall data incomplete and unreliable. Table A22exemplifies the availability, or otherwise, of household relationship information for persons experiencing homelessness. Person-level, household relationships are the basis for creating the household composition variable. The table shows the uneven availability of relationship data for persons in each operational group in 2021, namely:

- Rough sleepers: most (but not all[30]) persons sleeping rough are enumerated using the Census special short form. This form does not include a question about relationships to other persons they reside with. Eighty per cent of rough sleepers are categorised as 'visitors' and, thus, no further information about relationships is available.[31]
- Supported accommodation: over 60 per cent of those enumerated in supported accommodation for the homeless had relationship types categorised as 'visitor', 'other non-classifiable relationships' or 'not applicable'.
- Staying temporarily with others: the relationships of all persons were categorised as 'visitors' and, thus, no further relationship information was collected (see footnote).
- Boarding houses: 86 per cent of those enumerated in boarding houses (a type of non-private dwelling) were allocated 'not applicable' in terms of relationship in household.[32] Household relationships are not recorded for persons living in non-private dwellings.
- Other temporary lodgings: the relationships of all persons in this non-private dwelling type were categorised as 'not applicable'. Household relationships are not recorded for persons living in non-private dwellings.
- Severely crowded dwellings: the household characteristics of persons living in severely crowded dwellings are available. One-quarter of those enumerated in severely crowded dwellings in 2021 were children aged less than 15 years. These were the largest group by relationship type.

30 See ABS Census methodology 'People not in a dwelling': https://www.abs.gov.au/methodologies/estimating-homelessness-census-methodology/2021.

31 The ABS defines a visitor to a household as 'anyone who does not usually live in the household in which they were enumerated on Census night. Characteristics of individual visitors to a household are available at the household of enumeration. The relationship of visitors to one another, or to any resident (including cases where all the people enumerated are visitors) is not further classified. Households containing only visitors are excluded from family variables and internal migration variables (ABS 2021 Census Dictionary: https://www.abs.gov.au/census/guide-census-data/census-dictionary/2021/glossary/v).

32 Per ABS 2021 Census Dictionary, entry for 'Dwelling type': 'People in non-private dwellings on Census Night are provided an individual Personal form to complete. Personal forms collect information about the person and their residential status within the establishment, but no information on the dwelling or household family structure'.

Table A21: Relationship in household information for ABS homelessness operational groups, Australia, 2021

	Homelessness operational groups (persons)															
	Improvised dwellings, tents, or sleeping out		Supported accom. for the homeless		Staying temporarily with other households		Living in boarding houses		Other temporary lodgings		Living in 'severely' crowded dwellings		Total homelessness 2021		Not experiencing homelessness 2021	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Partnered*	366	4.8	1,008	4.2	0	0.0	0	0.0	0	0.0	8,852	18.5	10,226	8.3	10,905,259	43.1
Lone parent	71	0.9	1,692	7.0	0	0.0	0	0.0	0	0.0	3,330	7.0	5,093	4.2	1,063,178	4.2
Child under 15*	176	2.3	3,527	14.5	0	0.0	0	0.0	0	0.0	12,160	25.4	15,863	13.0	4,337,205	17.1
Dependent student*	22	0.3	402	1.7	0	0.0	0	0.0	0	0.0	2,829	5.9	3,253	2.7	1,187,688	4.7
Non-dependent child*	36	0.5	427	1.8	0	0.0	0	0.0	0	0.0	6,566	13.7	7,029	5.7	1,498,497	5.9
Other related person	74	1.0	209	0.9	0	0.0	0	0.0	0	0.0	4,902	10.2	5,185	4.2	577,873	2.3
Unrelated individual in family household	15	0.2	107	0.4	0	0.0	0	0.0	0	0.0	4,778	10.0	4,900	4.0	291,740	1.2
Group household member	76	1.0	468	1.9	0	0.0	3,020	13.6	0	0.0	4,473	9.3	8,037	6.6	840,128	3.3
Lone person	648	8.5	1,354	5.6	0	0.0	0	0.0	0	0.0	0	0.0	2,002	1.6	2,368,736	9.4
Visitor (from within Australia)	6,141	80.4	2,429	10.0	16,599	100.0	32	0.1	0	0.0	0	0.0	25,201	20.6	668,050	2.6
Other non-classifiable relationship	4	0.1	3,998	16.5	0	0.0	7	0.0	0	0.0	0	0.0	4,009	3.3	867,471	3.4
Not applicable	0	0.0	8,674	35.7	0	0.0	19,086	86.2	3,934	100.0	0	0.0	31,694	25.9	694,487	2.7
Total	**7,636**	**100.0**	**24,286**	**100.0**	**16,597**	**100.0**	**22,143**	**100.0**	**3,934**	**100.0**	**47,892**	**100.0**	**122,488**	**100.0**	**25,300,302**	**100.0**

**ABS categories collapsed.*

Source: ABS Census of Population and Housing, 2021, TableBuilder, counting persons estimating homelessness dataset.

Appendix 3: Technical notes: Specialist Homelessness Services Collection

Specialist Homelessness Services (SHSs) provide support and accommodation to people experiencing or at risk of homelessness in Australia. All SHSs that receive government funding are required to participate in the Specialist Homelessness Services Collection (SHSC), which is managed by the Australian Institute of Health and Welfare (AIHW). The data are based on periods of support for clients. When a client begins receiving support from an SHS, that service opens a 'support period' that closes when support is no longer being provided (perhaps because the client has found housing or has begun receiving support from another service). Over time, clients may return to the same or a different service to receive support again and so clients may have more than one support period over time, and support periods can vary greatly in length depending on the type of program and the needs of the client. While the data are based on support periods, with the use of a unique identifier, the AIHW is also able to provide data about clients as well as support periods.

Since our previous report (Parkinson, Batterham et al. 2019), the AIHW has updated the way it allocates clients to geographical areas. Previously, clients and/or support periods were allocated to a geographical area based on the location of the service they accessed. However, the AIHW has updated records to allocate clients/support periods to areas based on the known location of the client in the week before receiving assistance. This may not be the same SA3 in which they actually received support. The AIHW provided updated data for the 2016–17 financial year as well as for the 2021–22 financial year for our analysis. However, this change in method means that the last two waves of data are not comparable with the data we have from 2011–12 and 2016–17 in the existing panel dataset.

Some clients/support periods were unable to be allocated to areas using this new approach. This was 10.1 per cent of clients in 2016–17 and 8.9 per cent of clients in 2021–22.

The annual national report for the SHSC contains many data tables as appendices and data cubes are publicly available. From the publicly available data cubes, we obtained by SA3:

- number of clients who received support from an SHS in the 2016–17 and 2021–22 financial years
- homelessness/risk status – whether clients were defined as homeless upon presentation for assistance, at risk of homelessness, or whether this was not stated.[33]

33 Within the SHSC, a person is considered homeless if they are living in non-conventional accommodation, 'sleeping rough', or in short-term or emergency accommodation due to a lack of other options. This definition is more restrictive than the ABS definition of homelessness and includes only operational groups 1, 2, 3 and 5. Please see the glossary from the SHSC annual report for more detail https://www.aihw.gov.au/reports/homelessness-services/specialist-homelessness-services-annual-report/contents/technical-notes/glossary.

We also made a customised request to the AIHW for a range of variables for the 2016–17 and 2021–22 financial years. This included:

- the number of clients (including children) within each SA3 who received accommodation from an SHS (at any time during the financial year)
- the presenting unit for each client at their first support period in that financial year (presenting unit includes lone person, couple with children, couple without children, single person with children, other family and other group)
- new client indicator dividing clients into those presenting for the first time in any year and those who were returning following previous assistance in at least one year since 2011. This variable does not indicate if they received assistance from the same service or in the same SA3 as before.
- a cross tabulation of homelessness/risk status by presenting unit type.

Appendix 4: Detailed tables from Chapters 2 and 3

Table A22: Number of persons with 'not stated' as their usual residence one year prior to the Census by greater capital city and balance of state area, 2021

Greater Capital City Statistical Area	Not stated	% of people experiencing homelessness
Greater Sydney	4,519	17.97
Rest of NSW	2,449	24.89
Greater Melbourne	6,120	25.47
Rest of Vic	1,717	26.17
Greater Brisbane	1,513	16.83
Rest of Qld	2,052	15.26
Greater Adelaide	1,047	18.82
Rest of SA	358	19.36
Greater Perth	2,255	38.91
Rest of WA	1,085	27.36
Greater Hobart	213	19.70
Rest of Tas	226	18.11
Greater Darwin	659	33.10
Rest of NT	626	5.60
Australian Capital Territory	382	21.38
Australia	25,221	20.59

Source: Authors' calculations using ABS Census TableBuilder, place of usual residence and estimating homelessness datasets, 2021 and 2016. Combination of 'Usual Address One Year Ago Indicator' and 'Place of Usual Residence One Year Ago (SA3)'.

Table A23: Usual residence one year prior to Census, number of all persons, persons in low-income PRS dwellings, homelessness, severe crowding, 2016 and 2021, Australia

	2016				2021			
	All persons[1]	Persons living in low-income, PRS dwellings[2]	Persons experiencing homelessness	Persons in severely crowded dwellings[3]	All persons[1]	Persons living in low-income, PRS dwellings[2]	Persons experiencing homelessness	Persons in severely crowded dwellings[3]
Usual residence one year prior to Census								
Same address	17,655,073	1,106,801	58,779	36,817	19,928,997	1,345,110	61,638	38,058
Different address, same SA3	1,393,564	249,956	3,815	3,351	1,541,272	240,998	4,955	3,618
Different SA3	1,674,122	229,421	16,591	3,701	1,975,845	253,076	18,140	3,552
Not stated[4]	1,980,281	55,166	20,751	1,509	1,495,241	21,374	26,384	1,215
Overseas	399,517	63,533	7,167	4,989	174,975	18,995	1,507	743
No usual address[5]	17,354	757	7,968	4	17,415	610	8,431	12
Not applicable[6]	276,178	30,478	1,353	723	283,420	30,072	1,378	717
Total	**23,396,089**	**1,736,112**	**116,424**	**51,094**	**25,417,165**	**1,910,235**	**122,433**	**47,915**

Note: [1]Includes persons living in non-private dwellings. [2]Excludes persons experiencing homelessness (e.g. in severely crowded dwellings). [3]Persons living in a dwelling that requires four or more extra bedrooms to accommodate the people who usually live there, as defined by the Canadian National Occupancy Standard. [4]Where the person usually lived one year ago was not stated on the Census form. [5]Persons who had no fixed residential address and can include, for example, travellers moving across Australia but also those with no fixed address due to family conflict or eviction (among other reasons). [6]Persons not under one year old on Census night and thus not born one year prior.

Source: Authors' calculations using ABS Census TableBuilder, place of usual residence and estimating homelessness datasets, 2021 and 2016. Combination of 'Usual Address One Year Ago Indicator' and 'Place of Usual Residence One Year Ago (SA3)'.

Table A24: Selected characteristics of persons experiencing homelessness by state/territory 2011, 2006 and 2021

		NSW			Vic			Qld			SA			WA		
		2011	2016	2021	2011	2016	2021	2011	2016	2021	2011	2016	2021	2011	2016	2021
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Age group (years)	Under 12	12.9	10.5	12.0	16.0	13.6	13.0	17.3	13.7	15.0	15.7	12.9	18.0	15.6	13.4	12.0
	12–18	9.4	7.1	8.0	10.0	8.1	9.0	10.2	7.9	9.0	10.5	10.3	11.0	9.7	8.2	9.0
	19–24	15.2	16.9	14.0	16.8	17.6	16.0	13.2	12.7	12.0	13.8	15.3	14.0	14.0	13.1	11.0
	25–34	19.0	23.1	23.0	20.1	22.2	23.0	16.6	18.3	18.0	18.0	18.4	19.0	19.0	20.6	18.0
	35–44	13.8	13.4	14.0	14.0	13.6	14.0	13.3	13.5	13.0	14.9	13.7	14.0	14.5	14.3	17.0
	45–54	13.7	12.0	12.0	11.2	11.6	12.0	12.0	13.3	13.0	13.4	13.6	11.0	11.6	13.5	14.0
	55–64	9.1	9.6	10.0	7.0	7.3	8.0	10.2	11.8	10.0	8.5	9.3	8.0	9.0	9.9	10.0
	65–74	4.6	5.1	5.0	3.3	3.9	4.0	5.0	6.5	7.0	3.6	4.9	4.0	4.5	5.3	6.0
	75 and over	2.5	2.2	2.0	1.6	2.1	2.0	2.2	2.2	2.0	1.6	2.0	1.0	2.1	1.5	3.0
Combined age groups (years)	12–24	24.5	24.0	22.0	26.9	25.7	25.0	23.5	20.6	21.0	24.2	25.6	25.0	23.8	21.3	20.0
	25–54	46.5	48.5	49.0	45.3	47.4	49.0	41.9	45.1	44.0	46.4	45.7	44.0	45.1	48.4	49.0
	55 and over	16.1	16.9	17.0	11.9	13.3	14.0	17.4	20.5	19.0	13.7	16.2	13.0	15.6	16.7	19.0
Sex	Male	59.5	60.2	58.0	56.9	58.0	58.0	57.1	58.4	56.0	56.5	59.6	53.0	55.8	58.0	55.0
	Female	40.5	39.8	42.0	43.1	42.0	42.0	42.9	41.6	44.0	43.5	40.3	47.0	44.1	42.0	45.0
Indigenous status	Indigenous	7.8	6.0	7.0	3.7	3.2	4.0	24.3	20.5	21.0	18.2	15.0	19.0	35.3	29.1	35.0
	Non-Indigenous	83.4	83.1	79.0	84.4	81.8	77.0	68.0	68.5	69.0	73.1	74.6	68.0	59.4	64.3	56.0
	Not stated	8.8	10.9	13.0	11.9	15.0	19.0	7.7	11.0	10.0	8.7	10.4	13.0	5.3	6.5	9.0
Country of birth*	Australia	52.8	41.8	42.0	50.4	41.9	39.0	68.2	61.5	65.0	64.5	54.5	60.0	67.0	62.4	66.0
	Born overseas	47.2	58.2	58.0	49.6	58.2	62.0	31.8	38.6	33.0	35.5	45.2	39.0	33.0	37.9	34.0
Proficiency in spoken English*	Speaks Eng. only	52.0	41.2	42.0	48.7	39.6	38.0	70.2	63.0	63.0	56.5	49.6	52.0	56.2	48.8	46.0
	Very well	15.3	15.1	16.0	14.7	15.5	17.0	8.2	8.6	10.0	9.7	11.7	12.0	14.7	13.1	11.0
	Well	11.4	16.4	12.0	12.1	15.0	11.0	6.6	8.0	7.0	13.2	13.6	11.0	11.5	14.4	6.0
	Not well	5.6	9.4	7.0	6.2	8.2	6.0	3.1	4.3	3.0	5.8	7.4	4.0	4.1	6.0	2.0
	Not at all	2.0	2.7	3.0	2.3	2.6	2.0	0.9	1.1	1.0	2.3	2.7	2.0	1.6	1.6	1.0
	Not stated	13.6	15.1	20.0	16.1	19.1	26.0	11.0	15.0	16.0	12.6	15.0	18.0	11.9	16.1	33.0
	Total persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table A24 (continued): Selected characteristics of persons experiencing homelessness by state/territory and national, 2011, 2006 and 2021

		Tas			NT			ACT			National homelessness			National population		
		2011	2016	2021	2011	2016	2021	2011	2016	2021	2011	2016	2021	2011	2016	2021
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Age group (years)	Under 12	14.9	13.1	14.0	27.0	22.8	21.0	16.2	11.5	15.0	17.0	14.0	14.0	15.4	15.1	14.5
	12–18	12.2	10.0	10.0	12.9	13.8	13.0	11.8	6.8	9.0	10.0	9.0	9.0	9.1	8.3	8.3
	19–24	12.8	14.5	15.0	12.6	12.0	12.0	14.1	15.0	13.0	14.0	15.0	14.0	8.1	8.0	7.3
	25–34	16.1	16.5	22.0	16.8	17.7	17.0	18.0	21.1	25.0	18.0	21.0	21.0	13.8	14.4	14.3
	35–44	15.1	13.3	12.0	12.5	12.6	13.0	17.5	16.7	15.0	14.0	14.0	14.0	14.2	13.4	13.7
	45–54	12.7	14.4	10.0	8.9	10.5	11.0	12.5	13.8	11.0	12.0	12.0	12.0	13.7	13.3	12.8
	55–64	9.6	10.0	8.0	5.5	6.6	8.0	6.6	9.7	7.0	8.0	9.0	9.0	11.6	11.8	11.8
	65–74	4.6	5.7	7.0	2.5	2.7	3.0	2.5	3.9	4.0	4.0	5.0	5.0	7.6	8.9	9.7
	75 and over	1.9	2.0	2.0	1.2	1.0	1.0	0.9	1.4	2.0	2.0	2.0	2.0	6.4	6.8	7.5
Combined age groups (years)	12–24	25.0	24.5	25.0	25.5	25.8	25.0	25.9	21.8	22.0	24.0	24.0	23.0	17.2	16.3	15.7
	25–54	44.0	44.2	44.0	38.3	40.8	41.0	48.0	51.6	51.0	44.0	47.0	47.0	41.8	41.1	40.7
	55 and over	16.1	17.7	17.0	9.2	10.3	12.0	10.0	15.0	13.0	14.0	16.0	16.0	25.6	27.5	29.1
Sex	Male	58.2	57.8	56.0	49.7	49.6	48.0	55.2	60.2	59.0	56.0	58.0	56.0	49.4	49.3	49.3
	Female	41.9	42.0	44.0	50.4	50.4	52.0	44.8	39.6	41.0	44.0	42.0	44.0	50.6	50.7	50.7
Indigenous status^	Indigenous	10.7	8.0	11.0	90.3	88.4	87.0	14.6	6.0	7.0	26.0	20.0	20.0	2.5	2.8	3.2
	Non-Indigenous	83.0	84.0	78.0	7.5	9.0	8.0	72.4	75.0	74.0	66.0	69.0	67.0	92.5	91.2	92.0
	Not stated	6.4	7.8	12.0	2.2	2.5	5.0	13.0	18.9	19.0	7.0	10.0	13.0	4.9	6.0	4.9
Country of birth*	Australia	77.9	74.5	65.0	94.7	90.2	89.0	61.4	44.5	47.0	64.0	54.0	54.0	69.8	66.7	67.0
	Born overseas	22.2	25.7	34.0	5.3	9.9	10.0	38.8	54.9	54.0	35.0	46.0	47.0	30.2	33.3	33.0
Proficiency in spoken English*	Speaks Eng. only	80.4	75.8	63.0	13.2	11.8	11.0	64.3	45.9	48.0	50.0	43.0	43.0	76.8	72.7	72.0
	Very well	3.2	3.8	8.0	26.9	34.4	31.0	11.0	13.6	16.0	15.0	15.7	16.0	10.3	11.7	13.3
	Well	2.7	4.5	8.0	31.5	31.5	31.0	5.9	11.8	9.0	14.0	15.8	12.0	5.0	5.7	5.8
	Not well	1.3	3.1	2.0	17.2	9.2	12.0	2.5	5.5	3.0	7.0	7.7	6.0	2.4	2.7	2.6
	Not at all	1.4	0.7	1.0	5.2	3.0	3.0	0.7	1.7	2.0	2.0	2.3	2.0	0.7	0.8	0.8
	Not stated	11.1	11.8	17.0	6.0	10.2	12.0	15.7	21.5	22.0	12.0	15.5	21.0	5.0	6.4	5.5
	Total persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

*^Includes persons who identify as Aboriginal, Torres Strait Islander or both Aboriginal and Torres Strait Islander. *For 2011 only, the totals of these two variables have not been adjusted following the ABS post-Census revision of those counted in boarding houses in 2011.The estimates for 2011 'boarding houses' were revised down after publication of 2011 results. This reduced the total population experiencing homelessness in 2011 by 2,798 persons.*

Source: ABS (2023f). See also national population figures from ABS (2012e; 2018b; 2023g).

Appendix 5: Detailed modelling results

Table A25: Definitions of variables used in modelling

Variable	Unit of analysis	Variable details
Total homeless persons	Persons	Total number of persons experiencing homelessness within SA3 *i* in year *X* , expressed as a rate per 10,000 persons.
Age	Persons	Percentage of persons within SA3 *i* in specified age bracket (0–14 years, 15–24 years, 25–34 years etc.) in year *X*.
Gender	Persons	Percentage of persons within SA3 *i* of specified gender (male or female) in year *X*.
Household type	Household	Percentage of households within SA3 *i* of specified household type (lone person, one-parent family, couple with children, couple only, group household, other family) in year *X*.
Indigenous	Persons	Percentage of persons within SA3 *i* who identify as 'Aboriginal', 'Torres Strait Islander' or both in year *X*.
Speaks other language at home	Persons	Percentage of persons within SA3 *i* who speak English at home, speak a language other than English at home or for whom language spoken at home is not stated in year *X*.
Dwelling tenure	Dwellings	Percentage of occupied private dwellings within SA3 *i* that were owned outright, purchased with a mortgage, public housing, community housing, rented from a person outside the household, rented from a real estate agent, rented privately, rented from any source, social housing (public housing plus rented from a community housing provider), other landlord type, other, tenure not stated in year *X*.
Dwelling type	Dwellings	Percentage of occupied private dwellings within SA3 *i* of specified type (separate house, semi-detached row or terrace, flat unit or apartment, other dwelling type, dwelling type not stated) in year *X*.
% Q1 income	Households	Percentage of households in SA3 *i* within each national household income quintile 1 (Q1 – calculated for each Census year, see tables in Appendix 1.3), in year *X*.
R1	Dwellings	The number/percentage of dwellings in SA3 *i* affordable for Q1 (households in income quintile 1 or very low-income), private rental sector (PRS) households at 30% of their income or less in year *X*. R1 is calculated based on Q1 ranges in each Census year. See tables in Appendix 1.3 for specific dollar amounts.
Net supply of affordable PRS housing – Q1 households (thousands of dwellings) (NSARH)	Dwellings	Net supply of affordable PRS housing for Q1 households (R1) relative to demand from Q1 households. R1–Q1 in SA3 *i* in year *X*.
Post-school qualifications	Persons	Percentage of persons aged 15 years and over within SA3 *i* with a post-school qualification, certificate, diploma or advanced diploma, bachelor's degree, graduate diploma or graduate certificate, post-graduate degree, qualification inadequately described, qualification level not stated in year *X*.
Labour force status: unemployed	Persons	Percentage of persons aged 15 years and over within SA3 *i* who were employed full-time, employed part-time, away from work or hours not stated, unemployed, employed, not in the labour force, not stated, aged 15–24 and unemployed in year *X*.
Marital status	Persons	Percentage of persons aged 15 years and over within SA3 *i* who are married, divorced, separated, widowed, never married in year *X*.

Source: Authors.

Table A26: Descriptive statistics or variable used in modelling

Variable	N	Mean	SD	Median	Min	Max
Rate of homelessness per 10,000 persons	1,670	65.49	209.69	30.9	0	3,226.22
Male	1,670	49.72	2.15	49.28	46	68.69
Indigenous	1,670	3.71	7.11	1.75	0	64.73
Language at home: not English	1,670	14.53	14.43	8.4	0.79	71.65
Household type: couple only	1,670	27.27	4.4	26.93	0	100
Household type: one-parent family	1,670	10.87	2.45	10.79	0	20.5
Household type: group	1,670	3.81	2.46	2.98	0	20.92
Tenure: rented from real estate agent	1,670	13.79	7.28	12.52	0	52.13
Tenure: public housing	1,670	3.81	3.39	3.01	0	33.61
NSARH (net supply of affordable rental housing)	1,670	−473.59	608.27	−344	−7,684	992
% of households in Q1	1,669	22.02	6.82	22.05	0	40.98
Variables included in models but not reported in tables in body of report						
Female	1,670	50.28	2.15	50.72	31.31	54
Language at home: English only	1,670	79.58	14.93	85.21	20.02	96.92
Language at home: not stated	1,670	5.89	3.36	4.97	0.77	40.2
Household type: couple with children	1,670	32.12	8.1	31.56	0	58.49
Household type: other family	1,670	1.17	0.53	1.05	0	5.85
Household type: lone person	1,670	24.68	6.07	25.1	0	52.69
Tenure: owned outright	1,670	33	8.88	33.35	0	60.59
Tenure: owner purchaser	1,670	30.82	9.25	29.88	0	65.85
Tenure: rented from person outside household	1,670	6.74	2.71	6.39	0	42.86
Tenure: housing cooperative community group or church	1,670	0.87	2.11	0.53	0	32.24
Tenure: other landlord type	1,670	2.41	4.03	1.28	0	43.24
Tenure: other	1,670	1.35	1.1	1.09	0	19.79
Tenure: all renters	1,670	28.3	9.74	27.03	0	87.97
Tenure: rented landlord type not stated	1,670	0.68	0.57	0.54	0	6.67
Tenure: not stated	1,670	6.46	3.05	5.77	0	29.25
Labour Force Status (LFS) employed full-time	1,670	35.46	6.05	35.6	18.03	57.88
LFS employed part-time	1,670	17.48	2.92	17.55	6.64	29.39
LFS employed away from work or hours not stated	1,670	3.88	1.05	3.64	1.3	11.76
LFS employed	1,670	56.82	6.82	57.19	33.21	80.67
LFS unemployed	1,670	3.54	1.11	3.35	0.61	8.79
LFS not in labour force	1,670	33.63	6.37	33.63	11	56.96
LFS not stated	1,670	6.01	3.23	5.24	0	30.41
Youth unemployment 15–24 years	1,670	12.13	4.06	11.59	0	40.05
Married	1,670	47.1	8.03	49.19	21.74	64.56
Separated	1,670	3.62	1.12	3.44	0	8.97
Divorced	1,670	8.44	1.61	8.39	3.94	15.66
Widowed	1,670	5.19	1.74	5.1	1.13	11.56
Never married	1,670	35.64	8.05	33.19	18.92	61.4
Dwelling type: separate house	1,669	76.27	18.5	82.45	1.97	100
Dwelling type: semi-detached row or terrace	1,669	9.41	7.08	7.85	0	52.29
Dwelling type: flat, unit or apartment	1,669	11.45	14.39	5.69	0	86.16
Dwelling type: other dwelling	1,669	2.42	4.84	1.01	0	47.2
Dwelling type: not stated	1,669	0.45	0.68	0.24	0	8.42
Age: 0–14	1,670	19.43	3.67	19.48	5.52	41.77
Age: 15–24	1,670	12.64	2.46	12.5	2.61	28.49
Age: 25–34	1,670	13.56	3.93	13.03	5.8	34.91
Age: 35–44	1,670	14.11	1.95	14.17	7.93	22.01
Age: 45 plus	1,670	40.27	7.31	39.8	17.45	67.41
Over 15 with post-school qual.	1,670	55.03	9.6	54.95	30.87	80.99
Post-graduate degree	1,670	5.71	4.71	3.83	0.67	26.59
Graduate diploma and graduate certificate level	1,670	3.05	1.31	2.73	0	8.22
Bachelor's degree	1,670	21.67	8.75	18.78	7.33	45.81
Advanced diploma and diploma	1,670	13.72	2.22	13.73	6.94	19.89
Certificate level total	1,670	34.57	10.43	37.8	7.75	52.27
Qual. inadequately described	1,670	2.08	0.94	2.06	0	4.85

Source: Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

Table A27: Complete modelling estimates from ordinary least squares (OLS), random effects (RE) and fixed effects (FE) models

		Pooled OLS	FE	RE
		b/se	**b/se**	**b/se**
Age	% Aged 0–14	0.031	0.090***	0.067***
		−0.03	−0.01	−0.01
	% Aged 15–24	0.026	−0.016	0.014
		−0.03	−0.02	−0.01
	% Aged 25–34	0.017	0.018	0.025*
		−0.02	−0.01	−0.01
	% Aged 35–44	0.053*	−0.01	0.034*
		−0.03	−0.02	−0.02
Demographic	% Male	0.115**	0.087***	0.096***
		−0.04	−0.02	−0.02
	% Indigenous	0.064***	0.071***	0.057***
		−0.01	−0.01	−0.01
	% Speaks other language	0.014**	0.016***	0.009***
		0	0	0
	% Language NS	−0.086**	0.069***	0.018
		−0.03	−0.02	−0.01
Post-school qualifications	% Qualification advanced diploma/diploma	−0.03	0.033*	−0.007
		−0.02	−0.01	−0.01
	% Qualification certificate level	−0.007	−0.013*	−0.008*
		−0.01	−0.01	0
	% Qualification inad. desc.	0.015	0.033	0.017
		−0.04	−0.03	−0.03
	% Qualifications NS	0.006	0.014	0.007
		−0.01	−0.01	−0.01
Labour force status	% Unemployed	−0.038	−0.019	−0.023
		−0.04	−0.02	−0.02
	% Not in labour force	0.009	0.001	0.004
		−0.01	−0.01	−0.01
	% Labour force status NS	0.077*	−0.106***	−0.042**
		−0.03	−0.02	−0.02
Marital status	% Separated	0.053	0.05	0.083**
		−0.05	−0.03	−0.03
	% Divorced	0.065	−0.015	0.034
		−0.05	−0.03	−0.02
	% Widowed	0.071	0.052	0.097***
		−0.05	−0.03	−0.02
	% Never married	−0.001	−0.002	−0.003
		0	0	0
Household type	% Couples only	0.025*	0.037***	0.040***
		−0.01	−0.01	-0.01
	% One-parent households	0.059*	0.069**	0.065***
		−0.03	−0.02	−0.02
	% Other family type	−0.102	0.375***	0.213***
		−0.14	−0.06	−0.05
	% Lone persons	0.001	−0.005	−0.002
		−0.02	−0.01	−0.01
	% Group households	0.138***	0.104***	0.136***
		−0.03	−0.02	−0.02

Table A27 (continued): Complete modelling estimates from ordinary least squares (OLS), random effects (RE) and fixed effects (FE) models

		Pooled OLS	FE	RE
		b/se	**b/se**	**b/se**
Housing	% Renting from real estate	0	−0.042***	−0.018**
		−0.01	−0.01	−0.01
	% In other housing	−0.038	−0.028**	−0.030**
		−0.03	−0.01	−0.01
	Net supply of affordable private rental sector housing – Q1 households (thousands of dwellings)	0.03	−0.133**	−0.05
		−0.05	−0.04	−0.03
	% Social housing	−0.002	−0.051***	−0.021**
		−0.01	−0.01	−0.01
	% Other landlord	−0.034*	0.001	−0.01
		−0.02	−0.01	−0.01
	% Other tenure	−0.072***	−0.002	−0.031*
		−0.02	−0.01	−0.01
	% Semi-detached row/terrace	0.003	0.005	0.011***
		−0.01	0	0
	% Flat/unit/apartment	0.006	0.015***	0.014***
		0	0	0
	% Other dwelling type	0.027**	0.075***	0.041***
		−0.01	−0.01	−0.01
	% Dwelling type NS	0.067	0.037	0.04
		−0.05	−0.02	−0.02
Income inequality	% Income in bottom 20% (Q1)	0.01	−0.002	0.007
		−0.01	−0.01	−0.01
Year	y2006	−0.342***	0.112	−0.023
		−0.09	−0.06	−0.06
	y2011	−0.178	0.230*	0.127
		−0.12	−0.09	−0.07
	y2016	−0.091	0.369**	0.257**
		−0.16	−0.13	−0.1
	y2021	0.052	0.458**	0.396**
		−0.26	−0.17	−0.13
State	Victoria	0.328***	0	0.315***
		−0.07	(.)	−0.07
	Queensland	0.164	0	0.117
		−0.09	(.)	−0.06
	SA	0.283*	0	0.290**
		−0.12	(.)	−0.09
	WA	0.224	0	0.107
		−0.13	(.)	−0.08
	Tasmania	0.026	0	0.102
		−0.14	(.)	−0.11
	NT	0.495*	0	0.445**
		−0.21	(.)	−0.17
	ACT	−0.083	0	−0.215
		−0.19	(.)	−0.15
	_cons	−6.968**	−5.392***	−7.348***
		−2.67	−1.34	−1.04
No. of observations		1,669	1,669	1,669

Source: Authors' calculations using pooled panel data set - ABS homelessness estimates, customised ABS Census data and TSP 2001–21.

*Note: SE statistics in parentheses. * p < 0.05. ** p < 0.01. *** p<0.001. Reference categories are percentage aged 35+, percentage female, percentage non-indigenous, percentage speaks English only, percentage bachelor's degree or higher, percentage employed, percentage married/partnered, percentage couples with children, percentage owner occupiers, percentage separate house and percentage income in Q2–Q5, Y2001, New South Wales.*

Table A28: Estimates from spatial Durbin error model with fixed effects (SDEM-FE), national, greater capital city and balance of state areas

	Spatial FE model, national	Spatial FE Model, major city	Spatial FE model, rest of state
	b/se	b/se	b/se
% Aged 0–14	0.084***	−0.013	0.096***
	−0.01	−0.02	−0.02
% Aged 15–24	−0.044*	−0.088***	−0.034
	−0.02	−0.02	−0.03
% Aged 25–34	0	0.005	−0.049*
	−0.01	−0.01	−0.02
% Aged 35–44	−0.038*	−0.035	−0.062*
	−0.02	−0.02	−0.03
% Male	0.090***	0.110***	0.083***
	−0.02	−0.03	−0.02
% Indig.	0.077***	0.054	0.047*
	−0.02	−0.03	−0.02
% Speaks other language	0.019***	0.007	0.030*
	0	0	−0.01
% Language NS	0.078***	−0.104***	0.141***
	−0.02	−0.03	−0.02
% Advanced diploma/diploma	0.028	0.017	0.017
	−0.01	−0.02	−0.02
% Certificate	−0.016*	−0.008	0.003
	−0.01	−0.01	−0.01
% Qualification inad. described	0.005	−0.003	−0.02
	−0.02	−0.03	−0.04
% Qualification not stated	0.004	−0.006	0.021
	−0.01	−0.01	−0.01
% Unemployed	−0.004	−0.049*	0.016
	−0.02	−0.02	−0.02
% Not in labour force	−0.003	0.018	−0.029*
	−0.01	−0.01	−0.01
% Labour force NS	−0.100***	0.104**	−0.178***
	−0.02	-0.03	−0.03
% Separated	0.024	-0.032	0.028
	−0.03	−0.04	−0.04
% Divorced	−0.006	−0.132**	−0.007
	−0.03	−0.04	−0.03
% Widowed	0.03	−0.04	0.033
	−0.03	−0.04	−0.04
% Never married	−0.001	−0.010***	0.009*
	0	0	0
% Couples only	0.037**	−0.053**	0.055**
	−0.01	−0.02	−0.02
% One-parent households	0.073***	0.073*	0.076*
	−0.02	−0.03	−0.03

Table A28 (continued): Estimates from spatial Durbin error model with fixed effects (SDEM-FE), national, greater capital city and balance of state areas

	Spatial FE model, national	Spatial FE Model, major city	Spatial FE model, rest of state
	b/se	**b/se**	**b/se**
% Other family	0.388***	0.162*	0.522***
	−0.06	−0.07	−0.1
% Lone-person households	−0.007	0.005	−0.034
	−0.01	−0.02	−0.02
% Group households	0.095***	0.138***	−0.005
	−0.02	−0.03	−0.04
% In private rental	−0.030***	−0.019*	−0.014
	−0.01	−0.01	−0.01
% Other households	−0.030**	−0.004	−0.028
	−0.01	−0.01	−0.02
No. of net affordable housing supply- Q1 households (thousands) [NSARH]	−0.143***	−0.095*	−0.141
	−0.04	−0.05	−0.08
% In social housing	−0.050***	0.017	−0.048**
	−0.01	−0.01	−0.02
% Other landlord type	0.009	0.029	0.033*
	−0.01	−0.03	−0.01
% Other tenure	0.006	0.048	0.02
	−0.01	−0.04	−0.02
% In semi-detached dwelling	0.003	−0.002	0.018*
	0	0	−0.01
% In flat/ unit/apartment	0.013**	0.008	0.019*
	0	−0.01	−0.01
% In other dwelling	0.075***	0.127***	0.076***
	−0.01	−0.03	−0.01
% Dwelling NS	0.045*	0.129**	0.033
	−0.02	−0.05	−0.03
% Households with income in bottom 20%	−0.004	0.003	−0.011
	−0.01	−0.01	−0.01
Victoria	NA	NA	NA
Queensland	NA	NA	NA
SA	NA	NA	NA
WA	NA	NA	NA
Tasmania	NA	NA	NA
NT	NA	NA	NA
ACT	NA	NA	NA
W (contiguity weights)			
ln_homeless_10000	−0.109	0.183	−0.12
	−0.22	−0.2	−0.15
e.ln_homeless_10000	0.325	−0.113	0.323
	−0.21	−0.26	−0.17
sigma_u			
_cons	0.292***	0.254***	0.298***
	−0.01	−0.01	−0.01

Source: Authors' pooled panel dataset (ABS Census homelessness estimates, TSP, ABS special request data files 2001-2021).

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