



FINAL REPORT NO. 348

Marginal housing during COVID-19

Authored by

Caitlin Buckle, University of Sydney

Nicole Gurrán, University of Sydney

Peter Phibbs, University of Sydney

Patrick Harris, UNSW Sydney

Tess Lea, University of Sydney

Rashi Shrivastava, University of Sydney

Publication Date December 2020

DOI 10.18408/ahuri7325501

Title

Marginal housing during COVID-19

Authors

Caitlin Buckle, University of Sydney
Nicole Gurrán, University of Sydney
Peter Phibbs, University of Sydney
Patrick Harris, UNSW Sydney*
Tess Lea, University of Sydney
Rashi Shrivastava, University of Sydney

ISBN

978-1-922498-14-4

Key words

Private rental market, housing assistance and social policy, homelessness, short-term letting.

Series

AHURI Final Report

Number

348

ISSN

1834-7223

Publisher

Australian Housing and Urban Research Institute Limited
Melbourne, Australia

DOI

10.18408/ahuri7325501

Format

PDF, online only

URL

<https://www.ahuri.edu.au/research/final-reports/348>

Recommended citation

Buckle, C., Gurrán, N., Phibbs, P., Harris, P., Lea, T. and Shrivastava, R. (2020) *Marginal housing during COVID-19*, AHURI Final Report No. 348, Australian Housing and Urban Research Institute Limited, Melbourne, <https://www.ahuri.edu.au/research/final-reports/348>, doi: 10.18408/ahuri7325501.

AHURI

AHURI is a national independent research network with an expert not-for-profit research management company, AHURI Limited, at its centre.

AHURI's mission is to deliver high quality research that influences policy development and practice change to improve the housing and urban environments of all Australians.

Using high quality, independent evidence and through active, managed engagement, AHURI works to inform the policies and practices of governments and the housing and urban development industries and stimulate debate in the broader Australian community.

AHURI undertakes evidence-based policy development on a range of priority policy topics that are of interest to our audience groups, including housing and labour markets, urban growth and renewal, planning and infrastructure development, housing supply and affordability, homelessness, economic productivity, and social cohesion and wellbeing.

Acknowledgements

This material was produced with funding from the Australian Government and state and territory governments. AHURI Limited gratefully acknowledges the financial and other support it has received from these governments, without which this work would not have been possible.

AHURI Limited also gratefully acknowledges the contributions, both financial and in-kind, of its university research partners who have helped make the completion of this material possible.

Disclaimer

The opinions in this report reflect the views of the authors and do not necessarily reflect those of AHURI Limited, its Board, its funding organisations or Inquiry Panel members. No responsibility is accepted by AHURI Limited, its Board or funders for the accuracy or omission of any statement, opinion, advice or information in this publication.

AHURI journal

AHURI Final Report journal series is a refereed series presenting the results of original research to a diverse readership of policy makers, researchers and practitioners.

Peer review statement

An objective assessment of reports published in the AHURI journal series by carefully selected experts in the field ensures that material published is of the highest quality. The AHURI journal series employs a double-blind peer review of the full report, where anonymity is strictly observed between authors and referees.

Copyright

© Australian Housing and Urban Research Institute Limited 2020

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License, see <http://creativecommons.org/licenses/by-nc/4.0/>.



* The full affiliation for the author Dr Patrick Harris is: Centre for Health Equity Training, Research & Evaluation (CHETRE). Part of the UNSW Australia Research Centre for Primary Health Care & Equity; A Unit of Population Health, South Western Sydney Local Health District, NSW Health; A member of the Ingham Institute.

Contents

List of tables	iii	2.2.2 Multi-family households and overcrowding	25
List of figures	iii	2.3 Additional vulnerabilities of those living in marginal and informal housing in Sydney	26
Acronyms and abbreviations used in this report	iii	2.3.1 Age	26
Glossary	iii	2.3.2 Occupation	27
Executive summary	1	2.3.3 Overcrowding and Indigenous households	28
Key findings	3	2.3.4 International students and temporary migrants	29
Policy development options	4	2.4 Summary and policy implications	30
The study	5	3. Changes in the low-cost and STR markets	31
1. Research background	6	3.1 Housing markets before the COVID-19 outbreak	32
1.1 Why this research was conducted	7	3.1.1 Rental vacancy rates	32
1.2 Policy context	7	3.1.2 The STR market in Sydney, Hobart and Shoalhaven	34
1.2.1 Housing stress and vulnerability in the private rental market	7	3.2 Supply of STRs post-pandemic	35
1.2.2 The short-term rental (STR) sector	8	3.3 Understanding impacts of STRs on rental housing markets	36
1.2.3 Rental protections and emergency accommodation	8	3.3.1 Sydney housing market impacts	36
1.3 Key concepts	8	3.3.2 Hobart housing market impacts	39
1.3.1 Marginal housing and homelessness	9	3.4 Using STR accommodation for priority housing during the pandemic	41
1.3.2 Informal housing	9	3.4.1 Managing the risks of unregulated visitor accommodation	41
1.3.3 Health and housing risks in marginal and informal rental housing	10	3.4.2 Accommodating healthcare workers	41
1.3.4 Health and housing risks during COVID-19	11	3.4.3 Addressing unmet housing needs	41
1.4 Research methods	12	3.5 Summary and policy implications	42
1.4.1 Understanding risks in marginal and informal housing, and change during COVID-19	13	4. Policy development opportunities	43
1.4.2 STRs and permanent rental supply in Sydney, Hobart and Shoalhaven	14	4.1 How should residents of marginal and informal housing be assisted during the COVID-19 pandemic?	44
1.4.3 Interview data	14	4.2 How have informal and low-cost rental markets changed during COVID-19?	45
1.5 Research limitations	15	4.3 How have changes in demand for STR housing impacted rental vacancy rates and affordability? Could STR stock be used for emergency housing?	45
1.6 Structure of this report	16	4.4 Priorities for further research	46
2. Sydney's marginal and informal housing sector and the risks during COVID-19	17	4.5 Final remarks	46
2.1 Marginal and informal rental housing markets in Sydney	18	References	47
2.1.1 The composition of low-cost rental supply	18		
2.1.2 Informal rentals, room, and share rentals in Sydney	20		
2.1.3 Reasons for seeking share and informal accommodation during COVID-19	23		
2.2 Estimating numbers of those living in marginal and informal housing in Sydney	24		
2.2.1 Group households and overcrowding	25		

List of tables

Table 1: Overview of research methods	12
Table 2: Interview data and coding	15
Table 3: Weekly rent and composition of lower cost rental listings snapshot, Realestate.com.au, July–September 2019	19
Table 4: Gumtree.com.au rental listings \$350 or under; 'share' and 'room' rentals, May 2020	20
Table 5: Share housing demand and supply, Flatmates.com December 2016, August 2018, 2019, April 2020	21
Table 6: Number of people experiencing homelessness, or in improvised and marginal housing circumstances in Greater Sydney	24
Table 7: Number of people in homeless operational groups, group households and multi-family households in Greater Sydney by age	27
Table 8: Number of people in homeless operational groups, group households and multi-family households in Greater Sydney by industry of employment	29
Table 9: Sydney vacancy rates and rental average 2017 to 2020 (pre COVID-19)	33
Table 10: Private rental market Shoalhaven/Nowra, June Quarter 2019 and 2020	34
Table 11: High availability whole dwellings listed on Airbnb as a percentage of the total rental market by Hobart LGA	35
Table 12: Changes in high availability whole dwelling Airbnb Listings 2020 Sydney and Hobart	35
Table 13: Examining rental markets and Airbnb interactions in selected Sydney LGAs	38
Table 14: Examining rental markets and Airbnb interactions in Hobart LGAs	40

List of figures

Figure 1: Example of a room share advertisement, showing 3 mattresses on the floor, Gumtree.com.au	20
Figure 2: Flatmates share advertisements listings, Sydney April 2020 by SA2 (People offering space on top, locations where people were seeking share accommodation on bottom)	22
Figure 3: Number of people over the number of bedrooms in Flatmates.com property listings in April 2020, averaged by SA2	23
Figure 4: Number of people in rented group households in Sydney by SA2	25
Figure 5: Population growth, Sydney and Hobart in context	33

Acronyms and abbreviations used in this report

ABS	Australian Bureau of Statistics
AHURI	Australian Housing and Urban Research Institute Limited
CRA	Commonwealth Rent Assistance
LGA	local government area
NOM	Net Overseas Migration
NSW	New South Wales
PRM	permanent rental market
SA2	Statistical Area Level 2
STR	Short-term rental
TAS	Tasmania
TREI	Tasmanian Real Estate Institute
UK	United Kingdom
US	United States

Glossary

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

Executive summary

Key points

- Overcrowded, marginal housing and informal housing tenures may increase health risks associated with the COVID-19 pandemic, because of the difficulties of physical distancing and potential for the virus to spread.
- Reflecting the chronic shortage of affordable rental supply in Sydney, demand for, and supply of, share and informal accommodation has continued during the pandemic. There were 402 advertisements for rooms or granny flats via 'Gumtree.com.au' in May 2020 and 4,731 share accommodation listings on the platform 'Flatmates.com.au' in April 2020. A further 2,923 people placed advertisements seeking accommodation via the Flatmates platform.
- People living in these informal tenures may face additional risks of contracting the virus because of the inability to social distance. They experience additional precarity because negotiated rental arrangements leave people more vulnerable to eviction and displacement, despite wider government efforts to protect tenants in the private rental market.
- Of people renting in share households during the 2016 Census, 8,476 were healthcare workers, and 12,743 included occupants working in food or accommodation sectors. There were 1,514 workers in healthcare or social assistance sectors living in crowded or severely overcrowded accommodation needing three or more additional bedrooms.

- There is evidence of a link between falling demand for Airbnb style short-term rental accommodation during the pandemic, and an increase in long-term private rental housing availability in case study housing markets of Sydney and Hobart. This suggests that the loss of residential units to Airbnb-style platforms affected private rental housing supply and affordability pre-pandemic.
- Some lower income earners have reportedly been able to use additional income support during the pandemic period to move out of marginal or substandard rental accommodation.

Key findings

The COVID-19 pandemic has exposed underlying vulnerabilities in Australia's housing system. Overcrowding, share accommodation, and precarious tenures are rising in the major cities and some regional areas where permanent rental supply has been drained by short-term tourism platforms. With inadequate housing increasing the risk of disease transmission and other health impacts under the pandemic, it is critical to better understand these informal and largely unregulated sectors of the housing system.

This is the Final Report of an AHURI Scoping Project which examines these issues, focussing on the impact of the COVID-19 pandemic on the linked housing forms of marginal, informal and short-term rental (STR) accommodation. The aims of the Scoping Project were: to establish any health and housing risks of marginal and informal housing revealed or exacerbated during COVID-19; investigate any potential changes to the demand and supply of informal housing due to the pandemic; determine the change to demand and supply of informal short-term tourism rentals during COVID-19 and, finally, the related positive or negative affect on housing supply of these changes.

Through an initial literature review, building inspector interviews and interviews with health and housing professionals, the project finds that residents of 'informal' and marginal tenures—particularly those living in substandard or overcrowded rental accommodation—may face additional health risks in the context of COVID-19. These risks are largely because of the need to share bedrooms and facilities such as bathrooms and kitchens. Informal tenures include share households and other negotiated rental arrangements, which are often associated with fewer tenancy protections and a higher risk of eviction or displacement.

Exact comparisons between the numbers of people living in informal and marginal accommodation before the COVID-19 pandemic and at the time of the pandemic are unclear due to the difficulty in obtaining data on those in marginal and informal housing circumstances. However, drawing on data collected from Flatmates.com.au and Gumtree.com.au, key platforms used by those offering and seeking share accommodation, this project found that demand for, and supply of, share and informal accommodation has continued during the pandemic despite widespread disruptions to rental markets through the pause of international migration. In Sydney, where affordability pressures have forced increasing numbers of lower income earners to share or seek other informal rental options, there were 402 advertisements for rooms or granny flats via 'Gumtree.com.au' in May 2020; and 4,731 share accommodation listings on the platform 'Flatmates.com.au' in April 2020. A further 2,923 people placed advertisements seeking accommodation via the Flatmates platform.

Additional risk factors beyond housing circumstances to those living in informal and marginal housing were investigated by looking at demographic characteristics of those in multi-family and group households, and in marginal housing circumstances in Sydney from the Australian Bureau of Statistics (ABS) 2016 Census data. Around 142,600 people were renting in group households in 2016 (ABS 2016). Of these, many were working in public-facing roles, potentially putting them at higher risk of contracting or transmitting the virus; 8,476 were healthcare workers, and 12,743 included occupants working in food or accommodation sectors. There were 1,514 workers in healthcare or social assistance sectors living in crowded or severely crowded accommodation needing three or more additional bedrooms.

Through interview data, it was revealed that government and non-government action during the COVID-19 pandemic has improved the housing circumstances of people living in marginal accommodation. In particular, increased income support during the pandemic period, as well as some government programs targeting people experiencing homelessness, have reportedly enabled some lower income groups to improve their housing circumstances, exiting marginal or informal accommodation.

This project also investigated the change in demand and supply of informal STR accommodation by analysing the change in Airbnb property listings. There has been growing concern that housing pressures in high demand capital city markets have been exacerbated by the rise of Airbnb-style STR platforms, which enable residential units to be advertised for tourist accommodation. Examining the impacts of falling demand for tourist accommodation in Sydney and Hobart, this project found evidence that returning residential units back to the permanent rental market was associated with higher vacancy rates and reduced rents. These impacts are apparent even controlling for wider demand-side changes. However, this increased overall permanent rental supply has not yet addressed the underlying need for affordable rental units.

In tight regional markets such as Shoalhaven on the NSW South Coast, already impacted by the 2019–20 bushfires, rental availability remains severely restricted. By contrast, the quantity of STR accommodation in Shoalhaven is equivalent to around 20 per cent of the housing stock. There may be some potential to use vacant STR accommodation as a source of emergency housing, but this has not demonstrably occurred in the context of the COVID-19 pandemic.

Policy development options

The difficulties of monitoring and regulating marginal and informal sources of accommodation mean that policy interventions must address underlying drivers of supply and demand. Given that dependence on substandard and informal housing reflects affordability pressures, adequate income support, such as that provided with the increased JobKeeper and JobSeeker payments, is a primary policy priority.

Expanding the supply of affordable rental housing (for instance, through social housing construction or headleasing) is a critical strategy for reducing dependence on informal and potentially substandard rental options. Existing NSW government planning policies intended to increase the supply of low-cost and affordable rental accommodation, such as through new boarding house and secondary dwelling developments, should be more effectively targeted to lower income earners and offered at affordable rents.

There are particular difficulties in addressing the needs of international students and temporary migrants who currently lack access to government income support, and who may have experienced loss of employment due to the pandemic as well. To avoid the risk of disease spreading in overcrowded or substandard accommodation used by these groups, such as occurred in Singapore's migrant dormitories, governments and education providers need to play a stronger role in ensuring that adequate housing is available for students and temporary visa holders.

Tenant advice and advocacy services play a crucial role in assisting residents of marginal and informal accommodation and adequate resourcing for this sector remains critical. Providing clear advice and information about residential tenancy rights and alternative housing options, is also critical for international students and temporary visa holders.

Overall, the emergency housing system established for rough sleepers and certain boarding house residents should be expanded to ensure suitable accommodation for anybody living in inadequate circumstances during the pandemic period.

Building on actions already demonstrated in the public health response to the pandemic in Australia (for instance, the use of hotel accommodation for returning travellers and homeless persons), the study concludes that STR accommodation that is not currently used might provide a resource to serve priority groups awaiting emergency housing assistance.

When demand for tourist accommodation resumes in Sydney and Hobart, it is likely that pressure on permanent rental housing will also increase. For this reason, it is important that state governments enable local authorities to implement appropriate local regulations to preserve permanent rental housing supply.

Preventing short-term renting of permanent residences in high demand local housing markets, and/or a permit system for STR units that caps the number of permits at a proportion of the existing rental market, would help preserve rental supply. These approaches would have the advantage of better regulating and monitoring tourism within residential housing and neighbourhoods as well.

The study

This project builds on recent research efforts by members of the research team who have assembled unique data sets relating to Australia's marginal, informal and unregulated rental markets. Still poorly understood, this sector includes share houses, room and share room rentals, and informal lodging arrangements serving lower income earners (Gurran, Pill et al. 2019), as well as Airbnb-style STR platforms (Gurran and Phibbs 2017; Gurran, Zhang et al. 2020).

Using three locations (Sydney, Hobart and the NSW South Coast) as case studies, all affected by severe rental housing pressures prior to the COVID-19 pandemic, the project asked:

1. What particular impacts and risks arising from COVID-19 emerge within Australia's informal rental housing market, and what are the implications for understanding potential health risks within this largely unregulated sector of the housing system?
2. Are there indicators of changing patterns of supply and demand within informal rental markets, reflecting wider economic and or population trends precipitated by COVID-19?
3. How have short-term and residential tourism accommodation intersected with rental housing markets pre- and post-COVID-19, and how could this sector support greater housing supply flexibility during emergency periods?

The project used a mixed methods approach to investigate the impact of COVID-19 on marginal and informal rental housing markets and their occupants. Existing sources of information available to the research team in the light of the COVID-19 pandemic were investigated, as well as new qualitative and quantitative datasets. Our empirical focus to understand risks in the marginal and informal housing market was on Sydney, as Australia's largest city, and which has experienced a growing shortage of affordable rental housing supply. We also examined rental trends in two other markets: the South Coast region of NSW, and Hobart in Tasmania, both of which have experienced significant rental pressures in the period leading up to the COVID-19 pandemic.

The outcomes of this research enhance understandings of Australia's rental housing market and in particular health risks around disease spread and containment within informal and share rental sectors and provide a set of research and policy priorities for further development.

1. Research background

- This project scoped the ways in which overcrowding, share accommodation, and precarious rental tenures may exacerbate public health and housing risks associated with the COVID-19 pandemic.
- A variety of quantitative and qualitative data sources were used to understand the nature of marginal and informal housing practices, particularly in the rental sector, prior to and in the early months of the pandemic.
- The scoping project focussed primarily on Sydney as Australia's largest city with chronic housing affordability pressures.
- The project also examined rental market patterns in Hobart, Tasmania, where the rise of short-term rental Airbnb-style platforms were contributing to rental supply shortages prior to the pandemic; and Shoalhaven on the NSW South Coast, recently affected by the 2019–20 summer bushfires.

1.1 Why this research was conducted

Adequate housing is essential in managing the risk of disease transmission and this is particularly so in the context of the COVID-19 pandemic. However, a chronic shortage of affordable and available rental housing means that many Australians are not adequately housed, relying instead on informal, marginal, and/or overcrowded accommodation. It is critical to better understand these informal and largely unregulated sectors of the rental housing market and their implications for effectively responding to the health risks associated with the COVID-19 pandemic. In this context, this study asks:

1. What particular impacts and risks arising from COVID-19 emerge within Australia's informal rental housing market, and what are the implications for understanding potential health risks within this largely unregulated sector of the housing system?
2. Are there indicators of changing patterns of supply and demand within informal rental markets, reflecting wider economic and/or population trends precipitated by COVID-19?
3. How have short-term and residential tourism accommodation intersected with rental housing markets pre- and post-COVID-19 and how could this sector support greater housing supply flexibility during emergency periods?

This first section of the report sets out the policy context, reviews key concepts associated with marginal, informal and STR housing, and describes the research methods for the study.

1.2 Policy context

The COVID-19 pandemic has increased the demand for safe and secure housing in Australia. 'Staying home' and physical distancing are primary measures for controlling the spread of disease, with exposed or infected people, as well as residents returning from overseas all needing access to appropriate accommodation (Department of Health 2020). However, for occupants of marginal and informal rental dwellings, 'staying home' can be challenging and can put them at risk.

1.2.1 Housing stress and vulnerability in the private rental market

Public health risks are exacerbated by pre-existing problems in Australia's housing system, particularly the long-term shortage of rental housing that is affordable and available for lower income groups in major employment centres (Baker, Mason et al. 2014; Hulse, Reynolds et al. 2019). An overall policy emphasis on increasing new housing supply across the market has not improved the availability of accommodation for lower income renters, particularly in the major cities.

Rather, people occupying the bottom end of the private rental housing market have been faced with rental increases, with the indexing of income support payments, especially Newstart,¹ not keeping up with housing and other living costs. While the age pension has doubled in real terms since 2000, Newstart has barely budged (Deloitte 2018). The Productivity Commission (2019) has also shown how the maximum Commonwealth Rent Assistance (CRA) payment amount has not kept pace with the rise in rents, which has outpaced inflation, putting further pressure on vulnerable renters. Consequently, many lower income households have been forced into housing stress and/or substandard and informal forms of accommodation or tenure (Parkinson, James et al. 2018).

Meanwhile, over the last few years there has been a diversion of potential permanent rental housing into Airbnb-style short-term rental (STR) accommodation that has likely exacerbated affordability problems in high-demand housing markets (Gurran and Phibbs 2017). However, despite potential impacts on rental availability compared to international jurisdictions, Australian governments have appeared reluctant to impose restrictions on the use of residential units for tourism purposes (Gurran, Zhang et al. 2018).

¹ Now JobSeeker.

1.2.2 The short-term rental (STR) sector

Travel restrictions associated with the COVID-19 pandemic have had the effect of reducing demand for STR accommodation, in some cases requiring people to remain in their principle place of residence. However, with platforms such as Airbnb refusing to share data with authorities (Gurran and Phibbs 2017), it is difficult to monitor compliance with these restrictions. For instance, unlike hotel and motel accommodation, local authorities do not have access to registers with addresses or contact details of Airbnb-style properties. Further, regional communities have expressed concern that, despite travel bans, the availability of STR accommodation as advertised on platforms such as Airbnb, may attract visitors from outside the local area, who could in turn bring risk of new infections and/or place pressure on strained local health infrastructure (Foley 2020). These may include visitors seeking to relocate during lockdown periods for remote working.

There are also concerns about the health and safety risks arising from other types of platform-enabled STRs, such as hosted room rentals (when the resident of the home offers a room, or shared room, to fee paying guests) (Gurran and Phibbs 2017). The difficulties of regulating this sector imply key risks in relation to the COVID-19 pandemic, with limited information about the location or occupancy of Airbnb-style STR stock (Gurran and Sadowski 2019).

At the same time, the impacts of the COVID-19 pandemic followed the 2019–20 bushfires, which were devastating for bushfire-affected areas. Regional areas, including the NSW South Coast, have been particularly affected. The sudden and protracted fall in demand for residential tourist accommodation represents a latent supply of empty homes at a time in which the need for housing remains acute.

1.2.3 Rental protections and emergency accommodation

The broad public health risks presented by the COVID-19 pandemic have drawn attention to the conditions in the private rental housing market, and the vulnerability of renters affected by income losses. Following the announcement of a national 'moratorium' on residential evictions, the states and territories enacted their own provisions to operationalise certain rental protections during the first three months of the pandemic. In NSW these protections included a 60-day grace period in relation to arrears (now expired) for those financially impacted by COVID-19, requirements that tenants in financial difficulty be afforded mandatory negotiation with their landlord, and an extension on the notice period for evictions (NSW Fair Trading 2020).

There have also been programs to assist residents of boarding houses and rough sleepers with hotel accommodation, in some cases leading to permanent housing, as discussed further in this Report.

Internationally, there have been reports that STR platforms have been used as a resource for lower income earners of healthcare workers through social media platforms (Thompson 2020; Zakalik 2020). A similar approach to using residential tourism stock for those affected by the bushfires was operationalised in NSW (NSW Communities and Justice 2020), but it is not clear whether such approaches have been used or might serve those on priority housing waiting lists or medical workers needing appropriate sources of accommodation in the context of the COVID-19 pandemic.

1.3 Key concepts

In this study, we use the terms 'marginal' and 'informal' housing to describe housing practices that may be associated with increased health risks in the context of the COVID-19 pandemic. Residents of this accommodation range from people living in share households through to people living in forms of homelessness (including inadequate and/or severely crowded housing), even if they do not necessarily identify themselves as homeless. Our particular focus in this study is on marginal and informal housing arrangements within the private rental sector, because of the dual vulnerabilities around inadequate housing and insecure tenure.

STR accommodation in the context of this study refers to dwellings that are used for tourism rather than residential purposes.

1.3.1 Marginal housing and homelessness

'Marginal housing' describes rental accommodation that relies on shared facilities, and/or offers limited tenancy rights. This accommodation—for instance, boarding/rooming houses, and rental accommodation in residential/caravan parks—is also used by people who meet Australia's statistical definition of homelessness.

'A person is homeless if they do not have suitable accommodation alternatives and their current living arrangement:

- is in a dwelling that is inadequate
- 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 2012a: 8).

This definition of homelessness includes people living in 'improvised dwellings, tents or sleeping out'—i.e., 'rough sleepers', those staying temporarily with other households, living in boarding houses or other temporary lodging, living in 'severely' crowded conditions, and those living in supported accommodation for the homeless.

There are Census data limitations in terms of quantifying and understanding marginal housing arrangements. Boarding houses may be counted differently (as private/non-private) by the ABS Census depending on whether individual units have separate postal addresses. Similarly, secondary dwelling units (e.g. 'granny flats' and subdivided homes) are also inconsistently reported.

Caravans are considered to be a form of marginal housing because of the generally lower levels of tenure security associated with residential parks, even for van owners who lease a site. In many cases, manufactured homes have replaced traditional caravans as a form of lower cost home ownership and offer higher residential amenity through private facilities. Manufactured homes in owner occupation are not a specific focus for this study.

1.3.2 Informal housing

There is a wider and evolving literature on informality in housing markets whereby informality is understood to mean accommodation or tenures that violate 'formal' building or rental tenancy legislation and/or that offers residents lower levels of protection under those laws (Harris 2018; Gurran, Pill et al. 2020). Some forms of homelessness—such as improvised dwellings—may fall within this description. Other forms of accommodation—such as share homes—would only be considered a form of homelessness if the accommodation is overcrowded or if the share arrangement is akin to a room rental/boarding house situation (i.e. Individual rooms or share rooms rented separately). Either way, the arrangements by which share accommodation is occupied (sharing facilities with non-related adults) and rented (often without a formal contract) are consistent with understandings of informality.

Some forms of housing which are considered in the international literature to be informal have been encouraged by Australian governments as a low-cost rental housing option. For instance, secondary dwellings ('granny flats') are permitted under NSW planning law and seen to be a form of 'affordable rental housing' (Gurran, Milligan et al. 2017). This self-contained accommodation type is likely to raise few additional concerns in relation to the risk of disease spread in the context of the COVID-19 pandemic, provided that secondary dwellings comply with planning and construction code requirements. NSW planning law also permits new 'boarding house' developments, which comprise small studio-style units, as a form of 'affordable rental housing', although the policy does not set rental or eligibility requirements. Again, these self-contained studio type apartments are unlikely to raise public health concerns in the context of the COVID-19 pandemic, as the accommodation is designed to meet contemporary planning controls and construction standards.

However, a recent review of new boarding house developments in inner Sydney found that many were not affordable to those on lower incomes (Troy, Van den Nouwelant et al. 2018). Consequently, traditional boarding house accommodation—rooms in residential houses with shared facilities—continues to play an important role in the market (Gurran, Maalsen et al. forthcoming). Similarly, a scoping study of the informal housing market in Sydney has found that where new secondary dwellings are offered on the private rental market, they are often more expensive, while unauthorised secondary dwellings which do not meet planning or building code requirements are also comprising a significant component of low-cost rental supply (Gurran, Pill et al. 2019; Gurran, Maalsen et al. forthcoming). These issues are discussed further in the following chapter.

1.3.3 Health and housing risks in marginal and informal rental housing

The relationship between crowding, pre-existing vulnerabilities, and increased risk of infection during the pandemic highlights an enduring connection between living conditions and health. As a recent commentary in *The Lancet* noted, 'While COVID-19 has been termed a great equaliser, necessitating physical distancing measures across the globe, it is increasingly demonstrable that social inequalities in health are profoundly, and unevenly, impacting COVID-19 morbidity and mortality' (Abrams and Szeffler 2020).

These vulnerabilities are particularly acute in the less regulated private rental sector. The research evidence on health and housing emphasises key risk factors related to marginal and informal housing. In general, these risks may arise in relation to characteristics of the dwelling itself; characteristics of the household; or the nature of the rental arrangement.

Overcrowding

A key housing concern is overcrowding. Household crowding is a condition where the number of occupants exceeds the capacity of the dwelling space available, whether measured as rooms, bedrooms or floor area, resulting in adverse physical and mental health outcomes. Crowding is a result of a mismatch between the dwelling and the household (WHO 2018).

In their recently released guidelines on Health and Housing, the WHO demonstrate that crowding has an adverse effect on physical and mental health. In particular, the Guidelines indicate that there was strong evidence to show that a reduction in crowding would reduce the risk of infectious diseases.

With specific reference to suspected or actual cases of coronavirus within the household, separation is a key concern (WHO 2018). Recent research has highlighted that the odds of COVID-19 infection increase in neighbourhoods with higher incidence of household crowding (Emeruwa, Ona et al. 2020).

Shared facilities

Even when not technically overcrowded, accommodation in which residents share facilities—such as bathrooms, kitchens, laundries, recreational rooms, and even lifts or stairwells—may increase the risk of disease transmission through contaminated surfaces (Victorian Government 2020b; WHO 2020).

People who are marginally housed in boarding houses, hostels for the homeless, improvised dwellings, or residential caravan parks may be at particular risk due to larger numbers of people sharing facilities.

Inadequate standards

Housing that is poorly maintained or does not comply with building code standards poses particular risks to occupants (NSW Health 2010). Informally rented accommodation is sometimes provided in dwellings that violate health and safety standards. This issue has emerged in the context of Australia's affordable rental shortage, particularly in Sydney (Gurran, Pill et al. 2019).

Risks associated with substandard dwellings such as secondary units not meeting contemporary building or planning requirements may include:

- damp and mould due to a lack of damp proofing (which non-residential structures such as garages and sheds are not required to include)
- inadequate storm water and sewerage provisions
- hazards from non-residential building materials or inadequate electrical work; lack of smoke detectors
- increased fire risk due to inadequate separation between structures and between property boundaries (Gurran, Pill et al. 2019).

More broadly, there is growing awareness of poor dwelling standards in the private rental sector, particularly at the lower end of the market (Chisholm, Howden-Chapman et al. 2018; Baker, Lester et al. 2019).

Precurity

Marginal and informal housing is characterised by precarious forms of tenure (Goodman, Nelson et al. 2013; Gurran, Pill et al. 2019). Many residents of share housing are not named tenants on residential leases, and many people who rent directly from their landlord via informal negotiated arrangement may also lack a written contract. In most Australian states, residents of boarding houses are covered by separate rental legislation for 'boarders' and 'lodgers', often with a shorter period of tenure than standard residential leases provide.

Risks arising from the nature of informal rental arrangements relate to the increased insecurity associated with negotiated agreements made directly between landlords and tenants, or between members of group/share households (Gurran, Pill et al. 2019). Informal housing occupants are also at high risk of being pushed into primary homelessness (or rough sleeping) if forced out of their housing, or if it becomes uninhabitable.

In the specific context of the COVID-19 pandemic, there have been reports of international students and migrants being evicted from share houses, resorting to rough sleeping and facing housing discrimination due to fears of virus transmission (Bell 2020; Gallagher, Doherty et al. 2020).

Collectively, the research evidence points to serious health risks associated with marginal and informal rental accommodation. These risks, which arise from overcrowding, shared facilities, inadequate standards and precarity, indicate potential for the spread of contagious disease. The need to reduce social activity during the pandemic period, with the implication of more time spent at home, may also increase risks of mental stress and social conflict for residents of overcrowded, share, and inadequate rental accommodation.

1.3.4 Health and housing risks during COVID-19

The science into the risks of COVID-19 exposure is evolving rapidly, and so the direct links between poor housing and increased risk of contracting or having a more severe incidence of COVID-19 are yet to be systematically explained.

However, emerging research indicates that housing quality affects incidence of COVID-19. Preliminary research into 3,141 US counties suggests that with every 5 per cent increase in the percentage of households with poor housing conditions, such as overcrowding, incomplete kitchen facilities, or incomplete plumbing facilities (characteristics of marginal and informal housing), there was a 50 per cent higher risk of COVID-19 (Ahmad, Erqou et al. 2020).

People who are rough sleeping have also been found to be particularly vulnerable to COVID-19. In March 2020, Boston developed and implemented a citywide COVID-19 care model for those experiencing homelessness, and found 429 of 1,297 (33%) of tested people during the first 6 weeks of operation were positive to COVID-19 (Baggett, Racine et al. 2020).

There are two concerns with homeless populations and COVID-19 from a health perspective (Gaeta, De Las Nueces et al. 2020):

- many with the virus can be asymptomatic and unknowingly spread the virus—this poses grave risks for those in crowded settings such as homeless shelters
- homeless people are at greater risk of other health issues that put them at risk of severe COVID-19, such as chronic heart and lung disease (Snyder and Eisner 2004; Baggett, Liauw et al. 2018; Baggett, Lewis et al. 2020)

Healthcare workers are also at greater risk of contracting COVID-19. A prospective, observational cohort study in the UK and the US compared the general community and healthcare workers for reporting a positive COVID-19 test (Ng, Poon et al. 2020). Healthcare workers had at least a three-fold risk of contracting COVID-19. Even adequate availability of personal protective equipment did not completely reduce the risk of those healthcare workers caring for patients with COVID-19. This is of concern as it indicates the increased risk that healthcare workers and their housemates or family members face because of their ongoing professional exposure to the virus.

1.4 Research methods

The project used a mixed methods approach to investigate the impact of COVID-19 on marginal and informal rental housing markets and their occupants. Existing sources of information available to the research team in the light of the COVID-19 pandemic were investigated, as well as new qualitative and quantitative data sets (summarised in Table 1). Our empirical focus to understand risks in the marginal and informal housing market was on Sydney, NSW, as Australia’s largest city, and which has experienced a growing shortage of affordable rental housing supply (Hulse, Reynolds et al. 2019). We also examined rental trends in two other markets; the South Coast region of NSW, and Hobart in Tasmania, both of which have experienced significant rental pressure in the period leading up to the COVID-19 pandemic.

Table 1: Overview of research methods

Research question	Data sources and method
RQ1 —What particular impacts and risks arising from COVID-19 arise within Australia’s informal rental housing market, and what are the implications for understanding potential health risks within this largely unregulated sector of the housing system?	<ul style="list-style-type: none"> • ABS 2016 data on marginal and informal housing types and demographics in Sydney • Review of data series on low-cost rental, informal, and share housing advertisements • Review of research evidence on housing and health risks • Analysis of existing and new interview data with building compliance officers, public health experts and homelessness service providers
RQ2 —Are there indicators of changing patterns of supply and demand within informal rental markets, reflecting wider economic and/or population trends precipitated by COVID-19?	<ul style="list-style-type: none"> • Analysis of changes in the low-cost rental and share housing sector (Sydney)
RQ3 —How have short-term and residential tourism accommodation intersected with rental housing markets pre- and post-COVID-19 and how could this sector support greater housing supply flexibility during emergency periods?	<ul style="list-style-type: none"> • Analysis of rental market trends in three housing markets (Sydney (NSW), Hobart (TAS), Shoalhaven (NSW) in relation to STR sector; using: rental bonds data pre- and post-pandemic • Airbnb listings data pre- and post-pandemic (Inside Airbnb.com) • Rents/Vacancy rates • Policy documents • Expert advice

Source: The Authors.

1.4.1 Understanding risks in marginal and informal housing, and change during COVID-19

A first step was to draw on existing Australian Bureau of Statistics (ABS) Census 2016 data to establish baseline information about the range of informal and marginal housing types in Sydney, as well as the demographic characteristics of occupants. We focussed particularly on forms of homelessness (including overcrowding) and marginal accommodation, as well as rental households living in share arrangements (group households and multi-family households). We also sought to understand any additional potential risk factors affecting people living in rental or share accommodation, such as risks associated with their employment, age or Australian residency status. To this end, we included in this analysis ABS census data on the numbers of people working in particular sectors of employment likely to require ongoing contact with members of the public or to be affected by COVID-19 restrictions.

Examining risks in informal and low-cost housing markets

There are a growing number of ways in which people offer and seek rental housing, including share accommodation. Online platforms allow individuals to advertise residential accommodation directly, bypassing the real estate agents who have traditionally managed private rental properties on behalf of landlords and subject to formal regulatory requirements (set out in NSW residential tenancy legislation). Four primary types of rental platform can be identified:

- Residential real estate platforms, usually advertising properties for sale or rent via a real estate agent (e.g. Realestate.com.au; Domain.com.au).
- Generic 'peer-to-peer' (as opposed to 'business to consumer') platforms which offer rental accommodation of various types, often but not solely, by the owner/landlord (e.g. Gumtree.com.au; Craigslist).
- Peer-to-peer share accommodation platforms in which people advertise or seek vacancies in share homes (e.g. Flatmates.com.au).
- Peer-to-peer STR accommodation (e.g. Airbnb.com).

Each of these platforms offer potential insights into aspects of the housing market. Of interest for this project is the potential to understand the nature of low-cost rental accommodation and the share/informal housing sector. To this end, we have drawn on several datasets collated by members of the research team as part of wider work on the informal housing market, including:

- Low-cost Realestate.com.au listings for Sydney (September 2019 and April 2020), focussing on low-cost listings (\leq \$325 per week); allowing us to examine the quantity and type of accommodation offered at the lower cost end of the private real estate market, and potential changes following the COVID-19 pandemic.
- Gumtree.com.au rental listings (May 2020) used as an additional source of data on the private rental sector, focussing on listings under \$325 per week.
- Flatmates.com.au listings, including listings placed by those offering and those seeking share accommodation; allowing us to examine the state of Sydney's rental market in relation to the wider enumerated group household population (2016 Census) and in the period prior to 2019 and following 2020 of the COVID-19 pandemic.
- Airbnb listings provided by InsideAirbnb.com, an independent web scraping repository of Airbnb listings used in numerous studies of Airbnb housing market impact (Cox 2016).

Spatial analysis on the scale and distribution of shared housing vacancies in Sydney was conducted using the data sets, as well as descriptive statistics on change of listings pre- and post-pandemic. This included a manual review of the textual and photographic data accompanying advertisements placed on Realestate.com.au and Gumtree.com.au, to aid in classifying the different accommodation types listed.

The larger datasets from Flatmates.com.au were analysed in a quantitative way to establish baseline descriptive data (numbers of listings, median occupants per household per listing, median number of bedrooms in each listed share property), asking rents and location (at the suburb level). We also examined the listings text using the search tool to identify references to 'COVID', 'virus' or 'pandemic'. This provided a basis for analysing in a qualitative way how the pandemic may have impacted households offering or persons seeking share accommodation via the Flatmates.com.au platform.

An existing data set comprising building compliance officer interview data (described in Gurran, Pill et al. 2019) was also analysed for this project. Approximately 11 audio hours of transcribed interview and focus group data was accessed for this project, in which participants described health and safety risks associated with substandard dwelling units breaching planning or codes. This data was used to inform the manual review of the textual and photographic data accompanying the Flatmates.com.au, Realestate.com.au and Gumtree.com.au advertisements, to establish any potential health risks related to COVID-19, and potential changes in the standard of housing in listings over time.

1.4.2 STRs and permanent rental supply in Sydney, Hobart and Shoalhaven

One of the key questions considered in this study related to the intersections between short-term and permanent rental sectors in high demand markets such as Sydney and Hobart, where the sudden drop of tourism demand presented an important opportunity to examine these relationships. Recognising the potential role of STR-style accommodation as emergency relief housing (e.g. the NSW South Coast), the study also explored any examples of this utilisation in relation to the COVID-19 pandemic.

To investigate rental market intersections, the state of STR markets and private rental markets were compared with pre-pandemic time periods for the three case study sites; Sydney, Hobart (a city with a proportionally high number of STRs in addition to its affordable housing shortage), and Shoalhaven on the NSW South Coast. Shoalhaven has long had a high second/holiday home stock (Gurran, Zhang et al. 2018) and was particularly affected by the 2019–20 bushfires.

This aspect of the analysis used time series Airbnb listings for Sydney, Hobart, and the NSW South Coast (2017–20), drawing on InsideAirbnb.com data, to analyse listings trends in relation to rental vacancies and rates. Part of these analytical methods have been demonstrated in previous research by the team (e.g. Gurran and Phibbs 2017; Gurran, Pill et al. 2019; Gurran, Zhang et al. 2020).

Further details about the research methods used for this aspect of the analysis is contained in Chapter 3.

1.4.3 Interview data

Interview data from two sources was used in this study. To explore the potential use of STR stock for accommodating populations in need, such as marginally-housed populations or healthcare workers, as well as wider concerns around the conditions of people living in informal or marginal housing, interviews with nine Australian homelessness service providers and health professionals were conducted. These interviewees were identified through the public health and housing networks of team members. Interviews were semi-structured, conducted by telephone, and were recorded and transcribed for analysis.

Additionally, as noted above, existing (anonymised) interview transcript data available to the research team provided a reference point in examining low-cost rental housing advertisements and the range of potential health concerns associated with particular types of substandard accommodation.

All interviewees participated on an anonymous basis, consistent with the University of Sydney ethics protocols for this work. In presenting results in this report, we have taken care to ensure that individual participants are not identified. Table 2 shows the codes used to refer to interviewee classifications.

These interviews were then coded for challenges identifying those most in need of accommodation, the challenges and benefits related to providing accommodation for different groups in need during the pandemic, and the suitability of different housing types for this purpose. The interview data helped to inform the recommendations for providing emergency accommodation, and the benefits or risks of using STRs as emergency accommodation.

Table 2: Interview data and coding

Profession	No. of interviews	Code in report
Homelessness service/accommodation providers	6	HS
Health experts/public health experts	3	HE
Building inspectors (existing interview data)	11	BI

Source: The Authors.

1.5 Research limitations

It is important to note limitations with the data presented in this report.

First, Census data used to provide contextual information about homelessness, overcrowding, marginal housing, group households and multi-family households in rental accommodation, dates from 2016, and itself suffers from limitations due to the difficulties of enumerating vulnerable groups and their accommodation (ABS 2012a).

Second, data from online real estate platforms, including Realestate.com.au, Gumtree.com.au, and Flatmates.com.au, are not comprehensive, because of the many different ways—both online and via traditional avenues—in which people offer and seek rental housing. The lack of baseline data on relatively new sources of information about housing also makes it difficult to assess reliability. These issues pertain to urban data generated by online platforms more widely (Kitchin 2017). Overall, data about the informal housing market, including the STR sector, is difficult to obtain because unauthorised or unregulated rental practices are ‘invisible’ within the fabric of the existing housing stock, or deliberately concealed (Gurran, Pill et al. 2020).

We note limitations with our interview data as well, given that the project involved only a limited number of interviewees, and did not seek specific perspectives and experiences of those living in informal housing provision.

Finally, the statements on the health risks attributed to various dwelling types described in the report are based on documents published by health agencies outlining potential COVID-19 risks and the existing literature on the relationship between housing and health in relation to infectious diseases. As the research evidence in this area evolves, stronger conclusions about particular housing types and disease transmission risks can be made based on confirmed COVID-19 cases (incidence) and more accurate understandings of prevalence.

To address these limitations, we triangulate multiple sources of data, and are guided by the advice of public health experts on the research team. Nevertheless, the study has raised many issues that demand further and deeper research and policy attention that were beyond our capacity to fully explore in the context of this scoping report. We identify priorities for further research in the concluding chapter.

1.6 Structure of this report

From this first chapter, the next section of the report brings together available census and other data sources to describe marginal and informal housing practices and their occupants in Sydney. The chapter also draws on available research evidence on health risks in relation to housing, to highlight potential risks associated with particular housing circumstances, in the context of COVID-19. In addition to the potential health risks associated with disease transmission in overcrowded or inadequate housing, we also note risks associated with insecure or precarious tenures during the pandemic period.

Chapter 3 looks more closely at the private rental market and in particular the intersections between short-term and permanent rental supply, in the context of changed demand. We identify potential policy implications in relation to the current and future use and regulation of residential tourist accommodation.

The final chapter summarises the findings of this scoping project, highlighting research and policy priorities for addressing risks in marginal and informal housing markets during the COVID-19 pandemic and for long-term post-pandemic recovery.

2. Sydney's marginal and informal housing sector and the risks during COVID-19

- This chapter draws on available census and other data sources to describe marginal and informal housing practices in Sydney, as well as available research evidence on health risks relevant to specific housing circumstances.
- Supply of, and demand for, share accommodation has continued during the pandemic period. In April 2020, there were 4,732 listings for vacancies in share homes, and 2,923 people placed advertisements on Flatmates.com.au seeking accommodation in Sydney.
- Of Sydney's enumerated homeless population, 58,173 people were estimated to be living in improvised, marginal, or crowded housing circumstances on Census night in 2016.
- Of these people, 1,876 were employed in healthcare and social assistance sectors. There were 8,476 and 3,592 healthcare and social assistance sector workers renting in share or multi-family households in August 2016.

This chapter presents a variety of information sources about Sydney's informal housing market. This includes data from online real estate and share housing platforms, which provide insights into the geography and nature of low-cost and informal dwellings stock and rental arrangements. The chapter also compiles available ABS Census 2016 data on people living in marginal housing and forms of homelessness, as well as share and multi-family households. Interview data from building compliance officers is also presented to highlight key health risks in informal housing types found in the real estate and share housing platforms, as well as interview data from homelessness service providers and health experts on the particular risks to those in marginal and informal housing circumstances during the COVID-19 pandemic.

2.1 Marginal and informal rental housing markets in Sydney

In the following sections, we provide data on the composition of low-cost rental housing supply, and the informal housing market in Sydney. As noted above, earlier scoping research by members of the team has revealed that marginal and informal housing types are advertised via online platforms, including secondary dwelling units, boarding houses, and forms of share accommodation (Gurran, Pill et al. 2019). Mainstream real estate platforms such as 'Realestate.com.au' include rental listings managed by real estate agents. Increasingly this includes forms of share housing rented through real estate agents as room rentals and/or boarding house style accommodation. Other platforms, such as 'Gumtree.com.au' are often used by individuals offering rental accommodation directly, including, but not limited to share housing. Members of share households appear more likely to use platforms such as 'Flatmates.com.au' and 'Gumtree.com.au' to advertise vacancies or to seek accommodation for themselves in share accommodation (Zhang and Gurran 2020).

The following sections include an analysis of rental and share housing advertisements listed on the real estate platform 'Realestate.com.au'; 'Gumtree.com.au' and 'Flatmates.com.au', drawing on unique data sets compiled by members of the research team as part of wider investigations into Sydney's informal and share housing market (Gurran, Pill et al. 2019; Zhang and Gurran 2020; Gurran, Maalsen et al. forthcoming).

2.1.1 The composition of low-cost rental supply

Online rental advertisements provide unique insights into the nature of marginal, informal, and potentially substandard accommodation within Sydney's rental market, because they often include photographs. Previous research by team members used these photographs, informed by the building compliance officer interview data, to categorise low-cost rental listings advertised on the platform Realestate.com.au in 2019 (Gurran, Maalsen et al. forthcoming). This work classified online real estate advertisements in five categories (Table 3).²

² Note that the data was analysed sequentially (by geographic subregion) over the three-month period (July–September), so does not represent the total number of low-cost advertisements in Sydney over this time.

Table 3: Weekly rent and composition of lower cost rental listings snapshot, Realestate.com.au, July–September 2019

Category	Description	Number of listings	Median rent	% of listings under \$300
Boarding houses/'room rentals'	Rooms in residential properties; shared facilities only. May violate health and safety standards (room size, ventilation etc.). Must be registered if offering 5+ rooms.	111	\$255	39%
'New boarding houses'	Complies with ARHSEPP requirements; self-contained (bathroom, kitchenette)	7	\$255	2%
Secondary dwellings (compliant)	Self-contained accommodation, within primary residential home/site. Compliant secondary dwellings meet planning and building requirements. Limit of 1 secondary dwelling per site.	44	\$260	15%
Secondary dwellings (non-compliant)	Breach planning/building requirements, e.g. improvised garage/ shed conversion; inadequate insulation, electricity, stormwater. Multiple secondary units on a single site breach planning/health and safety requirements.	69	\$220	24%
Residential flats or dwelling houses	Conventional residential dwellings meeting planning/building requirements	54	\$270	19%
Totals		285	\$255	100%

Source: Derived from Gurran, Maalsen et al. forthcoming.

As shown in Table 3, the composition of lower cost (less than \$300 per week) rental listings was dominated by informal or marginal accommodation in the form of boarding house or room rentals, or apparently substandard secondary dwellings. 'New' boarding house accommodation of the type permitted under the NSW Affordable Rental Housing policy amounted to only 7 listings over the period in which the 2019 research was carried out. This may mean that new boarding house units have been offered at rents above the \$300 threshold, as found by previous research on the implementation of the Affordable Rental Housing State Environmental Planning Policy (ARHSEPP) (Troy, Van den Nouwelant et al. 2018).

Building inspectors interviewed as part of earlier research conducted by team members identified a number of wider health and safety risks concerns in relation to traditional boarding house and room rental accommodation, and in relation to non-compliant secondary dwellings (Gurran, Pill et al. 2019). These arise from the sharing of facilities in boarding house and room rental accommodation, and inadequate building standards in secondary or illegally modified dwellings that do not comply with planning and building codes.

We've got fully enclosed rooms, say bedrooms, with no external windows to provide light and ventilation and so on. (BI, 2018)

Boarding houses often use shared facilities, and for those in illegal or underregulated boarding houses with severe overcrowding, this can be a transmission concern:

I mean you can just see how vulnerable people are in those shared accommodation situations...if ever a case took off in a boarding house it would spread very quickly because of the shared facilities and the lack of oversight for that sector. It's a very hidden sector. (HS, 2020)

Even things like in boarding houses it's often a shared bathroom situation, so you don't have access to your own bathroom which obviously with hand hygiene and everything that's not ideal. They also generally have a shared kitchen facility so there's a high risk of transmission if everyone is in the kitchen at the same time and preparing food and that type of thing. (HS, 2020)

Therefore, many low-cost Realestate.com.au listings would pose a COVID-19 risk.

2.1.2 Informal rentals, room, and share rentals in Sydney

For this project, Sydney region rental listings on Gumtree.com.au were also analysed, for the period May 2020. Gumtree.com.au tends to include a higher proportion of informal rental listings offered directly by owners/landlords, as well as share accommodation. Gumtree distinguishes between three types of residential rental listings: 'properties for rent'; 'room rentals' and 'share rentals'. As users self-categorise their listings, the data below should be regarded as indicative of the type of accommodation in this largely informal sector of the rental market, rather than comprehensive.

Gumtree.com.au rental listings

Of the 1,083 total rental listings on Gumtree.com.au advertised on 27 May 2020 for \$350 or less; 419 were offered by their owners (associated with a more 'informal' rental arrangement) and at least 105 were secondary dwellings 'granny flats', room rentals, or other informal accommodation types, including one caravan (Table 4). There were also 570 'room rentals' advertised, of which 297 were for rooms offered under \$350.

Table 4: Gumtree.com.au rental listings \$350 or under; 'share' and 'room' rentals, May 2020

Description	Number
'Properties for rent' under \$350	786
'Rooms' for rent	570
Rent 'by owner'	419
'Rooms' for rent under \$350	297
'Other' properties (e.g. 'granny flats')	105
Total 'properties' and 'rooms' for rent under \$350	1,083

Source: Data compiled from Gumtree.com search, 27 May 2020

'Rooms' for rent may include boarding house accommodation, which is required to be registered with the local council if accommodating five or more residents. Registered boarding houses are more likely to comply with public health requirements, and support workers are more easily able to identify and access residents needing assistance. However, not all boarding houses are registered as these regulations are difficult to enforce (Martin 2015). Rooms for rent may also include share and dormitory style accommodation as described by Nasreen and Ruming (2019). Fig. 1 shows an example of a room share advertisement of a potentially illegal boarding house.

Figure 1: Example of a room share advertisement, showing 3 mattresses on the floor, Gumtree.com.au



Source: derived from Gumtree.com.au, 2020.

Share housing, Flatmates.com.au

Members of the research team have been compiling data on share listings advertised via the platform 'Flatmates.com.au' since 2016. Point in time data (total advertisements listed on a single day) is available for December 2016, August 2018, 2019, and April 2020, for advertisements offering space in share homes (Table 5). Data on people seeking share accommodation is available for August 2019 and April 2020.

There was a decrease in listings for those seeking accommodation from the previous points in time to April 2020 during the pandemic, which may be explained somewhat by the significant drop in net overseas migration (NOM)³ during the pandemic (see Chapter 3 for greater detail), and a slight decrease in those offering accommodation from August 2019 and April 2020. However, the data was taken from different months in each year, and so these fluctuations could also be explained by seasonal variability. Additionally, Flatmates.com.au data represents only a small percentage of enumerated group households in Sydney in 2016 (Table 5) and identifying occupants of marginal and informal housing poses many challenges. Exact comparisons between the numbers of people living in informal and marginal accommodation before the COVID-19 pandemic and at the time of the pandemic cannot be determined from this data alone.

As shown in Table 5, share housing in Sydney is not necessarily low-cost. Although less expensive than self-contained rental units, the median rent for a room advertised via Flatmates.com.au was \$275 per week in April 2020.

Table 5: Share housing demand and supply, Flatmates.com December 2016, August 2018, 2019, April 2020

	Dec 2016	Aug 2018	Aug 2019	April 2020
Seeking accommodation via Flatmates.com	5,729	na	4,105	2,923
Available Flatmate rooms/share rooms	3,391	5,925	6,523	4,732
Median rent weekly flatmate rooms/share rooms	\$260	\$300	\$270	\$275
Flatmates listings as percentage of group household occupied dwellings (2016)	3.63%			

Source: derived from Zhang and Gurran 2020, using data from Flatmates.com and ABS 2016 (Zhang and Gurran 2020).

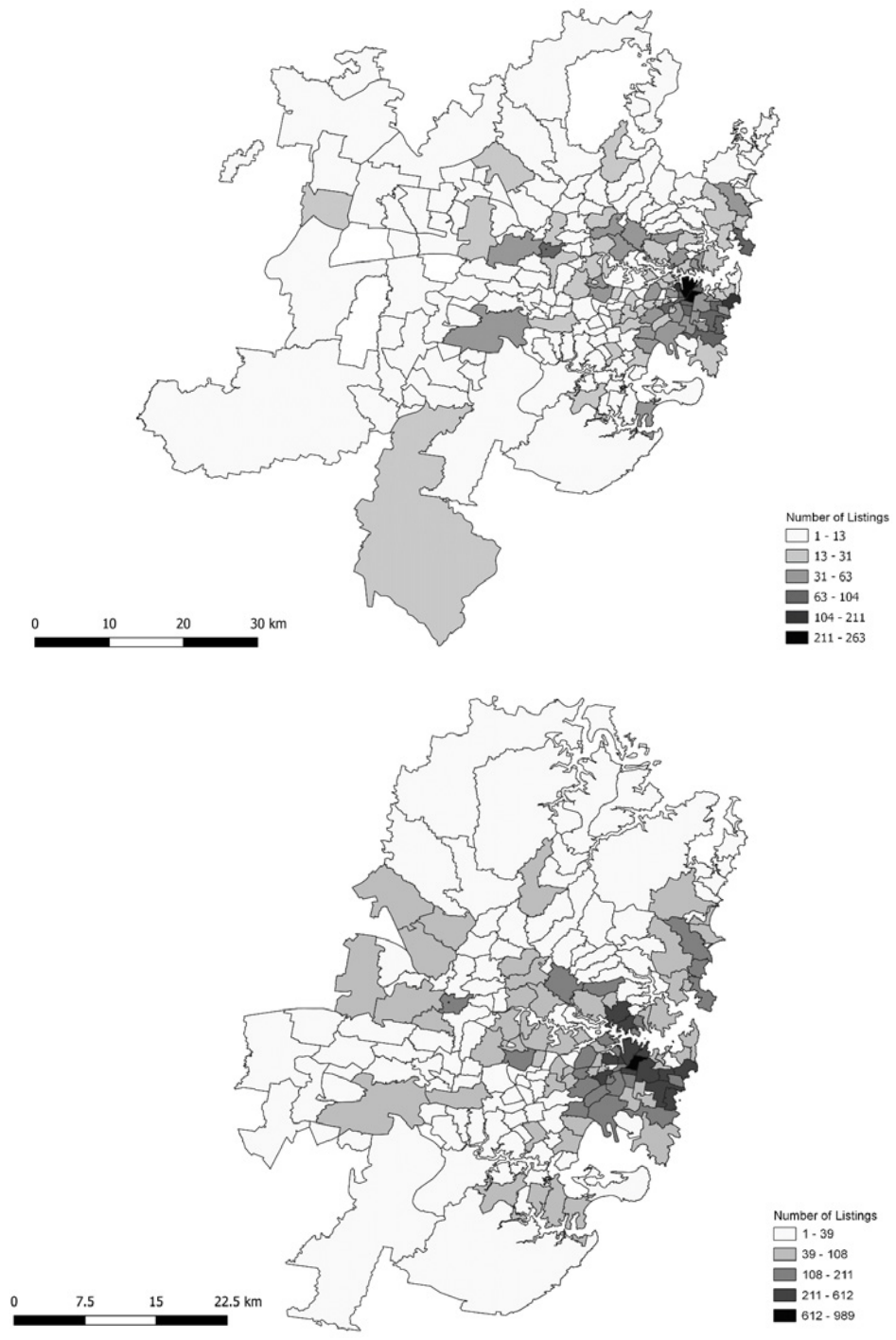
Figure 2 shows where the Flatmates share advertisement listings were by Statistical Area Level 2 (SA2) during the pandemic, showing both property listings and listings by people seeking accommodation concentrated around the Inner City and Eastern Suburbs. Figure 3 shows the areas where property listings had more occupants living in the households than rooms during the pandemic, averaged over each SA2. This is a measure of overcrowding. The Inner City and Western Suburbs had the most areas where on average the number of household members exceeded the number of rooms.

Although not directly related to overcrowding and the spread of infection, there may be additional rental insecurity or mental stress for residents of share accommodation during the pandemic period. For those required to work or study at home, insufficient facilities, such as access to a full kitchen or bathroom, and privacy in share accommodation may make this difficult.

Further, for residents of share accommodation whose income circumstances change, overarching protections established for those in the private rental sector, including measures to prevent sudden eviction, may be more difficult to enforce in the absence of a formal residential tenancy lease.

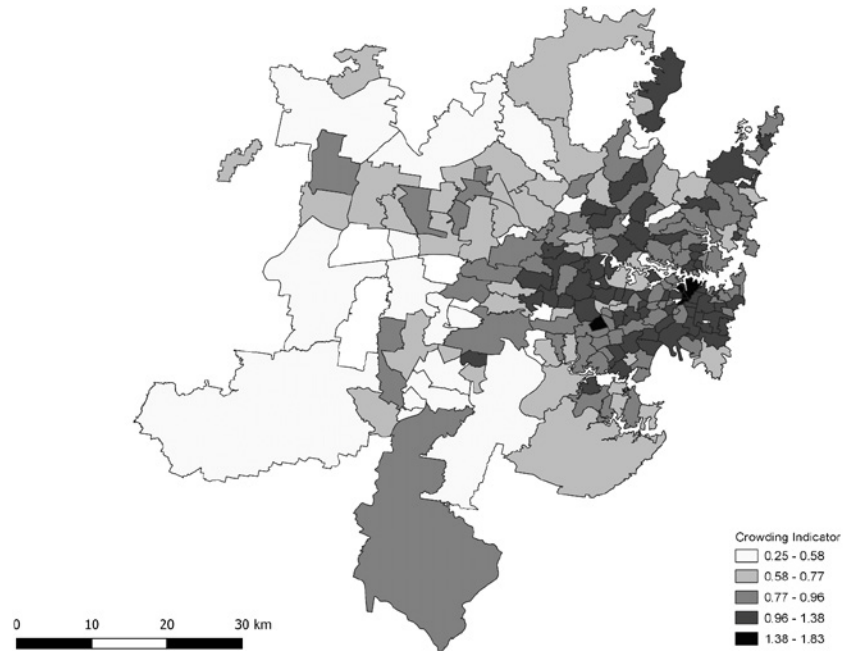
³ The NOM is a mixture of permanent migrants and temporary migrants who come to Sydney to both work and study, with the balance being weighted heavily to temporary migrants.

Figure 2: Flatmates share advertisements listings, Sydney April 2020 by SA2 (People offering space on top, locations where people were seeking share accommodation on bottom)



Source: The authors, derived from Zhang and Gurrán 2020.

Figure 3: Number of people over the number of bedrooms in Flatmates.com property listings in April 2020, averaged by SA2



Source: Derived from Zhang & Gurran 2020.

2.1.3 Reasons for seeking share and informal accommodation during COVID-19

As shown in Table 5, 2,923 people placed adds seeking share accommodation on Flatmates.com.au in April 2020. Of these, 96 advertisements directly referred to circumstances surrounding the COVID-19 pandemic. Thirty-six people listed that they required properties due to circumstances related to the virus. These included people who had recently returned to Australia and needed a place to live:

Hey, I've just moved back to Australia from Japan (don't worry, I'm Coronavirus free). (Flatmates 'person' listing, April 2020)

Others made reference to changing employment circumstances due to the pandemic, such as international students lacking access to financial support:

Hello, I am an international student at Ultimo near the Sydney Central train station. I am in urgent and extreme need of a reasonable place, I have NO job, no friends, no family in Sydney. I am living a very difficult situation with the virus nowadays I am looking for long-term accommodation though I can accept also less time. Please HELP me as much as you can, I can contribute also with cooking, cleaning, and taking care of the house or apartment. (Flatmates 'person' listing, April 2020)

Others referenced a need to leave their accommodation because of the risks to other members of their household.

My older sister (31) is one of my current housemates and is immune compromised, leaving her highly susceptible to COVID. Although I am currently studying i still need to find a job, hopefully at a post office or supermarket. Therefore, living with her is too much of a risk I can currently undertake. (Flatmates 'person' listing, April 2020)

Some listings referred to their occupation as a potential reason that share households might be reluctant to accept them.

For those who think I might have COVID just because I'm a nurse, I can assure you that I don't have COVID!!! :P (Flatmates 'person' listing, April 2020)

The difficulties of navigating the share housing market with dependent children have been exacerbated during the COVID-19 pandemic. One advertisement makes reference to a 12-year-old daughter, who was schooled at home during the 'lockdown' period. To allay potential concerns that the child would be disruptive during the daytime, the advertisement declares that she is able to go to work with her parent.

Hi, I am a happy sociable easy going kiwi with a mature and bubbly 12 year old who [is] currently working online with her studies but comes into work with me daily. (Flatmates 'person' listing, April 2020)

2.2 Estimating numbers of those living in marginal and informal housing in Sydney

As noted above, many 'marginal' dwelling types and informal arrangements fit within statistical definitions of homelessness, along with crowding (where three extra bedrooms are required in a household) and severe crowding (where four or more extra bedrooms are required). These include people living in improvised dwellings, those renting rooms in boarding houses or other temporary lodgings, caravan parks, or in 'crowded' and 'severely crowded' dwellings (Table 6).

The ABS Census refers to crowding in relation to homelessness as well as broader housing circumstances. Crowding is measured with reference to the Canadian National Occupancy Standard (CNOS), which in general occurs when there are more than two people per bedroom (ABS 2012b).

The number of those considered to be homeless due to 'severely crowded' housing (requiring four or more additional bedrooms) or in 'crowded' marginal housing (requiring three additional bedrooms) grew significantly between the 2011–16 Census period, rising by 157 per cent.

Table 6: Number of people experiencing homelessness, or in improvised and marginal housing circumstances in Greater Sydney

Homelessness Operational Group	No. of people
Persons living in improvised dwellings, tents, or sleeping out	1,315
Persons in supported accommodation for the homeless	3,980
Persons staying temporarily with other households	2,751
Persons living in boarding houses	5,763
Persons in other temporary lodgings	71
Persons living in 'severely' crowded dwellings	15,115
Persons living in other crowded dwellings	28,107
Persons in other improvised dwellings	534
Persons who are marginally housed in caravan parks	537
Total	58,173

Source: Tablebuilder, ABS (2018).

2.2.1 Group households and overcrowding

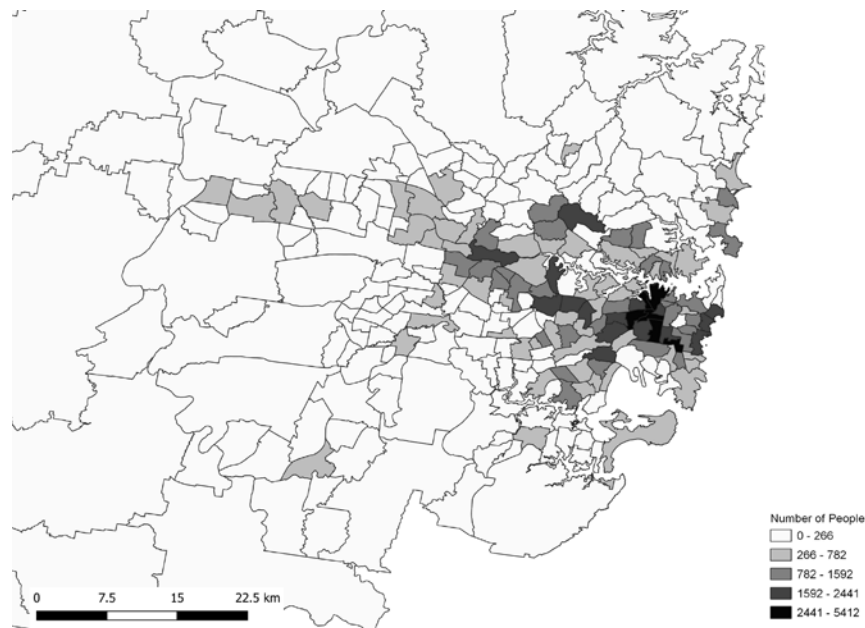
Group households, while not necessarily overcrowded, have also grown as a household type in Sydney, again reflecting high housing costs and the shortage of affordable rental units (Parkinson, James et al. 2018). Group or 'share' households are a type of informal rental arrangement, often involving negotiations around rent, occupancy, and financial contributions. As shown in Figure 4, most of the group households in Sydney are in the Inner City SA2s.

A total of 76,795 group households were recorded in the 2016 Census (142,604 people). Of these, 52,694 people were living in group households that required one extra bedroom in Sydney on Census night, and 4,013 people were living in severely crowded group households. The majority (72%) of people living in group households are renters, of which an estimated 37,940 live in accommodation needing at least one extra bedroom, and around 2,890 renters are in severely crowded group households.

2.2.2 Multi-family households and overcrowding

Multi-family households are at particular risk of being crowded. In contrast to traditional forms of extended family arrangements, 'doubling up'—i.e. couples or parents with children who are combining with other households, is often called a form of hidden homelessness and a long-recognised strategy for coping with high housing costs in expensive cities (Vacha and Marin 1993). Homelessness service providers regard multi-family households to be at increased risk in the event of a COVID-19 infection:

Figure 4: Number of people in rented group households in Sydney by SA2



Source: ABS 2016 (Derived from Tablebuilder).

There is a high risk I think in some particular parts of our district and other districts as well. We know that in some locations there may well be two families living in the one apartment. (HS, 2020)

There were 90,928 people living in multi-family households that required one extra bedroom in Sydney on Census night, and 5,431 people living in multi-family households that were severely crowded. Focussing specifically on the rental sector, we estimate there to be around 20,913 people in rented multi-family households that required at least one extra bedroom, and around 1,250 renters live in multi-family households that are severely crowded.⁴

⁴ As 23 per cent of people living in multi-family households are renters

2.3 Additional vulnerabilities of those living in marginal and informal housing in Sydney

Risks associated with inadequate housing may be compounded by an individual's age, health status, or employment circumstances. The sections below consider these intersections, drawing on Census and interview data. As the ABS definition of homelessness covers the occupants in marginal and informal housing circumstances (discussed in the first chapter), we again use the ABS homelessness operational groups, as well as group household and multi-family data to identify the additional vulnerabilities to those in informal and marginal housing. Interview data from homelessness service providers and health experts was then used to support the main findings from the Census data.

2.3.1 Age

Age is a known risk factor in relation to the COVID-19 virus, with people over the age of 60 at greatest risk of adverse health outcomes if they become infected (NCDC 2020; Promislow 2020). People over the age of 60 who are also living in substandard housing therefore have multiple vulnerabilities.

The number of older people falling into homelessness has been rising in recent years, due to the shortage of affordable housing (Pawson, Parsell et al. 2018). In Sydney, 4,628 people over the age of 60 were estimated as homeless on Census night in 2016 (Table 7—60–69 and 70+ years).

Older people are also living in potentially precarious rental tenures, including share housing. In 2016, 6,454 people over the age of 60 were renting in a group household across Greater Sydney (Table 7—60–69 and 70+ years).

Residents of boarding houses can be relatively concentrated based on their age. Research by Chris Martin identified 33 registered boarding houses in NSW where two-thirds or more of the residents were over the age of 60 (Martin 2019).

In interviews conducted for this study, homelessness outreach workers referred to this issue as a matter of particular concern.

Unfortunately...there are people who are over 65 living in boarding house accommodation. Also they've lived in that accommodation most of their lives. (HS, 2020)

Interviewees stressed the difficulties facing older residents who need to share bathroom facilities in boarding house accommodation. Over the COVID-19 pandemic period, shortages of cleaning and sanitary supplies have reportedly affected some boarding houses, with residents needing to obtain supplies for use in shared bathrooms themselves.

Table 7: Number of people in homeless operational groups, group households and multi-family households in Greater Sydney by age

	0-9 years	10-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70+ years
Homeless Operational Groups								
Persons living in improvised dwellings, tents, or sleeping out	46	34	196	270	311	271	138	43
Persons in supported accommodation for the homeless	614	708	651	566	523	427	242	247
Persons staying temporarily with other households	187	161	800	562	375	329	238	100
Persons living in boarding houses	26	155	1,330	960	926	1,095	851	434
Persons in other temporary lodgings	0	3	3	21	16	12	14	5
Persons living in 'severely' crowded dwellings	1,637	2,026	5,982	2,505	1,302	929	472	270
Persons living in other crowded dwellings	3,712	4,297	10,240	41,63	2,520	1,878	823	483
Persons in other improvised dwellings	75	73	96	76	73	89	30	33
Persons who are marginally housed in caravan parks	19	27	39	41	91	100	106	114
Total	6,318	7,485	19,318	9,161	6,135	5,120	2,913	1,715

Source: ABS 2016 [Counting Persons, Estimating Homelessness].

Group Households

Total	138	5,633	80,558	31,925	10,323	7,588	4,394	2,060
--------------	------------	--------------	---------------	---------------	---------------	--------------	--------------	--------------

Source: ABS 2016 [Counting Persons Place of Enumeration, Household Composition—Group Household, Tenure - Rent].

Multi-family Households

Total	12,006	6,868	15,974	12,118	5,899	6,160	4,866	2,260
--------------	---------------	--------------	---------------	---------------	--------------	--------------	--------------	--------------

Source: ABS 2016 [Counting Persons Place of Enumeration, Household Composition—Multi-family Household, Tenure - Rent].

For boarding house residents ... [they] have to share the bathroom facilities—and were unable to buy basic hygiene supplies themselves. There was a real challenge for some of those older residents in boarding houses. (HS, 2020)

2.3.2 Occupation

For many Australians, preventing the spread of COVID-19 has meant a change to working practices, with many people required to undertake work or education from home. This presents challenges for people living in larger households or in dwellings poorly equipped with suitable space for work or study. However, others who work in roles that place them in close proximity to other workers or members of the public may face greater exposure to the virus. As discussed in Chapter 1, healthcare workers have an especially high risk of contracting COVID-19 (Ng, Poon et al. 2020).

For those workers maintaining roles that require contact with others and who also happen to be living in marginal or overcrowded housing, this risk of exposure to the virus is then shared among their other household members where the ability to physically distance is impeded.

Table 8 shows the number of people that work in key industry sectors of employment that may put them at greater risk of exposure, who are also living in share, informal, and marginal housing arrangements. As shown, at the time of the 2016 Census, there were 463 healthcare and social assistance workers living in severely crowded housing. There were 8,476 health care and social assistance workers renting in group households, and 3,592 were renting in multi-family households in 2016.

2.3.3 Overcrowding and Indigenous households

Issues associated with poor housing circumstances, such as overcrowding and inadequate access to facilities for clean water, have been linked to a number of poor health outcomes for Aboriginal and Torres Strait Islander people, such as childhood kidney disease, eye diseases and respiratory diseases (National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners 2018). Inadequate access to potable water and poor sanitation facilities can impact personal hygiene, and thereby impact the ability to prevent the spread of viruses through laundering and hand and face washing (World Health Organization 2018).

Booth and Carroll (2005) found that overcrowding is responsible for much of the health gap between Indigenous and non-Indigenous populations. This was confirmed by Ali, Foster et al. (2018) and Foster and Hall (2019) whose work has separately probed the diverse connections between Indigenous housing conditions and a range of communicable diseases, including intestinal, skin, ear, eye and respiratory infections.

Foster and Hall take this further, to examine the evidence between these health issues and such factors as crowding, dwelling condition, health hardware, maintenance and repairs. This research shows that the most discernible improvements are found for conditions for which effective medical treatments exist, but over time there has been no major improvement in the proportion of households receiving maintenance and repairs or having access to functioning facilities for washing people and clothes.

This has implications for transmissible diseases like COVID-19. The proactive policy response established by Indigenous leaders to strictly limit movement in and out of remote communities have been highly effective containment measures but were needed precisely because of prior poor housing and high morbidity levels (Yashadhana, Pollard-Wharton et al. 2020). While the Indigenous community to date has been spared the brunt of COVID-19 infections, Aboriginal people in central Australia experienced five times higher rates of H1N1 influenza during the 2009 pandemic than the non-Indigenous population (Mousseau 2013). In the meantime, the Diné people of the Navajo nation have experienced 500 COVID-19 deaths to date, making theirs among the highest death rates on a per capita basis in the United States (Navajo Department of Health 2020).

Table 8: Number of people in homeless operational groups, group households and multi-family households in Greater Sydney by industry of employment

	Retail trade	Accommodation and food services	Transport, postal and warehousing	Administrative and support services	Education and training	Health care and social assistance	Total
Homeless Operational Groups							
Persons in supported accommodation for the homeless	41	48	17	29	21	84	244
Persons staying temporarily with other households	102	103	81	64	79	88	503
Persons living in boarding houses	154	322	128	133	81	144	961
Persons in other temporary lodgings	0	0	0	0	0	0	0
Persons living in 'severely' crowded dwellings	806	1,374	374	399	158	463	3,576
Persons living in other crowded dwellings	1,291	2,359	641	703	324	1,051	6,377
Persons in other improvised dwellings	31	12	32	9	12	32	136
Persons who are marginally housed in caravan parks	5	11	11	7	4	12	48
Total	2,439	4,235	1,281	1,350	670	1,876	11,861
Source: ABS 2016 [[Counting Persons, Estimating Homelessness].							
Group Households							
Total	8,940	12,743	3,609	4,745	5,649	8,476	44,162
Source: ABS 2016 [Counting Persons Place of Enumeration, Household Composition—Group Household, Tenure—Rent)].							
Multi-family Households							
Total	3,078	3,279	1,948	1,538	951	3,592	14,386
Source: ABS 2016 [Counting Persons Place of Enumeration, Household Composition—Multi-family Household, Tenure—Rent)].							

2.3.4 International students and temporary migrants

While not necessarily at increased risk of contracting COVID-19 or adverse health impacts of the virus, international students and migrants on temporary visas are at particular risk in relation to their housing circumstances. These groups are often over-represented within informal housing tenures because of additional barriers they face in accessing the private rental market without a rental history or local support networks (Gurran, Pill et al. 2019).

Interviews with health experts and homelessness service providers emphasised the vulnerability of international students and temporary migrants:

We've heard a lot of reports where there may be three times as many [international students] who are living in one place if there are beds. So, there are people sleeping shifts, things like that. So, that's a hidden issue, I think, that relates to housing, some overcrowdedness which represents a future risk I think. (HE, 2020)

2.4 Summary and policy implications

The data presented in this chapter provides insights into the population groups and housing practices likely to be associated with additional risks in the context of the COVID-19 pandemic. These arise in relation to the condition and nature of accommodation in low-cost rental and informal housing markets, with overcrowded dwellings and dwellings without adequate facilities, associated with higher health risks.

Overall, the data presented in this chapter highlights the ways in which Sydney's precarious rental market has exacerbated existing vulnerabilities experienced by lower income groups. Despite falling rental demand in Sydney due to international travel restrictions, there is evidence that many people are still seeking and offering share and informal accommodation.

Particular demographic groups, such as older people, are more susceptible to complications if infected by the COVID-19 virus, yet more than 10,000 people over the age of 60 are living in overcrowded conditions, or in share/multi-family rental housing.

For some, ongoing difficulties around navigating the informal share housing market with dependent children have been exacerbated by the pandemic, and the disruption to work and practices. Working or studying from home is often difficult in share or informal accommodation.

In order to ensure that people are not forced to accept inappropriate housing conditions, ongoing access to adequate income support during the pandemic period is essential. Given that many older people and families with children who are living in overcrowded rental accommodation are likely to be eligible for and/or waiting for social housing, escalating priority applications, for instance, by headleasing private rental stock, is an important medium and longer term intervention.

The circumstances of international migrants is not well known, and many international migrants may be resorting to informal and marginal housing due to less access to government support and a lack of support networks. To avoid the risk of disease spreading in overcrowded or substandard accommodation used by these groups, such as occurred in Singapore's migrant dormitories, governments and education providers need to play a stronger role in ensuring that adequate housing is available for students and temporary visa holders. Providing clear advice and information about residential tenancy rights and alternative housing options, is also critical for international students and temporary visa holders.

Of additional concern are the persons working in occupational groups, such as healthcare and social assistance, who are living in marginal and informal housing tenures. These workers have in some instances needed to source alternative accommodation because of household concerns relating to the risk of disease transmission. This is a current and future public health concern, given the risk of resurgences of COVID-19 or other future viruses. Long-term strategies to accommodate essential workers adequately and safely are needed to manage these risks.

Private rental prices may go down in the foreseeable future due to lowered demand with job losses and reduced net overseas migration (NOM). However these reductions are still unlikely to make rentals affordable for the groups that occupy informal or marginal housing, particularly in unaffordable rental markets such as Sydney. Those in informal and marginal rental space require direct intervention due to other barriers they face entering formal rental markets. Direct intervention such as actively expanding the supply of social housing through construction or headleasing, are critical strategies for reducing dependence on informal and potentially substandard rental options.

3. Changes in the low-cost and STR markets

- This chapter examines the rental market effect of falling demand for Airbnb-style STR accommodation.
- Focussing on Sydney, Hobart, and the NSW South Coast, we find a marked easing of rental vacancy rates in Hobart, which appears linked to a release of short-term Airbnb-style units back to the long-term rental market.
- In Sydney rental vacancy rates have stabilised over the past 12 months, but median rents remain unaffordable for lower income earners. The release of some STR accommodation into the permanent rental and informal rental market has increased supply but not demonstrably at the affordable end of the market.
- In Shoalhaven on the NSW South Coast, permanent rental vacancy rates are at an all-time low but around 20% of the housing stock is available as residential tourist accommodation.
- There is little evidence of STRs being used to accommodate homeless populations and others in need of emergency accommodation during the pandemic.

This chapter looks at the change in rental markets in Sydney, Hobart and Shoalhaven, NSW during the COVID-19 pandemic, focussing particularly on intersections with Airbnb-style STR accommodation. The first section of the chapter describes the state of housing markets in the three case study areas prior to the COVID-19 outbreak. The chapter then examines rental market changes drawing on available real estate data and data on Airbnb listings. In the final section, the chapter considers policy approaches to regulating and using residential tourist accommodation, in the context of the COVID-19 pandemic and beyond and presents interview data from housing and public health experts on the use of STRs and hotels for emergency accommodation.

3.1 Housing markets before the COVID-19 outbreak

To understand the impacts of the COVID-19 pandemic on the availability of low-cost rental housing, including intersections between informal and STR markets, we expanded our analysis from Sydney to include two additional regions. Hobart has had a very tight rental market for several years, likely exacerbated by rising conversion of permanent units to STR accommodation. Shoalhaven in the NSW South Coast has also experienced very tight rental pressures and rising rates of homelessness in recent years (Stubbs 2016). The area is a popular tourism destination, and a high proportion of its housing stock is comprised of residential holiday accommodation (Gurran, Zhang et al. 2018). Increasingly, this accommodation is being advertised via STR platforms such as Airbnb, and this has been associated with anecdotal reports of increased housing demand, particularly by investors (Gurran, Zhang et al. 2020).

By contrast to Hobart and Shoalhaven, the Sydney market had enjoyed a record construction boom in recent years and was experiencing high vacancy rates in the rental market in the 12 months before the pandemic. However, as noted above, there was an ongoing shortage of affordable rental supply in Sydney, as documented by Hulse, Reynolds et al. (2019).

3.1.1 Rental vacancy rates

The rental market vacancy rate, which reflects the number of vacant private rental properties at any point in time expressed as a percentage of the total private rental properties, is a good indicator of whether there is a balance between supply and demand in a market. A recent Reserve Bank discussion paper (Saunders and Tulip 2019) suggested that for real rents not to increase (i.e. rents to only rise in line with inflation) the vacancy rate in a location needed to be at least 3 per cent.⁵ Similarly, Phibbs (2018) estimated the relationship between vacancy rates and rents using data from suburbs in Sydney, Melbourne and Hobart; and finding a linear relationship whereby increases in rents were a direct function of the vacancy rates. Very low vacancy rates (less than 1.5%) generated double digit nominal rent increases while vacancy rates more than 3 per cent produced stable or decreasing nominal rents (see below for more details).

Table 9 shows the vacancy rate in Sydney based on estimates from the NSW Real Estate Institute for the inner, middle and outer rings of Sydney. The table shows a steady trend of increasing vacancy rates in Sydney and reducing rents. This trend has helped to put downward pressure on rents with the NSW Government's own Rent monitor showing that pre-pandemic rents in real terms have not risen since 2015 (FACS 2020).

⁵ See especially Saunders and Tulip (2019) Figure 10, page 18.

3. Changes in the low-cost and STR markets

Table 9: Sydney vacancy rates and rental average 2017 to 2020 (pre COVID-19)

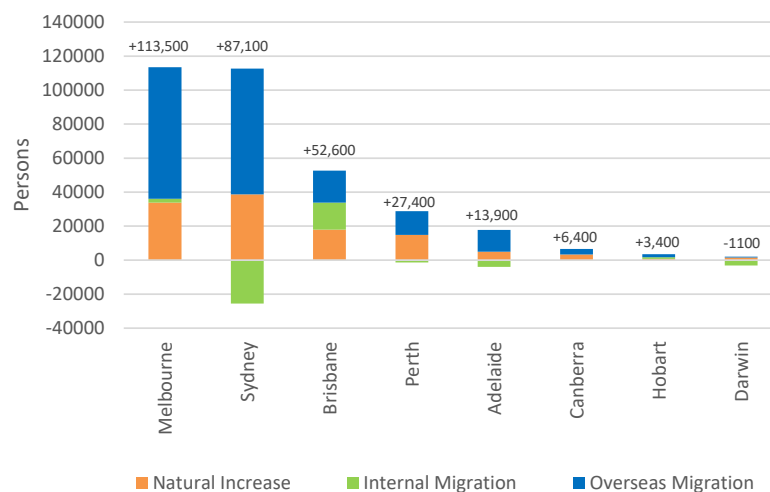
Region	Feb 2017	Aug 2017	Feb 2018	Aug 2018	Feb 2019	Aug 2019	Feb 2020
Inner	1.7	1.9	1.8	2.9	2.9	3.4	2.8
Middle	1.8	2.3	2.5	3.1	3.6	3.9	3.9
Outer	2.2	1.8	2.3	3.1	3.1	3.5	3.5
Total	2.9	2.0	2.3	2.8	3.6	3.6	3.4
Rents for 2 BR dwelling*-	\$530	\$550	\$550	\$540	\$520	\$525	\$520

*March quarter results from rent report for Sydney for February, and September quarter for August (FACS 2020)

Source: NSW Real Estate Institute (2020) based on a survey of its members.

The increase in vacancy rates in Sydney was occurring despite the significant increase in population occurring in the city (Figure 5). Sydney has been growing at about 1.7 per cent per annum over the 5 years pre-pandemic. Much of Sydney's growth comes from international migration, with the city losing internal population to other parts of Australia. For the period between December 2018 and December 2019, the city grew by about 87,000 people consisting of a natural increase (birth over deaths) of 39,000, with NOM of 74,000 (arrivals minus departures). This growth was counteracted by about net 26,000 people leaving Sydney for other parts of Australia (people arriving in Sydney minus people leaving Sydney).

Figure 5: Population growth, Sydney and Hobart in context



Source: ABS (2020).

The Hobart housing market in Tasmania is very different. First, it is much smaller with Greater Hobart having an estimated resident population of 236,000 persons at the end of 2019 (ABS 2020). Unlike Sydney, in recent years rents across Hobart have risen rapidly, reaching an annual rate of over 10 per cent at the end of 2019 (TUTAS 2020b). Vacancy rates in Hobart are the lowest of all Australian capital cities with a sustained period of vacancy rates being less than 2 per cent. The Tasmanian Real Estate Institute (TREI) reveals that the rental vacancy rate has fallen from almost 5 per cent in 2013 to 1.8 per cent in the September quarter of 2019 and 2.1 per cent in the March quarter of 2020.⁶

⁶ Monthly vacancy rate measures are available from commercial data providers SQM, but they report a much smaller vacancy rate than the TREI, possibly because they only capture listings available from particular online real estate listings. They report a February 2020 vacancy rate of 0.9 per cent and a March vacancy rate of 0.8 per cent.

These low vacancy rates have been partly generated by a recent increase in population growth rates. In recent years, Hobart's population growth rates have increased with the current rate being about 1.5 per cent a significant increase on its 2013–14 growth rate of 0.6 per cent. This change in growth rates saw Hobart grow by 1,200 persons between 2013 and 2014 while between December 2018 and December 2019 the population grew by 3,450. The reasons for this growth are different than Sydney, with a focus on both an increase in net internal migration (more people moving to Hobart than leaving Hobart from the rest of Tasmania and the mainland) and NOM, which makes up about half of Hobart's growth. Unlike Sydney the vast majority of NOM is temporary migration largely composed of international students. There has been limited dwelling construction in response to this growth with limited new apartment buildings directed at investors and most of the construction being house and land packages for home ownership. The nature of this new construction has been part of the reason that vacancy rates in the Hobart rental market have been so low.

In Shoalhaven, NSW, the picture is different again. Annual population growth in the region between 2016–21 is estimated to be 0.9 per cent, driven entirely by net migration. The permanent rental market is very tight, with vacancy rates of 1.9 per cent in the major population and employment centre Nowra in 2019, although rents were stable (Table 10). By June 2020, the vacancy rate had fallen to 0.7 per cent and rents had risen by 2.7 per cent. It is likely that some of this increased rental demand was driven by displaced households affected by the summer 2019–20 bushfires.

Table 10: Private rental market Shoalhaven/Nowra, June Quarter 2019 and 2020

	June Quarter 2019	June Quarter 2020
First Quartile weekly rent for new bonds (\$)	320	335
Median weekly rent for new bonds (\$)	370	380
New bonds lodged (no.)	719	717
Total bonds held (no.)	7,439	7,829
Annual change in median weekly rent	0.0%	2.7%
Vacancy rate	1.9%	0.7%
Number of vacant properties	81	31

Source: FACS (2020) and SQM (2020).

3.1.2 The STR market in Sydney, Hobart and Shoalhaven

At the same time that dwelling construction has been running at record levels in Sydney, high availability (greater than 60 days per annum) whole dwellings rented out on STR platforms have also been growing rapidly. In September 2015 the Airbnb monitoring website, Inside Airbnb (2020), counted 4,829 of these dwellings. This number had risen to 10,023 by March 2019 and then to 11,007 by February 2020. Previous research (Gurran and Phibbs 2017) has shown that Airbnb listings in Sydney are focussed on the eastern side of the city in the major tourist areas and close to the major tourist beaches. The three LGAs with the highest concentration of Airbnb properties are Waverley (with Airbnb stock representing about 8% of the rental market,⁷ Northern Beaches (7%) and the City of Sydney (6%). The average for Sydney is about 2 per cent.

Similarly, there has been growth in the STR market in Hobart. However, the concentration of Airbnb in the rental market is much higher than in Sydney. Table 11 shows the total number of Airbnb listings in Hobart in February 2020 and the number of dwellings expressed as a percentage of the rental market in the four central Hobart LGAs.

The average for the Greater Hobart Area is about 6 per cent. The Hobart housing market is the perfect storm for a Hobart renter. There has been limited new rental stock coming into the market, there is significant population growth made up largely of students looking for rental housing, and a significant amount of the rental stock has been directed into the STR market.

Table 11: High availability whole dwellings listed on Airbnb as a percentage of the total rental market by Hobart LGA

LGA	Percentage of total rental market*
Glenorchy	2
Clarence	6
Hobart	12
Kingsborough	11

*Rental market estimates based on ABS 2016 Census data increased by 1.0% per annum.

Source: Airbnb data from Inside Airbnb (2020) and rental market estimates from ABS (2016)

In Shoalhaven, analysis in late 2017 identified 2,283 Airbnb listings comprising 4.2 per cent of the total housing stock (Gurran, Zhang et al. 2018). Of these, whole home listings frequently available (i.e. permanent holiday accommodation) amounted to the equivalent of 21.6 per cent of the rental stock. However, the study found no evidence of a structural change in the Shoalhaven housing market, where the majority of tourist accommodation is in the form of residential holiday rentals (with holiday homes amounting to more than 4.5 times the number of beds in formal hotel/motel accommodation). Further, the area has long been characterised by high seasonal vacancy rates, consistent with second home tourism markets (over 25% of the housing stock has been vacant on census night since 1996), while holiday home rental income is estimated to be considerably lower (71–90%) than the permanent market (Gurran, Zhang et al. 2018, using data from Inside Airbnb and NSW Rent and Sales Reports).

Analysis for Shoalhaven Council determined that the majority of STR accommodation was situated in locations unsuitable for permanent residents in housing stress (Stubbs 2016). However, in the context of a very tight rental market, exacerbated by the 2019–20 bushfires, the availability of STR stock may represent a potential source of accommodation for permanent residents experiencing housing stress in the Shoalhaven area.

3.2 Supply of STRs post-pandemic

The Airbnb tracking site was used to estimate the change in Airbnb listings that occurred after COVID-19 restrictions emerged, in Sydney and Hobart (data on the Shoalhaven LGA is not available). Monthly estimates are shown in Table 12.

In both Sydney and Hobart there was a significant reduction in Airbnb listing for whole dwellings by hosts who were advertising high availability properties (greater than 60 days per annum). The high availability filter is used to remove home owners who might be renting out their dwelling when owner-occupiers take their annual holidays from the analysis.

Table 12: Changes in high availability whole dwelling Airbnb Listings 2020 Sydney and Hobart

	Sydney*	% change	Hobart*	% change
February 2020	1,100		1,275	
March 2020	11,007	2%	1,319	3%
April 2020	11,277	-14%	1,032	-22%
May 2020	9,699	5%	1,122	9%
June 2020	10,191	-5%	1,097	-2%
Change March to June	1,581	14%	222	17%

* Some outlying LGAs are excluded.

Source: Airbnb data from Inside Airbnb (2020).

In Hobart between March and April listings decreased by 22 per cent while the equivalent figure was 14 per cent in Sydney. The difference may have been caused by the greater opportunities for short-term letting in Sydney with a continuing stream of international arrivals and a larger pool of temporary migrants in the employment market, but it is hard to be certain. The other issue might have been the lower vacancy rates in the Hobart market made it more likely that an Airbnb host could attract a long-term tenant.

3.3 Understanding impacts of STRs on rental housing markets

Examining the research undertaken to estimate the impact of STRs on the broader housing markets reveals that three broad methods have been used.

The first is the simplest. We could call it the 'income-led investor model'. This model estimates the number of nights that properties are hosted on Airbnb and compares the potential revenue from Airbnb with the revenue from traditional long-term private rental. Where the Airbnb revenue for most of the urban market is less than the private rental market revenue, it assumes that Airbnb is not having an impact on the housing market. A recent study undertaken by the consulting firm SGS (2018) on behalf of Airbnb used this approach. However, this approach posits that the behaviour of rental investors is driven only by rental income. In current markets in Australia the rental income is a small proportion of the total return for rental investors.

The second method involves undertaking an econometric study of urban housing markets to measure the actual impact on rents using detailed models of the market with robust statistical techniques. We could call this the 'housing market analysis model'. An example of this method is the work by Horn and Merante (2017) on the Boston rental market. They show that a one standard deviation increase in Airbnb listings is associated with an increase in asking rents of 0.4 per cent.

The final approach tries to examine the actual working of rental markets, focussed on the impact of changing the vacancy rate. We could call this the 'vacancy rate model'. It is based on the hypothesis that STR platforms will have a significant impact on housing markets when they are able to move vacancy rates by a significant amount (e.g. by more than a decimal point).

For this study, we used the vacancy rate measure to examine the relationship between the short-term and permanent rental market. Changing demand in both short and long-term rental sectors in the context of the pandemic make this approach the most viable in the current circumstances. However, we also applied an econometric approach to consider potential impacts of changes in the supply of permanent/short-term units on rents. Due to data availability we focussed this analysis only on the Sydney and Hobart rental markets.

3.3.1 Sydney housing market impacts

The sudden contraction of Airbnb with COVID-19 provides an opportunity to examine the impact of the STR market on rents (the supply side) but is complicated by the simultaneous reduction in demand. This reduction in demand is generated by two factors—the reduction in population living in Sydney as a result of COVID-19 and the reduced incomes of the Sydney population as a result of increasing unemployment and reduced working hours.

In the case of Sydney, the reduced population in the city is generated by the smaller number of temporary and permanent migrants arriving in Sydney because of the pandemic. Some of these temporary migrants will be students but a significant proportion will be people on temporary working visas. It is estimated that Australian NOM will decrease by 30 per cent this financial year, so applying this figure to Sydney the population will shrink by about 22,000 persons. Assuming that about 65 per cent of NOM are looking to locate in the private rental market⁸ and assuming a standard occupancy of about 2.8 persons per rental dwelling, that leads to a reduction in demand of about 5,100 dwellings. In addition, some people already in the rental market will move back in with parents and/or friends as way of reducing expenses if their income drops.

⁸ Some will live with family and friends, while many students will live in special purpose student accommodation provided by Universities and private companies like Urbanest which are not part of the traditional private rental market.

Both these decreases in demand can be estimated by examining how much the rental market has shrunk through tracking the number of active rental bonds in the market.⁹ However, how the reduction in purchasing power impacts rents is much harder to estimate, especially when the impact of the Australian Government's JobKeeper and JobSeeker package is considered. It is clear that some tenants will have lost income as a result of the pandemic, in some cases all their income, but this may have been replaced or partially replaced by JobKeeper and JobSeeker payments. Some people on JobKeeper, especially people working part-time before the pandemic, might have had an increase in income. For those not in employment, the COVID-19 supplement or the two \$750 top ups for pensioners would have led to a significant increase in their income. This increase in income will have led to an increase in demand for private rental housing as people have moved from informal housing (e.g. share or boarding house style accommodation) into the private rental sector. At this stage, it is impossible to make a reasonable estimate of the size of this decrease in demand from renters due to a reduction in income. This might be clarified at a later date when better data on the impact of COVID-19 on renters' incomes is available.

Table 13 shows a variety of rental market and Airbnb data for Sydney LGAs, focussing on LGAs where 50 or more whole dwelling units have been withdrawn from the tourist platform. The table shows that LGAs with high Airbnb penetration (largely in the inner city) also tend to have been areas with significant reduction in overall demand, resulting from population decreases from reduced NOM and other factors. Thus, it is difficult to fully attribute the significant correlation between the estimated change in the vacancy rate and the change in rents (0.69) to changes in STR markets in these areas. Further, in some cases this relationship is further confounded by other factors such as a surge in new supply (especially apartments which are more likely to be in inner LGAs) or a sharp reduction in demand generated by lower household incomes (again which are more likely to be in the inner ring because of the higher proportion of people working in hospitality).

Nevertheless, the data shows that the potential loss/gain of rental units due to tourism will have perceptible impacts on rental availability and costs in high demand cities such as Sydney. These appear most significant in high demand rental markets where there have also been higher decreases in Airbnb listings, such as the City of Sydney, North Sydney, and Northern Beaches LGAs.

There is evidence from our Flatmates.com.au data set that some Airbnb owners have listed their properties on the informal rental market. In addition to references to COVID-19 discussed in the previous chapter, 10 of the property listings in Flatmates.com.au stated that they were previous Airbnb listings, and one property owner/manager stated directly that they had transitioned their multiple Airbnb properties from the STR market due to COVID-19.

It was Airbnb but offering the entire flat to you just \$550 per week until end of May.

Notably the intention of these owners appears to be to remove these properties from the informal rental market for a limited period of time only.

⁹ In NSW, bonds of tenants are lodged with the NSW Rental Bond Board.

3. Changes in the low-cost and STR markets

Table 13: Examining rental markets and Airbnb interactions in selected Sydney LGAs

LGA	Change in rental bonds March to June Quarter	Change in median rents March to June Quarter	Airbnb density March	Decrease in Airbnb listings	Change in VR from reduction in Airbnb	Change in VR from demand reduction	Total VR change	Potential Airbnb component of rent change
Bayside	-2.1%	-7%	1.4%	56	-0.2%	-2.1%	-2.3%	10%
Cumberland	-0.6%	-2%	1.0%	76	-0.3%	-0.6%	-0.9%	32%
Inner West	-1.9%	-4%	1.9%	81	-0.3%	-1.9%	-2.2%	12%
North Sydney	-1.8%	-9%	2.8%	87	-0.5%	-1.8%	-2.3%	22%
Northern Beaches	0.0%	-4%	7.4%	127	-0.5%	0.0%	-0.5%	98%
Randwick	-2.4%	-7%	2.9%	52	-0.2%	-2.4%	-2.6%	9%
Ryde	-0.9%	-6%	1.5%	60	-0.4%	-0.9%	-1.2%	28%
Sydney	-5.3%	-9%	5.7%	715	-1.2%	-5.3%	-6.5%	19%
Waverley	-3.7%	-9%	7.8%	64	-0.5%	-3.7%	-4.1%	11%

Notes: VR = vacancy rate.

Source: Rental and Bond data from FACS (2020). Airbnb data from Inside Airbnb (2020).

3.3.2 Hobart housing market impacts

Hobart provides a much more straightforward case study to examine the impact of a reduction in Airbnb listings for several reasons:

- The reduction in Airbnb listing was larger in Sydney and Airbnb has a larger presence in the Hobart housing market.
- The NOM stream is almost exclusively international students which makes the changes in NOM easier to estimate. Data from the University of Tasmania (UTAS 2020) indicates that the 2020 enrolments were almost identical to 2019 although about 15 per cent of the international students were studying on-line from their own country.¹⁰
- The amount of new housing supply directly entering the rental market is relatively low.
- The smaller size of the market makes the patterns in the market easier to identify.
- The reductions in purchasing power as a result of the pandemic is likely to be less than Sydney because of the larger proportion of Centrelink recipients and retired households in Hobart and the lower wages paid that are likely to be closer to the amounts provided by JobKeeper and the increased JobSeeker payments.

One question is whether all the listings removed from the Hobart Airbnb market ended up in the private rental market. While there was a lot of anecdotal evidence that this was occurring and was widely reported in the media by the Reserve Bank (2020) and by property consultants (see for example Bevan 2020; Chalmers 2020; Owen 2020; Watson 2020), perhaps Airbnb owners removed their properties from the STR market and left them vacant. One way of examining this issue is to examine the changes in vacancies in Hobart over time. The property data company SQM tracks the changes in the number of rental vacancies in the Hobart market over time. The increase in vacancies of 204 properties in April 2020 reasonably closely matched the decrease in Airbnb listings of 287. The next month when Airbnb listings increased by 90, SQM vacancies decreased by 56. Given that we know that SQM does not capture all vacancies, it would appear that most of the change in listings are moving to the permanent rental market. However, since it would be reasonable to assume that some of the listings do not end up in the rental market, the conversion into rental market properties is assumed to be 70 per cent of the reduction in listings.¹¹

Table 14 shows a variety of rental market and Airbnb data for Hobart LGAs. Note that since no estimates of total bonds were available in Hobart, the reductions in new bonds lodged in the June quarter was used. Data from 2017–18¹² was used to estimate the reduction in new bonds lodged between the March and June quarter for each of the council areas in a normal year. In 2020, the reduction in new bonds was larger than in previous years attributable to the reduction in the Hobart population resulting from reduced NOM. This change was estimated to be equivalent to a reduction in demand of about 125 dwellings. This reduction in demand was allocated across the four council areas based on the location of international students based on a University of Tasmania report (Lyth, Peterson et al. 2019) and the change in new bonds listings by Council area (TUTAS 2020a)¹³.

¹⁰ This is based on nationwide data provided by the Department of Education Skills and Employment (2020).

¹¹ Note that a similar change wasn't made for Sydney. The steep topography of Hobart means that many dwellings, especially in the Hobart LGA, are on sloping blocks and hence some Airbnb whole listings might be the lower story of a dwelling with the owner living above. In these circumstances, it may be less likely that owners will rent their Airbnb listing into the permanent rental market.

¹² 2019 was not included because of data issues associated with the introduction of a new online system.

¹³ If additional data becomes available, a better technique would be to use the ratio of total bonds in the March and June quarter. This method was used in the Sydney case study. The total drop in demand estimate seems reasonable since it approximates a 30 per cent drop in NOM assuming that 65 per cent of them stay in rental housing at an occupancy rate of 2.8.

Table 14: Examining rental markets and Airbnb interactions in Hobart LGAs

	LGA	Glenorchy	Clarence	Hobart	Kingborough	Total
Private rental dwellings 2016 census*		4,804	3,726	6,397	2,434	17,361
Estimated number of Airbnb properties moving to the PRM		13	36	113	38	200
Airbnb Density March		2%	6%	12%	11%	
Change in vacancy rate from reduction in Airbnb		0.3%	1.0%	1.8%	1.6%	1.1%
Change in vacancy rate from demand reduction**		0.2%	0.8%	0.8%	1.4%	0.7%
Change in median rents March to June Quarter#		-2%	-7%	-9%	-9%	
Estimate from Phibbs (2018)		-2	-7	-10	-9	
Airbnb share of change		46%	55%	65%	65%	58%

Notes: *Inflated at 1% per annum to provide a 2020 estimate & VR is the Vacancy Rate

**Based on loss of demand for 125 dwellings

Sourced from (TUTAS 2020b) 3-bedroom dwellings

Source: Compiled by authors from listed data.

To test the assumptions in the table, the Phibbs (2018) model of rents and vacancy rates, was applied to the estimated changes in vacancy rates/rents. Results were close to the actual changes in overall rents but tended to overestimate the change in rents for the Hobart LGA. This might be because some of the ex-Airbnb listings did not end up in the rental market or because the reduction in demand from the reduction in NOM has been over-estimated.

The last column shows the estimate of the share of the rent decreases attributable to Airbnb. It is significantly higher than the Sydney estimates for two reasons—the greater penetration of Airbnb in Hobart and the larger reductions in Airbnb listings during the pandemic.¹⁴ The strong relationship between the rent changes and the Airbnb density in each LGA suggest that Airbnb on its own has a major impact on rents.¹⁵

However, what is clear is that relatively small changes in the availability of dwellings can have very significant impacts on rents. The mechanism has got nothing to do with Airbnb stock as a proportion of the total dwellings in an area as claimed by Nolan (2020). Rents will decrease if a change in supply can increase the vacancy rate. If the limiting of STR activity led to increased private rental stock, we would see a substantial reduction in rents in Hobart.

We have observed that even a modest reduction in Airbnb listings (about 17%) is associated with a significant reduction in rents. In rental markets it is clear that small changes in supply can make a significant difference for long-term renters. This analysis helps explain the great differences in Hobart rental increases and vacancy rates before and after Airbnb became a feature of Hobart real estate markets.

¹⁴ Note that if the table has overestimated the number of ex-Airbnb listings entering the rental market, then this percentage would be reduced.

¹⁵ Another potential weakness of the analysis in Table 14 might be that the estimates of the reduction in demand are not correct and a much larger proportion could be attributable to a reduction in demand rather than supply changes from Airbnb. This question could be resolved when better estimates of demand changes (e.g. total active bonds) become available or when ABS provides estimates of both household income and the estimated resident population of the Hobart LGAs.

3.4 Using STR accommodation for priority housing during the pandemic

Some jurisdictions internationally have sought to introduce temporary or permanent changes to the regulatory framework surrounding STR accommodation to:

- manage the risks of unregulated visitor accommodation, particularly dormitory style accommodation, within residential buildings
- provide suitable accommodation for healthcare workers
- address unmet housing need, including accommodation for homeless people or those living in inadequate housing.

We discuss these points in turn below.

3.4.1 Managing the risks of unregulated visitor accommodation

There has long been concern about the health and safety risks of unregulated tourist accommodation within residential dwellings (Gurran, Zhang et al. 2020). These concerns have continued during the COVID-19 pandemic. For instance, in Australia, regional communities have expressed fear that, despite travel bans, second homes may draw visitors who could in turn bring risk of new infections and/or place pressure on strained local health infrastructure (Foley 2020).

Airbnb has recently announced restrictions to bookings of 16 people or more, during the pandemic period (Airbnb 2020b). However, enforcing the restrictions on the actual use of properties that are managed entirely via online platforms is almost impossible without the regulation and assistance of local managing agencies and or authorities (Gurran and Sadowski 2019).

3.4.2 Accommodating healthcare workers

Some STR platforms have enabled property owners to offer discounted or free accommodation to healthcare workers wishing to isolate from their families or stay nearer their place of work.

For instance, Airbnb's 'Frontline Stays' as part of the 'OpenHomes' platform, lets Airbnb hosts list their homes for free for healthcare workers (Airbnb 2020a). However, data on take-up internationally and within Australia, remains unavailable.

There have been grass roots approaches to offer residential tourist accommodation for healthcare workers. The platform 'Find a Bed', which was set up following the summer 2019– 20 bushfires was modified to include 'COVID-19 Stays', targeting healthcare workers and others in need of accommodation. Similarly, 'Adopt a Healthcare Worker' Facebook Pages were set up in Sydney, Melbourne and Brisbane to aid healthcare workers, including assistance with accommodation. In Victoria, hotel accommodation has been offered to healthcare workers that wish to self-isolate away from their usual household, for instance following exposure to a COVID-19 positive patient (Victorian Government 2020a).

3.4.3 Addressing unmet housing needs

For many cities, the COVID-19 pandemic has reinforced the need to properly regulate the STR accommodation sector to preserve permanent housing. Some, such as Lisbon and Portugal, have announced an intention to seize vacant STR properties as affordable housing for key workers (Medina 2020).

In Paris, it has been reported that property owners who have breached the city's strict STR legislation have been offered the opportunity to have their fines waived if they transition their properties into the private rental market at reduced market rent, for a minimum of three years (Cosnard and Guillou 2020; Johnson 2020; Rizhlaine 2020).

However, there is little evidence that STR accommodation has been used for emergency accommodation in Australia. Rather, hotel accommodation has been offered to homeless people (particularly rough sleepers) during the pandemic period, including residents of boarding houses who test positive for COVID-19.

In NSW, hotel accommodation for homeless groups has been offered in collaboration with non-government outreach organisations, initially for a 30-day period, with the potential for further extensions. Interviews with homelessness service providers provide insights into the efficacy of this approach which in many instances has led to a more permanent housing solution for participants.

An important finding is that initial assistance with accommodation, combined with increased welfare payments, has supported efforts to secure longer term housing:

The government input into actually trying to end homelessness has been commendable. ... They've actually put some resources into trying to end homelessness and find pathways out for people who are doing it rough I mean the increase in welfare payments has been a really great benefit. (HS, 2020)

[Those in hotel accommodation are] taking the [opportunity to move into better accommodation because they can afford it now with the increase in JobKeeper payments. So, they have made that jump from out of the sector to more self-contained private rental. (HS, 2020)

Pending changes to welfare payments present a risk in terms of sustaining these outcomes.

There are older men who have been living in shared facilities for a number of years who have taken the opportunity to move on, but now have anxiety about what's going to happen come September [when JobKeeper and JobSeeker payments are reduced]. (HS, 2020)

Although STR accommodation might provide a suitable resource for households living in inadequate accommodation, such as parents with children, interviewees expressed limitations associated with accessing this stock. The availability of onsite staff in hotels and motels means that communication and management is easier for support staff and healthcare providers in these formal tourism settings.

3.5 Summary and policy implications

This chapter has examined rental market trends in Sydney, Hobart, and Shoalhaven, prior to and during the pandemic period. All three markets were characterised by rental affordability pressures prior to the pandemic, potentially exacerbated by the diversion of housing units to short-term Airbnb-style tourist accommodation. Our analysis found a marked easing of rental vacancy rates in Hobart, which appears to be linked to a release of STRs back to the long-term rental market in 2020. In Sydney, rental vacancy rates have stabilised over the past 12 months, and the release of additional STR stock seems to have contributed to rental reductions, although median rents remain unaffordable for lower income earners. In Shoalhaven, permanent rental vacancy rates are at an all-time low, but around 20 per cent of the housing stock is available as residential tourist accommodation.

The results of the analysis show that limiting the diversion of permanent housing units to the STR market would be an important strategy for addressing affordability in high demand markets such as Hobart and Sydney. One option might be to introduce a permit system, capping the number of permits at a proportion of the existing rental market (as measured by the Rental Bond Authority), and with a focus on priority housing market locations.

This approach might be phased in by refusing to issue any permits within a particular LGA (or suburb) once the threshold was reached. For example, if in the case of Greater Hobart, STR listings were distributed across the city to a maximum of 5 per cent, the benefits of tourism could be shared more evenly.

A permit system of registrations would also enable such housing to be properly regulated, with benefits in terms of health or natural emergency response.

Finally, there is little evidence to suggest that STR accommodation has been used as an emergency housing resource during the pandemic period in Australia. However, in very tight rental markets, such as the Shoalhaven LGA, there may be opportunities to use residential tourist stock as medium-term transitional accommodation for those with priority housing needs.

4. Policy development opportunities

Key points

- The COVID-19 pandemic has reinforced the inequalities in Australia's housing system and exposed the significant health risks associated with inadequate accommodation. The chronic shortage of affordable rental housing in Australia means many lower income and vulnerable groups are dependent on overcrowded, marginal housing and informal housing tenures in which physical distancing is difficult or impossible, increasing potential for virus spread.
- Lower income renters living in marginal and informal housing are at further risk due to the vulnerability of their tenure. Finding appropriate accommodation during the pandemic period is more difficult for those with limited financial resources, although some people have been able to access more suitable housing because of increased income support.
- Falling demand for STR accommodation during the pandemic has improved overall rental availability in case study markets of Hobart and Sydney. These improvements should be encouraged by more effectively preventing the loss of residential units to tourist accommodation.
- Long-term increases in affordable rental housing are needed to address the underlying problems facing Australia's lower income renters, particularly those who are homeless or at risk of homelessness. Intermediate solutions such as increased income support for more appropriate housing, and assistance with accessing private rental units, should be further explored.

This final section of the report draws together key findings in relation to the research questions and summarises priorities for policy development as well as further research.

4.1 How should residents of marginal and informal housing be assisted during the COVID-19 pandemic?

This Scoping Project has highlighted the potential health and related risks facing residents of marginal and informal housing, including forms of share accommodation, during the COVID-19 pandemic. Clear health risks arise in overcrowded accommodation or in housing that is substandard. There are also risks associated with the precarity of informal tenures during the pandemic period, notwithstanding efforts to extend rental protections to those without formal residential tenancy agreements. Finally, there are often particular difficulties faced by people seeking share accommodation and/or needing to work or study in share homes during government 'stay home' restrictions.

On the one hand it is clear through our data that there are large numbers of people living in housing that could be a health risk/housing risk to them and others during the pandemic, and potentially even greater numbers given the difficulty in enumerating these populations. On the other hand, due to these links between housing and public health revealed during the pandemic, there have been widespread government and non-government responses to directly and indirectly support people living in informal and marginal housing. The pandemic has prompted increases in JobSeeker and JobKeeper, eviction moratoriums, and hotel accommodation offered to rough sleepers and some people in marginal housing, which had positive short-term housing outcomes.

However, the difficulties of monitoring and regulating marginal and informal sources of accommodation makes it difficult to actively aid the occupants of these forms of housing in the long-term. For this reason and given that dependence on substandard and informal housing reflects affordability pressures, adequate ongoing income support and the provision of affordable rental housing is a primary policy priority.

There are particular difficulties in addressing the needs of international students and temporary migrants who currently lack access to government income support, and who may have experienced loss of employment due to the pandemic. To avoid the risk of disease spreading in overcrowded or substandard accommodation used by these groups, such as occurred in Singapore's migrant dormitories, governments and education providers need to play a stronger role in ensuring that adequate housing is available for students and temporary visa holders.

Further, we found that there are many healthcare and other essential workers living in marginal and informal housing circumstances. This is an immediate concern during the pandemic, where frontline and public-facing workers are living in circumstances that may be substandard or overcrowded, increasing the risk of disease spread. This is also a long-term concern, due to the threat of the re-emergence of COVID-19, and other future pandemics.

Overall, the emergency housing system established for rough sleepers and certain boarding house residents, should be expanded to ensure suitable accommodation for anybody living in inadequate circumstances during the pandemic period, particularly essential workers exposed to the public and who cannot work from home, as a public health measure.

4.2 How have informal and low-cost rental markets changed during COVID-19?

The chronic shortage of affordable rental housing meant that lower income earners have been increasingly dependent on marginal and informal housing in the pre-COVID-19 period. This Scoping Project has revealed that despite international travel restrictions and the reduction in NOM during the pandemic, there has been an ongoing demand for, and supply of, these housing types in Sydney. These range from accommodation supplied directly by a landlord (such as secondary dwellings or rooms within the landlord's home) through to boarding house and share houses. NOM is likely to remain at low levels while Australia's borders remain closed for the foreseeable future, however this drop in demand for rental housing may not be sufficient to affect rental supply and affordability in the long-term. Further, the significant reduction in JobSeeker payments from 25 September 2020, and JobKeeper payments from 28 March 2021, will have a disruptive effect on rental markets, and in particular the informal rental sector.

Again, actively expanding the supply of affordable rental housing, for instance, through social housing construction or headleasing, is a critical strategy for reducing dependence on informal and potentially substandard rental options.

Existing NSW Government planning policies intended to increase the supply of low-cost and affordable rental accommodation, for instance, through new boarding house and secondary dwelling developments, have not demonstrably penetrated this sector of the market. Future policy efforts should ensure that schemes involving planning concessions or incentives for diverse rental accommodation are more effectively targeted to lower income earners and offered at affordable rents.

4.3 How have changes in demand for STR housing impacted rental vacancy rates and affordability? Could STR stock be used for emergency housing?

The reduced demand for tourist accommodation during the COVID-19 pandemic represented an ideal opportunity to examine the impacts of losses/gains from short-term Airbnb-style housing for permanent rental markets. Focussing specifically on the high demand rental markets of Sydney and Hobart, it is clear that the withdrawal of homes from the STR platform has contributed to an easing of vacancy rates in both cities, with flow on impacts for rents.

However, when demand for tourist accommodation resumes in Sydney and Hobart, it is likely that pressure on permanent rental housing will also increase. For this reason, it is important that state governments enable local authorities to implement appropriate local regulations to preserve permanent rental housing supply.

Prevention of short-term renting of permanent residences in high demand local housing markets, or a permit system for STR units, capping the number of permits at a proportion of the existing rental market, would provide options for housing market locations. These approaches would have the advantage of better regulating and monitoring tourism within residential accommodation.

In the NSW South Coast area of Shoalhaven, where tight rental market conditions have been exacerbated by the 2019–20 bushfires, STR accommodation equates to over 20 per cent of the housing stock. As noted, previous research has indicated that second home ownership has long been a feature of Shoalhaven, implying low interchangeability between short and long-term rental accommodation in this locality. Nevertheless, facilitated access to STR accommodation through holiday rental management firms may assist in providing emergency rental housing for priority groups in the Shoalhaven area.

4.4 Priorities for further research

This scoping study exposes a need for better data to inform efforts to assist people living in marginal, informal, or inadequate housing, and to improve conditions in the private rental sector. Further research is needed to:

- monitor changes in demand and supply of informal housing types offered in the private rental market and share housing sector
- examine the relationship between health risks and safety hazards in Australia's rental housing stock
- examine the relationship between employment types and substandard or precarious rental housing stock
- develop appropriate strategies to improve standards and rental protections in informal accommodation types, and increase the supply of appropriate and affordable forms of lower cost rental housing types
- better understand the needs of international students and options for better serving them with adequate housing, information, and support, and
- monitor and regulate the STR sector, and intersections with the permanent housing market.

4.5 Final remarks

The requirement for all individuals in Australia to remain at home, or the next best equivalent, for their own health and that of the wider community, has revealed the disparities between who has access to 'healthy' housing and who does not, and also the inefficiencies and inadequacies in the current allocation of adequate rental housing. However, these inefficiencies are no longer solely a problem for individuals, but present health risks for the entire population.

In areas with high concentrations of STR Airbnb-style listings, even small reductions in the number of listings have generated benefits to the permanent rental market including significant reductions in rent. These benefits should be encouraged through stronger mechanisms to preserve permanent rental housing in high demand markets. At the same time, there may be opportunities to better use residential tourist accommodation during emergency periods. Better understanding and regulating the STR sector would support more flexible and efficient use of the entire housing stock.

Overall, adequate income support, along with long-term growth of social and affordable rental housing supply, will eliminate the need for vulnerable and lower income groups to accept unsuitable or unsafe accommodation. The health and economic outcomes arising from a safer and more equitable housing system will benefit us all.

References

- Abrams, E.M. and Szefler, S.J. (2020) 'COVID-19 and the impact of social determinants of health', *The Lancet: Respiratory Medicine*, vol. 8, no. 7: 659–661, doi:10.1016/S2213-2600(20)30234-4.
- ABS (2016) *Census of Population and Housing 2016*, Tablebuilder. Australian Bureau of Statistics, Canberra.
- ABS (2012a) 2049.0.55.001—*Information Paper—Methodology for estimating homelessness from the Census of Population and Housing*, Australian Bureau of Statistics, Canberra.
- ABS (2012b) 4922.0—*Information Paper—A Statistical Definition of Homelessness, 2012*, Australian Bureau of Statistics, Canberra.
- ABS (2018) 2049.0—*Census of Population and Housing: Estimating Homelessness, 2016*, Australian Bureau of Statistics, Canberra.
- ABS (2020) *Regional Population Growth Australia, 2018-19*, cat. no. 3218.0, Australian Bureau of Statistics, Canberra.
- Ahmad, K., Erqou, S., Shah, N., Nazir, U., Morrison, A., Choudhary, G. and Wu, W.-C. (2020) 'Association of poor housing conditions with COVID-19 incidence and mortality across US counties', *Medical Letter on the CDC & FDA*, vol. 156, doi: 10.1101/2020.05.28.20116087.
- Ahrentzen, S. (2003) 'Double indemnity or double delight? The health consequences of shared housing and "doubling up"', *Journal of Social Issues*, vol. 59, no. 3: 547–568. doi:10.1111/1540-4560.00077.
- Airbnb (2020a) *Aussie hosts offer over 5500 places to stay for COVID-19 responders* [Online], <https://news.airbnb.com/en-au/aussie-hosts-offer-over-5500-places-to-stay-for-covid-19-responders/>, accessed 31 August 2020.
- Airbnb (2020b) *Party and events policy* [Online], https://www.airbnb.com.au/help/article/2704/party-and-events-policy?set_bev_on_new_domain=1598530742_1FeU5YzLuFZhHu2H, accessed 27 August 2020.
- Ali, S.H., Foster, T. and Hall, N.L. (2018) 'The relationship between infectious diseases and housing maintenance in Indigenous Australian households', *International Journal of Environmental Research and Public Health*, vol. 15, no. 12, 2827, doi:10.3390/ijerph15122827.
- Baggett, T.P., Lewis, E. and Gaeta, J.M. (2020) 'Epidemiology of COVID-19 among people experiencing homelessness: early evidence from Boston', *Annals of Family Medicine*, COVID-19 Collection, <http://hdl.handle.net/2027.42/154734>.
- Baggett, T.P., Liauw, S. S. and Hwang, S. W. (2018) 'Cardiovascular Disease and Homelessness', *Journal of the American College of Cardiology*, vol. 71, no. 22: 2585–2597, doi:10.1016/j.jacc.2018.02.077.
- Baggett, T.P., Racine, M.W., Lewis, E., De Las Nueces, D., O'Connell, J.J., Bock, B. and Gaeta, J.M. (2020) 'Addressing COVID-19 among people experiencing homelessness: description, adaptation, and early findings of a multiagency response in Boston', *Public Health Reports (1974)*, vol. 135, no. 4: 435–441, doi:10.1177/0033354920936227.
- Baker, E., Lester, L., Beer, A. and Bentley, R. (2019) 'An Australian geography of unhealthy housing', *Geographical Research*, vol. 57, no. 1: 40–51, doi:10.1111/1745-5871.12326.
- Baker, E., Mason, K., Bentley, R. and Mallett, S. (2014) 'Exploring the bi-directional relationship between health and housing in Australia', *Urban Policy and Research*, vol. 32, no. 1: 71-84, doi: 10.1080/08111146.2013.831759.
- Bell, F. (2020) 'Coronavirus fears see Malaysian student evicted from Perth share house by landlord', *ABC News*, 12 February.
- Bevan, J. (2020) 'Opportunity knocks. Real estate liftout', *Hobart Mercury*, 30 July: 3.
- Booth, A. and Carroll, N. (2005) *Overcrowding and Indigenous health in Australia*, Discussion Paper no. 498, Australian National University Centre for Economic Policy Research, Canberra.
- Chalmers, S. (2020) 'Rental listings surge, rents head in opposite direction, as thousands of Airbnbs tipped to add to supply', *ABC News*, 30 April.

- Chisholm, E., Howden-Chapman, P. and Fougere, G. (2018) 'Tenants' responses to substandard housing: hidden and invisible power and the failure of rental housing regulation', *Housing, Theory and Society*, vol. 37, no. 2: 1–23, doi:10.1080/14036096.2018.1538019.
- Cosnard, D. and Guillou, C. (2020) 'Airbnb: the City of Paris offensive, wait-and-see owners', *Le Monde*, 8 July.
- Cox, M. (2016) *About Inside Airbnb* [Online], Inside Airbnb, <http://insideairbnb.com/about.html>, accessed 19 October 2020.
- Deloitte (2018) *Analysis of the Impact of Raising the Rates of Newstart and other Allowances Rates*, Report to the Australian Council of Social Service, Deloitte Access Economics, Melbourne.
- Department of Education Skills and Employment (2020) *June 2020 International Student Data Sources, Research Snapshot, August 2020*, Commonwealth Department of Education, Skills and Employment, Canberra.
- Department of Health (2020) *Self-isolation (self-quarantine) for coronavirus (COVID-19)* [Online], <https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/how-to-protect-yourself-and-others-from-coronavirus-covid-19/self-isolation-self-quarantine-for-coronavirus-covid-19>, accessed 23 April 2020.
- Emeruwa, U.N., Ona, S., Shaman, J.L., Turitz, A., Wright, J.D., Gyamfi-Bannerman, C. and Melamed, A. (2020) 'Associations between built environment, neighborhood socioeconomic status, and SARS-CoV-2 infection among pregnant women in New York City', *Journal of the American Medical Association*, vol. 324, no. 4: 390–392, doi:10.1001/jama.2020.11370.
- FACS (2020) *Rent and Sales Report. Quarterly Report on NSW Housing Market Conditions*, Family and Community Services, NSW Government, Online.
- Foley, M. (2020) 'Stay home': holiday town residents tell Melburnians to stay away, *The Age*, 4 April.
- Foster, T. and Hall, N.L. (2019) 'Housing conditions and health in Indigenous Australian communities: current status and recent trends', *International Journal of Environmental Health Research*: 1–19, doi:10.1080/09603123.2019.1657074.
- Gaeta, J.M., De Las Nueces, D., Munson, D.G., Barocas, J.A. and Walsh, K.E. (2020) 'Case 21-2020: a 66-year-old homeless man with Covid-19', *The New England Journal of Medicine*, vol. 383, no. 2: 170–178, doi:10.1056/NEJMcpc2002421.
- Gallagher, H.L., Doherty, A.Z. and Obonyo, M. (2020) 'International student experiences in Queensland during COVID-19', *International Social Work*, doi:10.1177/0020872820949621.
- Goodman, R., Nelson, A., Dalton, T., Cigdem, M., Gabriel, M. and Jacobs, K. (2013) *The experience of marginal rental housing in Australia*, AHURI Final Report No. 210, Australian Housing and Urban Research Institute Limited, Melbourne, <https://www.ahuri.edu.au/research/final-reports/210>.
- Gurran, N., Maalsen, S. and Shrestha, P. (forthcoming) 'Is 'informal' housing an affordability solution for expensive cities? Evidence from Sydney, Australia', *International Journal of Housing Policy*.
- Gurran, N., Milligan, V., Rowley, S., Randolph, B., Phibbs, P., Gibb, K., Gilbert, C., Troy, T. and van den Nouwelant, R. (2017) *Increasing affordable housing supply: evidence-based principles and strategies for Australian policy and practice*, AHURI discussion paper series AHURI, Melbourne.
- Gurran, N. and Phibbs, P. (2017) 'When tourists move in: How should urban planners respond to Airbnb?', *Journal of the American Planning Association*, vol. 83, no. 1: 80–92, doi:10.1080/01944363.2016.1249011.
- Gurran, N., Pill, M. and Maalsen, S. (2020) 'Hidden homes? Uncovering Sydney's informal housing market', *Urban Studies*, doi:10.1177/0042098020915822.
- Gurran, N., Pill, M., Maalsen, S., Alizadeh, T., Shrestha, P., Phibbs, P. and Iveson, K. (2019) *Informal Accommodation and Vulnerable Households in Metropolitan Sydney: Scale, Drivers and Policy Responses*, Sydney Policy Lab, Sydney.
- Gurran, N. and Sadowski, J. (2019) 'Regulatory combat? How the 'sharing economy' is disrupting planning practice', *Planning Theory & Practice*, vol. 20, no. 2: 271–275, doi: 10.1080/14649357.2019.1599612.
- Gurran, N., Zhang, Y. and Shrestha, P. (2020) "'Pop-up' tourism or 'invasion'? Airbnb in coastal Australia", *Annals of Tourism Research*, vol. 81: 102845, doi:10.1016/j.annals.2019.102845.
- Gurran, N., Zhang, Y., Shrestha, P. and Gilbert, C. (2018) *Planning Responses to Online Short-term Holiday Rental Platforms*, The University of Sydney, Sydney.
- Harris, R. (2018) 'Modes of informal urban development: a global phenomenon', *Journal of Planning Literature*, vol. 33, no. 3: 267–286, doi:10.1177/0885412217737340.

- Horn, K. and Merante, M. (2017) 'Is home sharing driving up rents? Evidence from Airbnb in Boston', *Journal of Housing Economics*, vol. 38: 14–24, doi:10.1016/j.jhe.2017.08.002.
- Hulse, K., Reynolds, M., Parkinson, S., Nygaard, A. and Yates, J. (2019) 'The supply of affordable private rental housing in Australian cities: short and longer term changes', AHURI Final Report No. 323, AHURI Final Report Series, AHURI Melbourne, <https://www.ahuri.edu.au/research/final-reports/323>, doi:10.18408/ahuri-5120101.
- Inside Airbnb (2020) *Inside Airbnb* [Online], www.insideairbnb.com, accessed 31 August 2020.
- Johnson, H.S. (2020) 'Positive but insufficient step: Paris attempts to tackle illegal Airbnb rentals', *Global Travel Industry News*, 28 July.
- Kitchin, R. (2017) 'Big data—hype or revolution', in L. Sloan, and A. Quan-Haase (eds), *The SAGE Handbook of Social Media Research Methods*, SAGE Publications, London: 27–39.
- Lyth, A., Peterson, C. and Perez, C.P. (2019) *University of Tasmania Travel Behaviour Survey 2019*, University of Tasmania, Tasmania.
- Martin, C. (2015) 'The informal lodging sector in NSW: a regulatory blind spot', *City Futures Blog*, <http://blogs.unsw.edu.au/cityfutures/blog/2015/09/the-informal-lodging-sector-in-nsw-a-regulatory-blind-spot/>.
- Martin, C. (2019) *Boarding houses in New South Wales: growth, change and implications for equitable density, a research report for Shelter NSW*, Shelter Brief No. 64, City Futures Research Centre and Shelter NSW, Sydney.
- Medina, F. (2020) 'After coronavirus, Lisbon is replacing some Airbnbs and turning holiday rentals into homes for key workers', *Independent*, 4 July.
- Mousseau, M. (2013) 'H1N1 in retrospect: a review of risk factors and policy recommendations', *The International Indigenous Policy Journal*, vol. 4, no. 2: 1–9, doi:10.18584/iipj.2013.4.2.4.
- Nasreen, Z. and Ruming, K. (2019) 'Room sharing in Sydney: a complex mix of affordability, overcrowding and profit maximisation', *Urban Policy and Research*, vol. 37, no. 2: 151–169, doi:10.1080/0811146.2018.1556632.
- National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners (2018) *National Guide to a Preventive Health Assessment for Aboriginal and Torres Strait Islander People*, 3rd edition, RACGP, East Melbourne, Victoria.
- Navajo Department of Health (2020) *Dikos Ntsaaigii-19 (COVID-19)* [Online], <https://www.ndoh.navajo-nsn.gov/COVID-19>, accessed 27 August 2020.
- NCDC (2020) *Risk for severe illness increases with age* [Online], <https://www.cdc.gov/coronavirus/2019-ncov/images/need-extra-precautions/high-risk-age.jpg>, accessed 27 August 2020.
- Ng, K., Poon, B.H., Kiat Puar, T.H., Shan Quah, J.L., Loh, W.J., Wong, Y.J., Tan, T.Y. and Raghuram, J. (2020) 'COVID-19 and the risk to health care workers: a case report', *Annals of Internal Medicine*, vol. 172, no. 11: 766–767, doi:10.7326/L20-0175.
- Nolan, D. (2020) 'Talking point: Tasmanians are heading back to Airbnb', *Hobart Mercury*, 25 July.
- NSW Communities and Justice (2020) *List Your Holiday Home to Help A Neighbour*, NSW Government, Sydney.
- NSW Fair Trading (2020) *Residential Tenancy Moratorium on Evictions during COVID-19* [Online], NSW Fair Trading, https://www.fairtrading.nsw.gov.au/resource-library/publications/coronavirus-covid-19/property/moratorium?fbclid=IwAR0e6j0GoL1_qJ5ubNf05S4Ifp2Fn8t-A--GDIMoHkLzLmO_7mvTgfXcjoc, accessed 31 August 2020.
- NSW Health (2010) *Closing the Gap: 10 years of Housing for Health in NSW*, NSW Department of Health, Sydney.
- NSW Real Estate Institute (2020) *Rental Vacancy Rates* [Online], https://www.reinsw.com.au/Web/Members/Property_data/Vacancy_Rates_Survey.aspx, accessed 31 August 2020.
- Owen, E. (2020) *Housing Affordability Report. Rental Market Report, June Quarter 2020: Special COVID-19 Edition*, Core Logic, ANZ Bank.
- Parkinson, S., James, A. and Liu, E. (2018) *Navigating a changing private rental sector: opportunities and challenges for low-income renters*, AHURI Final Report No. 302, Australian Housing and Urban Research Institute, Melbourne, <http://www.ahuri.edu.au/research/final-reports/302>, doi: 10.18408/ahuri-5112301.
- Pawson, H., Parsell, C., Saunders, P., Hill, T. and Liu, E. (2018) *Australian Homelessness Monitor 2018*, Launch Housing and City Futures, Sydney.
- Phibbs, P. (2018) *AirBnB and Rental Markets—Evidence from Australia*, paper presented at the Annual Meeting of the American Public Policy Association, Washington DC.

- Productivity Commission (2019) *Vulnerable Private Renters: Evidence and Options*, Commission Research Paper, Productivity Commission, Canberra.
- Promislow, D.E.L. (2020) 'A geroscience perspective on COVID-19 mortality', *The Journals of Gerontology: Series A*, doi:10.1093/gerona/glaa094.
- Reserve Bank of Australia (2020) *Minutes of the Monetary Policy Meeting of the Reserve Bank Board*, 1 September, Sydney.
- Rizhlaine, F. (2020) 'Airbnb: Paris City Hall offers an arrangement for illegal rentals', *Sortira Paris*, 3 August.
- Saunders, T. and Tulip, P.R.B. o.A. (2019) *A Model of the Australian Housing Market*, Research Discussion Paper 19-01, Reserve Bank of Australia, Online.
- SGS (2018) *What Impact does Airbnb have on the Sydney and Melbourne Housing Markets?* SGS Economics and Planning, Online, <https://www.sgsep.com.au/projects/airbnb-impact-on-sydney-and-melbourne-housing-markets>.
- Snyder, L.D. and Eisner, M.D. (2004) 'Obstructive lung disease among the urban homeless', *Chest*, vol. 125, no. 5: 1719–1725, doi:10.1378/chest.125.5.1719.
- SQM (2020) *Rental Vacancy Rates*. [Online], <http://sqmresearch.com.au>, accessed 31 August 2020.
- Stubbs, J. (2016) *Shoalhaven Affordable Housing Strategy*, Judith Stubbs & Associates, Bulli.
- Thompson, A. (2020) 'Emergency doctor told to leave share house over COVID-19 fears', *Sydney Morning Herald*, 20 April 2020.
- Troy, L., Van den Nouwelant, R. and Randolph, B. (2018) *State Environmental Planning Policy (Affordable Rental Housing) 2009 and Affordable Housing in Central and Southern Sydney*, City Futures and SSROC, Sydney.
- TUTAS (2020a) *Number of New Rental Bonds in Hobart and Four Inner Hobart LGAs*, unpublished data (based on data from the Tasmanian Rental Deposit Authority).
- TUTAS (2020b) *Tasmanian Rents, June Quarter 2020*, report of the Tenants Union of Tasmania (based on data from the Tasmanian Rental Deposit Authority).
- UTAS (2020) University of Tasmania Academic Senate, Agenda and Papers, May 2020.
- Vacha, E.F. and Marin, M.V. (1993) 'Doubling up: low-income households sheltering the hidden homeless', *The Journal of Sociology & Social Welfare*, vol. 20, no. 3: 25–41, <https://scholarworks.wmich.edu/jssw/vol20/iss3/3>.
- Victorian Government (2020a) *Help and Support for Healthcare Workers—Coronavirus (COVID-19)* [Online], <https://www.dhhs.vic.gov.au/help-and-support-healthcare-workers-coronavirus-covid-19>, accessed 30 July 2020.
- Victorian Government (2020b) *Multi-dwelling Properties with Shared Facilities Guidelines for Coronavirus (COVID-19): Stage 3 and Stage 4 Restrictions*, Victorian Government, Melbourne.
- Watson, M. (2020) 'Disrupting the disruptors: how Covid-19 will shake up Airbnb', *The Guardian*, 6 April.
- WHO (2018) *WHO Housing and Health Guidelines*, World Health Organization, Geneva.
- WHO (2020) *Transmission of SARS-CoV-2: Implications for Infection Prevention Precautions*, Scientific Brief, World Health Organization, Geneva.
- Yashadhana, A., Pollard-Wharton, N., Zwi, A.B. and Biles, B. (2020) 'Indigenous Australians at increased risk of COVID-19 due to existing health and socioeconomic inequities', *The Lancet: Regional Health*, doi: 10.1016/j.lanwpc.2020.100007.
- Zakalik, I. (2020) 'Companies, homeowners step up to provide short-term housing for health care workers in need', *WFAA-TV*, 15 April.
- Zhang, Y. and Gurrán, N. (2020) *Understanding the Share Housing Sector: A Geography of Group Housing Supply in Metropolitan Sydney*, Working Paper, Urban Housing Lab, Sydney.



Australian Housing and Urban Research Institute

Level 12, 460 Bourke Street

Melbourne VIC 3000

Australia


+61 3 9660 2300

information@ahuri.edu.au

ahuri.edu.au

 twitter.com/AHURI_Research

 facebook.com/AHURI.AUS

 Australian Housing and Urban Research Institute