FINAL REPORT NO. 382

How many in a crowd? Assessing overcrowding measures in Australian housing

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Acronyms and abbreviations used in this report

ABS   Australian Bureau of Statistics

AHURI   Australian Housing and Urban Research Institute Limited

AIHW   Australian Institute of Health and Welfare

APY   Anangu Pitjantjatjara Yankunytjatjara

ATSI   Aboriginal and Torres Strait Islanders

BNLA   Building a New Life in Australia

CALD   Culturally and linguistically diverse

CNOS   Canadian National Occupancy Standard

DSS   Department of Social Services (Australian Government)

HILDA   Household, Income and Labour Dynamics in Australia Survey

K6   Kessler 6-item Psychological Distress Scale

K10   Kessler 10-item Psychological Distress Scale

NAHA   National Affordable Housing Agreement

SCRGSP   Steering Committee for the Review of Government Service Provision

The use of terminology and quotes

In some instances in our reporting, we distinguish between the views of 'stakeholders' who were interviewed and the views of 'householders' who were interviewed. In other instances, we do not. Where the report mentions 'respondents' and does not differentiate between stakeholders and householders further, the reader should assume that both stakeholders and householders raised the issues as frequently as each other. Where the report mentions either 'stakeholders' or 'householder' the reader should assume that what is written applies only to this named group.

In our reporting, we do not identify respondents (either by their name and/or by their organisation). Instead, we use SH for a stakeholder interview, A for an Indigenous householder interview, and C for a CALD householder interview. A suffix follows which consists of the number of the interview. For the householder interviews we also indicate the site of the interview ('AS' for Alice Springs, 'ADL' for Adelaide, 'APY' for Anangu Pitjantjatjara Yankunytjatjara, and 'SYD' for Sydney). This way we preserve the anonymity of all respondents, while allowing the reader to follow an individual's views using the category prefix, the number of the interview, and the location suffix.

Please note that when describing the views of respondents, terms such as 'perceived', 'considered' and 'reported' have been used interchangeably. In addition, the terms 'most' and 'many' have been used when a majority of respondents expressed a viewpoint. Likewise, the term 'some' was used when a sizeable minority of respondents shared an opinion. Finally, the terms 'a few' and 'several' were used interchangeably when only a minority of respondents expressed an opinion.

Executive summary

Key points

- Given the importance of housing in shaping life's outcomes and the significant public investment in housing assistance, it is critical that policy is guided by measures of overcrowding that meaningfully reflect housing adequacy.

- Very few Australians live in housing that could be considered overcrowded. The norm is for households to have spare bedrooms. Over 90 per cent of the population live in homes with at least one bedroom per couple or unpartnered occupant.

- Despite this, there are groups within our society prone to experiencing overcrowding, leading to a range of substantial adverse consequences. These include Aboriginal and Torres Strait Islander people, people from CALD (culturally and linguistically diverse) backgrounds, of lower socio-economic backgrounds and women escaping domestic violence situations, among others.

- The relationship between household occupant density and occupant wellbeing is highly nuanced. There is both a conceptual and empirical disconnect between current measures of overcrowding and actual experiences of excessive density.

- For many purposes of policy and practice, measures of overcrowding based on simple metrics of household composition and number of bedrooms cannot adequately discriminate between crowded and uncrowded households. This includes the commonly used Canadian National Occupancy Standard (CNOS). Qualitative and quantitative evidence reject the validity of the assumptions underlying the CNOS.

- Measurement challenges include the conflation of the effects of occupancy and density; differential effects within and between households; and opposing positive and negative effects of higher density. Positive impacts of living in a large, well-functioning household include caring for family members, strengthened family ties, promotion of cultural identity, and financial benefits. Negative impacts include lack of privacy, noise, antisocial behaviour, health and wellbeing concerns, and family strain.

- For targeted groups, overcrowding needs to be reframed away from a density measure to instead capture the subjective reaction to living in a crowded environment, as well as indicators of household functioning as a key moderator.

- In large scale surveys, measurement of crowding may be improved by incorporating wider measures of available space and facilities in the household, rather than focussing on the number of bedrooms; and accounting for the adverse effects of multiple family units.

Key findings

Key channels through which higher household density impacts upon occupants' psychological wellbeing are through over-stimulation, loss of a sense of a locus of control and of lack of privacy. Interviews with stakeholders and householders highlighted shortcomings of the CNOS as an indicator of overcrowding due to its inability to account for cultural differences in norms around shared living and sleeping arrangements, notably for people from Indigenous backgrounds, the failure to account for the capacity of different households to manage higher occupant numbers, and whether living in a large household is an active choice.

The relationships between household density and selected measures of wellbeing were explored through extensive quantitative modelling using 19 annual waves of data from the *Household, Income and Labour Dynamics in Australia* (HILDA) survey. It also included an additional analysis of data for humanitarian migrants from five waves of the *Building a New Life in Australia* (BNLA) survey. The objective of the modelling was to provide a better understanding of the levels and circumstances at which household density levels are associated with adverse impacts on wellbeing as a guide to validating and improving measures of overcrowding.

We find the relationship between household density and occupant wellbeing to be highly nuanced. Often, negative associations between occupant density and wellbeing are observed at very low levels of density (that is, in uncrowded households), but this gradient flattens and even becomes positive at higher levels of density. This is contrary to theoretical expectations. Key findings contributing to the complexity of these relationships include:

- For the general adult population, on average there is a decline in wellbeing as the number of occupants in a household increases above two, leading to conflation of the effects of occupancy and density.

- The simple count of household occupants or density ratios to bedrooms generally perform better than the CNOS in explaining variation in mental health, psychological distress, physical health and people's satisfaction with their home. This implies the assumptions embodied in the CNOS on appropriate sharing of bedrooms, conditional on age and gender, have limited validity when it comes to distinguishing between crowded and uncrowded households.

- Adverse associations between higher household density and wellbeing apply primarily to parents, with small and even positive associations for other adult occupants.

- Multiple families living in the same home has a substantial negative impact on occupants' wellbeing in addition to any effect on household density.

- Following insights from the qualitative interviews, we tested for differential effects of crowding by household functioning. Even using a rudimentary proxy of family functioning, based on satisfaction with intra-family relationships, we confirm this to be a significant moderator. Well-functioning households have a greater capacity to manage higher occupant density.

- The strongest evidence of occupant density translating to overcrowding is obtained from estimating the effect of a higher number of occupants for homes with a fixed number of bedrooms, and vice versa. Adverse associations between occupancy and mental wellbeing are strongest in smaller (2-bedroom) homes. For the application of the CNOS as an indicator of overcrowding, this suggests extra bedrooms required should be given greater weight for smaller homes.

- Australians have strong preferences for more bedrooms. Models of people's satisfaction with their home imply four or five-bedroom homes are preferred, even for households with just two or three people.

- Australians of Asian background live in higher density households but little support is found for the hypothesis that cultural norms leave them less sensitive to impacts of higher density. Evidence from the BNLA suggests that recent humanitarian migrants are significantly more likely to live in crowded housing, and wellbeing increases with household density beyond levels that would normally be considered as overcrowding.

The experiences of people from CALD (culturally and linguistically diverse) and Indigenous backgrounds living in overcrowded households were further explored in the qualitative interviews. Three primary living arrangements identified as common among overcrowded houses were large nuclear families or extended family groupings, having visitors come to stay (particularly for Indigenous households), and house share arrangements (particularly for CALD households).

Key reasons for those families and people living in overcrowded housing included lack of availability of appropriate housing, compounded by difficulties accessing public housing, and discrimination in the private rental market. Cultural norms and obligations contribute to overcrowding for some people from CALD and Indigenous backgrounds. For the latter, visitors were often related to Indigenous mobility between remote communities and regional and urban centres for the purposes of accessing services.

The interviews revealed substantial negative effects associated with overcrowding, including lack of privacy, excessive noise, incidents of antisocial behaviour, child safety and wellbeing concerns, increased housework, food theft, and family and financial strain. Family strain heightened by overcrowding can lead to irrevocable relationship breakdowns and family violence. Service providers are also impacted by having to manage additional repairs and maintenance, provision of intensive tenancy support and the need to reallocate tenants. Some positive effects of larger households were noted, including caring for family members, strengthened family ties, promotion of cultural identity, companionship and financial benefits. The realisation of these benefits generally relies on the household being well-functioning.

Potential measures to address overcrowding are identified at a systems and service-level. Systems-level measures primarily need to address the supply of appropriate and affordable housing, and tenant-to-property allocation processes. These include increasing the level and diversity of the housing stock, more efficient repairs and maintenance, and addressing rental market failures. At the service-level, housing providers play a key role in maximising the use of existing housing capacity, sourcing alternative accommodation, and providing or linking tenants to needed services. Greater staffing and funding would enhance the capability of housing and service providers to manage and mitigate the incidence and adverse effects of overcrowding. A number of stakeholders advocated for community-controlled housing organisations, particularly servicing Aboriginal communities, as a model to provide more culturally appropriate management of overcrowding.

Policy and practice implications for measuring overcrowding

A key finding of this research is that, due to the complex and nuanced relationship between household density and overcrowding, current measures of overcrowding based on readily observable objective variables, such as household composition and the number of bedrooms, will have at best a tenuous link to actual experiences of crowding. This includes the CNOS, the most widely used indicator of overcrowding. Further, we find the assumptions embodied in the CNOS on who can reasonably share a bedroom conditional on their age, gender and relationships status, have little validity for identifying crowdedness. In fact, we are sceptical that any measure based on such readily observable metrics will accurately identify households suffering adverse impacts of crowding, except perhaps at the extremes of the distribution.

The implications of these assessments depend critically on what purpose measures of overcrowding are to be used for. Practitioners, policy makers, and the data providers that support them face a number of constraints and trade-offs in measuring crowding. These trade-offs can be considered with respect to a continuum ranging from, at one end, large-scale surveys collecting readily observable measures of density that can be generalised to the population and key demographic groups; through to detailed qualitative studies collecting subjective information on crowding from household occupants, at the other end; with targeted collections for vulnerable populations that might draw on some combination of the two somewhere in-between. The essence of the problem lies in the fact that ease of measurement makes household density a preferred proxy for crowding over resource-intensive qualitative studies; but density has a very tenuous link to crowding.

For descriptive statistics and analyses of general trends, it is not so critical that some overcrowded houses are misclassified as not crowded, and vice versa. Misclassification is a much greater concern, however, if the measure of overcrowding is to be used to assess the extent of housing need of vulnerable groups or for targeting funding and assistance to households.

Potential approaches to develop more effective indicators of overcrowding and unmet housing demand in large-scale surveys include:

- the incorporation of data that provide a more robust indicator of the adequacy of living space than just the number of bedrooms—this may include floor space, the number of rooms, the number of bathrooms and toilets and, for households with children, outdoor play spaces, and

- accounting for the presence of multiple families in the household.

For measures applied to targeted groups or for assessing the needs of individual households, such as for the purposes of allocating housing or other social assistance, the measurement of overcrowding needs to be reframed away from density measures to instead try and capture personal and subjective reactions to living in a crowded environment.

This calls for qualitative, rather than quantitative, approaches, or at least some combination of the two. This requires the development of instruments that capture key channels of adverse consequences of excessive density on wellbeing, including feelings of a lack of privacy, loss of a locus of control, symptoms of over-stimulation (such as sleeping difficulties, excessive noise) and risks to safety for children, women and other vulnerable household members. As a key moderator, assessing family or household- functioning would also provide valuable information on overcrowding risks.

Recognising that there are both positive and negative effects of increasing household occupancy and density, there is also a need to ascertain whether living in a large household is an active choice that meets their needs or if this arrangement has been imposed upon them due a lack of alternatives.

It is critical that culturally-specific measures are developed for Indigenous households, which take into account cultural norms for sharing living and sleeping spaces, as well as the regularity of visitors and obligations to accommodate extended kinship networks. Obtaining an assessment of actual housing demand would also be useful for future policy and practice.

The study

This study uses mixed methods research to evaluate the appropriateness of existing approaches to measuring overcrowding and provides evidence to guide the development of improved measures. Conceptualising overcrowding as situations in which excessive occupant density within households adversely impacts upon occupants' psychological wellbeing, we extensively explore the relationships between density levels within Australian households and occupant wellbeing. This exploration required empirical analyses of existing datasets and in-depth interviews with key stakeholder organisations and a targeted sample of persons living in crowded housing.

The quantitative analyses drew on data from 19 waves of the annual HILDA panel survey. The HILDA data enabled the construction of a number of measures of occupant density, including replication of the most commonly used measure of overcrowding, the CNOS. The relationships between these household-level variables and a range of individual outcomes were estimated using a number of alternative specifications and for different groups within the population by relationship status, gender, and ethnic background. This was supplemented by analyses of panel data from the BNLA to provide a further focus on humanitarian migrants, a group known to face challenges in securing appropriate housing and who typically live in higher density households.

The qualitative research was based on 21 interviews with stakeholder organisations and 85 interviews with people living in crowded households: 43 with Indigenous householders from the APY Lands, Alice Springs Town Camps and metropolitan Adelaide; and 42 with people from CALD backgrounds from Alice Springs, Adelaide and the Western Sydney area. The interviews explored patterns of living arrangements, factors driving crowding, people's subjective experiences of crowding, the consequences of crowding (both negative and positive), and strategies to manage crowding.

1. Introduction

- Access to adequate housing is a critical element of Australia's socio-economic framework and, in turn, the adequacy of space for the number of occupants in a household is an important element of housing adequacy.

- Crowding in households disproportionately affects low-income families, Indigenous Australians and those from CALD backgrounds, specifically recent migrants. People in severe overcrowding can be considered a special group of homeless.

- It is critical that policy is guided by measures of overcrowding that meaningfully reflect housing adequacy. However, there is a fundamental misalignment between existing measures of overcrowding, which are based on objectively determined quanta, and the concept of crowding, which is a subjective response to feelings of excessive density.

- Following a mixed methods approach, this research assesses existing measures of overcrowding, explores the conceptual basis for redefining overcrowding, and recommends approaches to data collection to support the improved measurement of overcrowding consistent with policy objectives.

1.1 Policy context

Housing plays an important role in peoples' personal and family lives and in facilitating their functioning as a member of society. The house in which people live provides the scaffolding around their private spaces, the spaces in which interactions between family and other household members take place, and connections to the wider community and resources, such as neighbours, schools, public transport, shops and the labour market. The importance of adequate housing in shaping people's outcomes is evident in the very large share of personal income and wealth invested in housing, and also makes housing a critical element of countries' social and equity policy frameworks. Australian governments spend over $4 billion annually on social or public housing encompassing around 500,000 properties. In 2017–18 the Commonwealth contributed $2 billion through the National Affordable Housing Agreement (NAHA), and a further $4.4 billion in Commonwealth Rent Assistance.

The underlying aim of such programs is to provide people with housing that meets their needs. However, the multifaceted role of housing leads to a range of criteria upon which the 'adequacy' of housing is assessed for a given set of occupants that goes beyond direct 'shelter' outcomes of offering protection from the elements. Some attributes commonly considered include affordability or 'affordability stress'; stability or security of tenure; physical state of repair; crowding and various aspects of amenity of the surrounding neighbourhood. This report looks at one particular aspect of housing adequacy in the Australian context—the space available given the occupancy of the home, where occupancy takes into account both the number and mix of people living in the home.

In Australia, the issue of crowding (or 'overcrowding') attracts considerable attention in housing policy discourse. Several key policy frameworks include objectives to reduce overcrowding, including the NAHA and Overcoming Indigenous Disadvantage (SCRGSP 2016a, 2016b, 2019). Groups known to be disproportionately affected by crowding include low-income families, Indigenous Australians and those from culturally and linguistically diverse (CALD) backgrounds, particularly recent migrants (Brackertz, Davison et al. 2019). The 2016 Census indicates that 22,588 migrants were experiencing overcrowding, and most of these had arrived in Australia after 2011 (Council to Homeless Persons 2018). People in severe overcrowding can be considered a special group of homeless, given their lack of control over, or access to, space for social relations (Memmott, Birdsall-Jones et al. 2012; ABS 2018; Brackertz, Davison et al. 2019). Children and education outcomes may be particularly susceptible to negative effects of overcrowding (Dockery, Ong et al. 2013; Bourassa, Haurin et al. 2016).

Hence, it is critical that policy is guided by measures of overcrowding that meaningfully reflect housing adequacy. How overcrowding is defined and measured has important implications for funding requirements, the appropriate mix of housing stock given household structures, and rules for allocating families to public and community housing. However, few, if any, of the measures commonly used as indicators of the incidence or severity of household crowding in Australia actually measure crowding directly. All measures that we are aware of are ultimately based on occupant density—some configuration of the ratio of occupants to available space. The most commonly used guide, the CNOS, sets out the number of required bedrooms for households based on number of occupants, their age, gender and relationships between them. The CNOS is used, for example, by the Australian Bureau of Statistics to determine whether dwellings enumerated in the Census require additional bedrooms as a measure of 'housing suitability' and to define 'severe overcrowding' where the home requires at least four extra bedrooms (ABS 2018, 2019). The Council to Homeless Persons (2018) estimate people living in severe overcrowding represent 44 per cent of the homeless population, based again on the CNOS.

At least as far back as the 1970s writers had noted the fundamental misalignment between density measures and crowding. Density is a ratio between two objectively determined quanta, whereas crowding relates to a subjective sense or psychological response to the sense of excessive density (Stokols 1972; Rapoport 1976). The very word 'crowding' carries with it the connotation of a level of density that is associated with some adverse consequence (Lauster and Tester 2010). The disconnection between density measures traditionally used in Australia and actual crowding lies in the lack of validation of the point at which density has negative effects on household occupants, and how this varies according to circumstances.

This report provides a reassessment of the measurement of crowding in the Australian context based on evidence from mixed methods research. Econometric modelling of secondary datasets is used to explore the relationships between various household density measures and the wellbeing of occupants, with the results reported in Chapter 3. A large number of qualitative interviews covering key stakeholder groups, including housing providers, and with persons from CALD and Indigenous backgrounds living in crowded households was undertaken to gain a deeper understanding of the causes and consequences of crowding. Detailed findings from the interviews are reported in Chapter 2 and Chapters 4 to 6.

1.2 Existing research

Crowding can be considered in relation to population density within a given area, with the area defined at a range of different geospatial levels, such as countries, cities, neighbourhoods or individual housing developments or apartment blocks. Here we focus on a specific subset of that broader spectrum—density within single dwellings. This is sometimes referred to as occupancy density (Boyko and Cooper 2011), and as 'inside density' as opposed to 'outside density' (Jain 1987: 75). However, more general theoretical and empirical contributions that traverse those geospatial boundaries may also have implications for inside crowding.

While a number of authors (Jain 1987; Evans, Saegert et al. 2001; Lauster and Tester 2010) suggest scientific curiosity into the possible adverse effects of crowding on humans followed from experimental studies on animals, notably rats, it is hard to believe humankind's own lived experiences did not equally motivate this inquiry. Crowding imposed on animals in controlled environments or experiments has been associated with aggressive and other abnormal behaviours and greater susceptibility to disease or infections. Repeated or prolonged exposure to stress has been identified as a key causal factor translating population density or crowding to negative health outcomes and increased mortality. General Adaptation Syndrome is the term for the physiological stress reaction believed to occur in animal and human populations in response to crowding (see Jain 1987; Coggon, Barker et al. 1993).

Of course, caveats are warranted regarding the validity of projecting findings from animal studies to human behaviour (Krupat 1985; Churchman 1999). Verbrugge and Taylor (1980) attribute evolution of a 'classical model' of negative density effects to early sociologists' speculation that constant exposure to people causes stress. At the time, they noted limited empirical support for this negative effects model (Verbrugge and Taylor 1980). A substantial body of literature has since developed linking crowding to adverse physical and mental health outcomes for humans. Physical impacts include greater propensity for the spread of communicable diseases, such as meningococcal meningitis for children in New Zealand (Baker, McNicholas et al. 2000); respiratory illness in UK children (Mann, Wadsworth et al. 1992; Coggon, Barker et al. 1993) and Innuit populations (reviewed in Lauster and Tester 2010); and tuberculosis (Lauster and Tester 2010; Wanyeki, Olson et al. 2006). For these effects, the link between crowding and outcomes is quite direct through increased exposure to disease carriers and lower air quality, particularly when occupants smoke inside. However, there is also an argument that prolonged living in high density promotes resistance to such conditions (Boyko and Cooper 2011: 20). Some studies do find positive associations between physical health and higher occupant density (see Ziersch and Due 2018: 203), including for Australian children (Dockery 2020; Dockery 2022).

There is considerable contention surrounding the potential links between household density and psychological wellbeing. Jain (1987) and Churchman (1999) canvas a range of theoretical models of the psychological consequences of crowding, or of how density may translate into feelings of crowding. Churchman (1999) summarises these into four main models:

- **Behavioural constraint model:** density interferes with goal attainment, restricts or inhibits movement, and is generally noxious because of reduced freedom.

- **Control-density model:** density makes environments more unpredictable and allows less control over a situation and over privacy.

- **Overload/arousal model:** density generates excessive stimulation that overwhelms the sensory systems, causing overload or over-arousal of the nervous system.

- **Density/intensity model:** density intensifies existing life stresses and problems, such as interpersonal relations.

In a more recent review, Boyko and Cooper (2011) place more emphasis on the impact of crowding on needs for personal control and privacy. Reviews of studies that have identified associations between occupant density and poorer psychological wellbeing can be found in Boyko and Cooper (2011); Evans, Saegert et al. (2001); Evans, Lercher et al. (2002); and Ziersch and Due (2018). As noted, there is a potential causal link between crowding, psychological effects and physical health outcomes through the effect of crowding on stress levels which, when sustained above some threshold, contribute to poorer physical development in children and poorer health outcomes generally.

A number of factors may moderate effects between density and psychological wellbeing. If the interpersonal relationships between occupants are positive, a given level of density will not lead to that same sense of a loss of control over space as when intra-household relationships are negative (Gormley and Aiello 1982, cited in Boyko and Cooper 2011: 19; Pepin, Muckle et al. 2018). Boyko and Cooper (2011) note that people with an external rather than internal locus of control may be more susceptible to feelings of crowding in response to density. Some studies suggest that women may be less affected by crowding, while others suggest women will be more affected as they are more vulnerable in the face of loss of control over space (Boyko and Cooper 2011: 19–20). Cross-cultural differences in the psychological impacts of density can be expected if there are differences in expectations and norms around the sharing of space (Altman and Chemers 1980, cited in Jain 1987; Gifford 2007; Lauster and Tester 2010; Memmott, Birdsall-Jones et al. 2012). Finally, dwelling design may be important in shaping the relationship between occupant density and wellbeing, notably by affecting the occurrence of unwanted social interactions (Evans, Lercher et al. 2002).

Despite the number of studies finding a negative association between occupant density and psychological wellbeing, many other studies find this link to be tenuous, suggesting spatial constraints are not necessarily the critical factor contributing to feelings of crowdedness (Chan 1999; Gifford 2007; Lauster and Tester 2010; Pepin, Muckle et al. 2018; Boyko and Cooper 2011; Solari and Mare 2012; Dockery 2020, 2022; Hansen, Larsen et al. 2021). Given also the conceptual mismatch between density and feelings of crowdedness and the wide range of potential mediating factors noted above, there is a need to assess the applicability of existing measures of overcrowding to the Australian context.

1.3 Research methods

The research aimed to reassess existing measures of overcrowding, explore conceptual bases for redefining overcrowding, and recommend approaches to data collection to support the measurement of overcrowding consistent with policy objectives. The research took a two-pronged approach: a quantitative reassessment of existing measures and qualitative interviews with stakeholders and householders to explore the factors underpinning perspectives of overcrowding.

The quantitative and qualitative research components were mutually reinforcing, with results from each approach informing the other. Results from initial runs of the models helped to frame the stakeholder consultations and semi-structured householder interviews. Feedback from consultations and householder interviews motivated analyses of different outcome measures or causal channels. Figure 1 below illustrates the overall design of the research.

Figure 1: Research design

Initial runs of the models helped to frame the stakeholder consultations and case study interviews

Quantitative modelling of HILDA and BNLA data to reassess existing measures of crowding

Stakeholder consultations to obtain an overview of the issues around crowding

Feedback from stakeholder consultations and household interviews motivate analyses of different outcome measures or causal channels between density and wellbeing

Information gained through consultations informed the interview content and facilitated householder recruitment

Qualitative interviews with householders to understand the causes, contexts and consequences of crowding

Source: Authors.

1.3.1 Quantitative analysis

As set out above, the critical attribute of any measure of overcrowding is its ability to identify the household circumstances in which occupant density will be associated with adverse impacts upon occupants. To assess existing overcrowding measures and to guide the construction of new measures, the quantitative analysis explores the relationship between household density and the wellbeing of occupants. Since all existing measures of overcrowding, to our knowledge, are based on some configuration of occupant density, a range of specifications of density are tested with a focus on the CNOS as the most commonly used measure.

A standard approach is to estimate multivariate regression models which provide estimates of the association between occupant density and outcome (dependent) variables, while controlling for other factors that may affect those outcomes. A limitation of that approach is that it requires some assumption on the nature of the relationship between density and the dependent variable. For example, if the density measure used is occupants per bedroom, and this is included directly among the independent variables in the model, the analyst is imposing a monotonic, linear relationship between occupants per bedroom and the outcome variable. In reality, the relationship is likely to be more complex: it may have a quadratic form (initially increasing but at a declining rate); or the effects of higher density may only set in above a given threshold.

To deal with this, a range of measures and specifications of density are tested in models focussing on the mental health and wellbeing of occupants. A key innovation of the analysis is the application of a sophisticated econometric methodology known as the 'optimal breaks' approach. This method allows for full flexibility in the possible effects of different ranges of the density variable on the outcome variable. Essentially, we allow the data to determine the specification: the algorithm tests effects over all ranges of the independent variable and selects the specifications and associated coefficients that provide the best fit to the outcome variable based on a range of information criteria. The details of the optimal breaks method are set out in Appendix 1.

The analysis is conducted on data from two longitudinal datasets: 19 waves of the HILDA survey and five waves of the Longitudinal Study of Humanitarian Migrants, more commonly known as the *Building a New Life in Australia Survey* (BNLA). Both datasets contain information on the number of occupants in the household, the relationships between them and the number of bedrooms, as well as a range of variables relating to respondents' mental and physical health and wellbeing. While the data contained in the BNLA are not as rich as in HILDA, analysis of the BNLA allows an additional focus on CALD households that have been identified as susceptible to experiencing overcrowding.

To further explore the impacts of density and the importance of context, separate analyses are conducted for a range of selected population sub-groups; and for contributing components of density measures (e.g. variation in the number of people in the household for a given number of bedrooms, and vice versa). HILDA and BNLA contain numerous potential measures of wellbeing of the household occupants. In line with the theorised effects of overcrowding, the analysis focuses on mental health outcomes and psychological wellbeing, but physical health outcomes are also examined.

All standard panel regression models are estimated using STATA's XTREG command for linear regression models and XTOPROBIT for ordered probit models.

1.3.2 Qualitative analysis

Combined with cultural biases of existing density measures, researchers have argued for additional qualitative research to fully understand housing requirements, and for greater weight to be placed on subjective assessments of crowdedness. While it is assumed that the impacts of overcrowding are overwhelmingly negative, some overcrowding arises from positive factors (cultural reasons, safety reasons) (Habibis, Birdsall-Jones et al. 2011; Habibis 2013). Qualitative interviews were undertaken with both stakeholders and tenants to explore positive and negative factors driving or resulting from crowding; and to gain a richer understanding of how these affects materialise, when occupancy levels can be considered overcrowding, and people's coping mechanisms.

We first undertook consultations with relevant stakeholder groups to obtain an overview of issues relating to crowding for Australians in general, for Indigenous Australians and for people from CALD backgrounds. In total, 21 interviews were conducted with 30 representatives from stakeholder organisations. These organisations covered a broad range of service types including government departments, housing providers, welfare organisations, health care providers, peak bodies and migrant organisations. While some of the stakeholder organisations worked specifically with either Indigenous Australians or people from CALD backgrounds, others were mainstream service providers that included these two groups as part of their broader client cohort. The stakeholder organisations taking part in the research were based in New South Wales, the Northern Territory, and South Australia.

The stakeholder interviews collected qualitative data on several different aspects related to housing overcrowding. These included the understanding, measurement, prevalence, management, and impacts of overcrowding, and also views as to how overcrowding could be addressed. Stakeholder interviews also provided links to tenants experiencing overcrowding.

A second phase of the qualitative research involved 85 interviews with people from Indigenous backgrounds (43 interviews) and CALD backgrounds (42 interviews) living in crowded households. The selection of households was guided by the quantitative analysis and engagement with stakeholder groups. Interviews with CALD householders were undertaken in Alice Springs, Adelaide, and the Western Sydney area (e.g. Parramatta, Blacktown and Penrith). Interviews with Indigenous householders were undertaken in the southern town camps of Alice Springs, the APY lands, and metropolitan Adelaide.

Interviews with CALD householders were generally undertaken on a one-on-one basis, whereas interviews with Indigenous householders were mostly conducted using yarning circles.

The interviews explored the causes, contexts and consequences of crowding, including:

• patterns and norms of living arrangements

• factors driving crowding

• subjective experiences of overcrowding

• consequences of overcrowding (positive and negative)

• strategies to manage overcrowding

• potential ways that overcrowding could be addressed.

Ethics approval for the conduct of the case studies was obtained from the University of Adelaide Human Research Ethics Committee. Participant consent interviews were recorded, transcribed and analysed using the Framework approach (Ritchie and Spencer 1994). A thematic framework was developed and agreed upon based around core topics in the interview schedule and sub-themes that emerged during the interviews. The interview transcripts were then coded according to this thematic framework. Key themes were developed and refined throughout the data analysis to enable further emergent categories to be identified.

Where possible, we compared and contrasted residents' experiences of overcrowding between interview groups (by gender, location, CALD/ATSI (Aboriginal and Torres Strait Islanders). Similarities and differences were identified for residents living in social, community and private rental dwellings. This approach enabled us to identify whether these groups had distinct patterns and norms of living arrangements that should be accounted for when measuring overcrowding.

2. Measuring overcrowding —stakeholder perspectives

- The Canadian National Occupancy Standard (CNOS) is the key measure used to determine overcrowding within Australia.

- The CNOS has many limitations including inability to account for cultural differences in living arrangements, reliance on survey data considered deficient in representing people from Indigenous backgrounds (especially those living in remote areas), and inability to differentiate between crowded households that function well and those that are dysfunctional and experience issues.

- There is a strong association between homelessness and overcrowding, and homelessness statistics are often masked by crowded living situations.

- Overcrowding needs to be reframed away from a density measure to instead try and capture the personal and subjective reaction to living in a crowded environment.

- Measures of overcrowding need to ascertain from residents themselves whether living in a large household is an active choice that meets their needs or if this arrangement has been imposed upon them due to a lack of alternatives.

In-depth qualitative interviews were conducted with representatives from stakeholder organisations and people from CALD and Indigenous backgrounds living in crowded households. The interview respondents were based in New South Wales, the Northern Territory and South Australia.

A key aim of the qualitative interviews was to understand perspectives of current measures used to assess overcrowding and the appropriateness of these. The perceptions of overcrowding for those living in crowded households were also sought from both householders and stakeholders.

2.1 Current measures of overcrowding

Stakeholders identified that the Canadian National Occupancy Standard (CNOS)[1] was the key measure that they were aware of that was used to determine overcrowding within Australia. Respondents described how the CNOS was applied to Australian census data in order to assess levels of overcrowding within different locations (at a national, state/territory and more local level) and for different population groups (e.g. for people from Indigenous and CALD backgrounds).

> Under the last 10-year NPARIH program the Canadian standard of measuring overcrowding was used as a determinate of the levels of overcrowding. SH05

2.1.1 Limitations of current measures of overcrowding

Many of the stakeholder respondents, however, expressed concerns regarding the use of the CNOS. A primary limitation was reported to be the inappropriateness of the CNOS when considering housing overcrowding within Australia. The assumed Western-model of living inherent in the CNOS was not felt to account for cultural differences in the way some people from Indigenous and CALD backgrounds lived. In particular, the assessment of the number of bedrooms required by a household (as determined by household size, ages and gender) was felt to be inappropriate when considering diverse patterns of living.

> What we're struggling with is, the CNOS is very strict and has very clear rules on who can share [a bedroom] and who can't share, but it relies on a very Western way of thinking of a family and a household figuration. We're struggling with just how do we apply that to other types of cultural backgrounds and different types of families, but ensuring that it's adequate and appropriate, and that the hardware is going to be able to stand up to that and appropriate for that family configuration. It's a tricky one. SH04

> Someone's invented the conversation around overcrowding, but it's obviously been defined from the perspective of a non-First Nations person. So, you know, we're talking about overcrowding, what does that actually mean? I don't think we understand what that means for Aboriginal people yet, whether it's metro, regional, remote. I even think, you know, it's a completely foreign concept. SH21

Respondents noted that the household sleeping arrangements adopted by some Indigenous Australians and people from CALD backgrounds did not match those assumed by the CNOS. Examples were provided in which spaces other than bedrooms were used as areas for sleeping (e.g. living rooms, kitchens and verandas). It was also noted that some households may consider it appropriate for a large number of residents to share a bedroom (whereas the CNOS described a house as being overcrowded if more than two persons shared a bedroom). As will be discussed later, however, respondents were cognisant that at times these living arrangements were not necessarily a cultural choice but were imposed upon those living in the household due to a lack of other accommodation options.

> What we're seeing is largely families living either under the veranda of their homes, or temporary accommodations set up in and around the household, whether it's wiltja style construction, or cars, or other vehicles that people are residing in, or just inside the house, large family groups, intergenerational families living under the main roof. SH05

> I'm 42, with a partner. I got one daughter and she got partner. And I'm looking out for my little nephew. Yeah, so I got a three-bedroom house, that's alright with me. But I got my cousin living with me but he sleep in the TV room … He's sick. He needs a new house of own and like carer can move in with him … and he needs to live in own room, not sleeping in a TV room. Plus I'm looking after my nephews in the house and they always get up … but first they have shower and make a little bit of noise, you know, before they go to school. And he needs the peaceful, you know. APYA19-21

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[1] See Chapter 3 for details on the assumptions underlying the CNOS.

Some stakeholders also reported that current measures of crowding were based on assumptions of a nuclear family comprised of parents and children. This was said to be irrelevant to the extended family composition present in many Indigenous and CALD households. The lack of recognition of other potential models of living was also considered to be translated into inappropriate and ineffectual housing policy and practice.

> We make an assumption that it's mum, dad, and the kids, and that absolutely is a European concept and it's never been one that's been one in my family forever, it's always been who's best to raise who … The conversations around overcrowding get so singularly focussed on what that person initially defined it as, it's like we've lost sight around what we really want to find out. SH21

Stakeholders therefore felt that there was a need for a new way of measuring overcrowding in Australia which accounted for cultural differences. This included the incorporation of understanding of overcrowding from an Indigenous perspective which also took account of locational differences and needs.

A further commonly expressed limitation of current measures of overcrowding was that they underestimated actual levels of crowding. Concerns were raised by respondents that the ABS Census struggled to adequately survey people from Indigenous backgrounds and especially those living in remote communities.

> There's chronic overcrowding at [LOCATION] and the system thinks there's probably 20 people living in [LOCATION]. Six houses. 20 people living there. Whereas there's definitely usually seems to be about 20 people per house. SH01

The frequent mobility of Indigenous people between remote communities and urban centres was said to make it challenging to obtain an accurate reflection of real population numbers within these locations. It was also observed that householders themselves may be reluctant to self-report the true number of people actually living within their home (to both the ABS and their housing provider) for fear of the negative implications this could have for their tenancy. For example, as some social housing rental models are based on the number of people living in a house, people may be reluctant to accurately report the number of people actually residing in a house for fear that rent would increase.

> Our big issue is that we feel like the ABS statistics underrepresent the number of people and that's not a criticism of the ABS. This is what people self-report. SH01

The confounding of homelessness and overcrowding within the ABS data was also recognised by respondents. In particular, a strong association between these two housing states was identified, with the true level of homelessness said to often be masked by crowded living situations.

> People talk about overcrowding. People talk about visitors. But people don't talk about homelessness in the same way … When we look at the definitions of homelessness you could argue that the house with 12 people, in a three-bedroom house … you could argue that the level of adequacy means that those people are homeless. SH01

> One thing as a practitioner that I often get frustrated with … it's when they're actually advising Housing that they are struggling, that they are living in a home environment or accommodation environment where it is overcrowding. Housing do not see that as homelessness, according to housing, well, you have a roof over your head. Well, they may have a roof over their head, but it's not appropriate and it's not ideal. SH19

However, it was also noted that some overcrowding (particularly within Indigenous households) was the result of visitors staying for a period of time. These visitors often (but not always) had their own permanent home base elsewhere and therefore were not considered to be homeless.

> Often we speak about overcrowding and homelessness in the same breath as we talk about, like, visitors and overcrowding. And so it can be quite hard, or it is quite hard to unravel what those two sorts of different spaces are and how we can respond to them because in the house, it looks the same, like it's an overcrowded house. But it may be that half of the people living in that home don't actually want or need to be on a public housing wait for that community because they don't want to be there permanently … They just need to travel because it's an essential part of life to come into town and go shopping and see family and do other life events. SH11

A further limitation raised by stakeholder respondents was that measures such as the CNOS are unable to differentiate between crowded households that function well and those that are dysfunctional and experience issues.

> I think this is where the quantitative analysis is just falling down, is that we sort of throw everybody together and you're talking about the strong families and the dysfunctional families and we're lumping them all together. SH04

Some stakeholders argued that rather than purely attempting to determine numerical thresholds for overcrowding, the focus should instead be placed upon assessing the actual functioning of a household. It was recognised that some larger households coped relatively well with living together. In this way, measuring overcrowding necessitated obtaining an assessment of the personal and subjective reaction to living with a large number of people rather than an assessment based on an indicator of density.

> I think we were quite deliberate about how we language crowding or not crowding. I think what we're trying to do is define it in terms of how functional is it. It's not about the number of people or whether they feel crowded, just how functional is it. SH14

> Having a large family is not necessarily, you know, should be called overcrowding with a negative connotation to it. A large family can be a very positive thing … If there's peace and harmony in the family at sort of grassroot levels, that sort of emanates and vibrates towards other people and they can overcome overcrowding without feeling it that much. SH16

Hence, many respondents suggested that a differentiation should be made between problematic and non-problematic overcrowding with factors such as alcohol and drug misuse, child welfare concerns, and antisocial behaviour taken into account. This would also enable greater support to then be offered to households experiencing adverse social, psychological or physiological effects of crowding.

> There's a definition of overcrowding in terms of the number of people per bedrooms … But I guess that's a fairly generic system for measuring what is and what isn't overcrowding … Maybe it should be overcrowding and then problematic crowding. Maybe there should be a redefinition of how you define that. SH02

> So it depends on what's really happening within that household. So if there's alcohol and drugs and stuff like that in a household and we've got some that are living there with children, they would absolutely look at that as being problematic. And then for others as I said it is just the norm. So it's kind of like we have two different sorts of scenarios. SH18

Finally, some stakeholders recognised that the implementation of overcrowding measures, such as the CNOS, took away the rights of people to decide who, and with how many people, they wanted to live with.

> We've only been going to this space of, you know, who do you think should be living here, but we haven't even gone to that stage, which is, you know, a right for people to determine who they should and shouldn't live with. SH21

2.1.2 Addressing limitations in the measurement of overcrowding

As a consequence of the perceived limitations of current official measures of overcrowding, some housing organisations were reported to be adopting different approaches to assess overcrowding. These approaches were felt by respondents to enable their organisation to better assess if a property was overcrowded, and if so, to offer appropriate support to address any negative consequences of crowding.

Some stakeholders located in housing organisations stated that they had developed their own organisational guidelines as to the number of residents who should be living in a property at any one time. This was said to be based on the size of the property, the age of the residents and the level of housing need. Households that exceeded this number were considered to be overcrowded.

> With regard to the children here onsite, because our properties are so small, we have to be aware of how many children actually come in, but if we have any more than four children onsite in one house, it's getting really crowded. SH17

Other stakeholders reported that their organisation did not have any specific policies that defined levels of overcrowding. Instead a 'common sense' approach was used to determine whether a property was crowded or not.

> For us in casework … it's like an assumed or common sense approach. In particular. I think where we've looked at and thought that a house has been overcrowded … you see that the kids are sharing with the parents or when there's older siblings sharing with younger, and we see that a lot. I think in the last week alone we've got families of five living in one room, one with additional health needs. SH14

> We don't actually have any measures in place, but I suppose once a person does not have a room that they can sleep in or a bed that they can sleep on, that's when we would start to talk overcrowded, yeah, yeah. That's for me and my organisation in our region. SH18

A further method that was reported by some housing providers included collating their own data on household numbers and comparing this with available census data to obtain a more accurate assessment of the prevalence of overcrowding.

> To inform the program we used the census information, ABS population information. But then what we also did was look at our administrative data sets across government. So our tenancy management system, we record everybody that we're made aware of that's on the lease is recorded in our system and the demographics of those people. So we used a combination of the census data … and our own records, and we came up with some modelling that gave us a good indication of what we believed to be the overcrowding. SH04

However, it was noted by these respondents that their own housing data was not without its limitations. For example, it was acknowledged that often the tenancy agreement for a property was not indicative of who was actually living there and considerably underestimated the extent of overcrowding. For some client groups (e.g. people exiting homelessness), overcrowding was reported to be commonplace despite lease arrangements that had been put in place.

> Based on who is recorded on that tenancy, yes, it's not necessarily a good indication of who actually lives there. SH03

> So from [ORGANISATION] point of view, basically for us is anyone that is not on the list is definitely not supposed to be there. So look at that, is definitely overcrowding … This is definitely a big issue because when people have been sleeping rough … they also have a community that they have been living with on the street. So by the time they secure, it can be a one-bedroom unit, more, sometimes we are seeing a pattern of people coming with also some of their friends who are not part of their lease. And yeah, so you end up having more than one person where the lease and the type of dwelling is meant to be really it's for one person, but you ended up getting more people there. SH19

Hence, housing providers were trying to go beyond the use of quantitative data to more accurately capture whether households were crowded or not. This included working with households in an open and collaborative way so that tenants felt comfortable in disclosing who was residing with them in their home. Within the Town Camps in Alice Springs, housing providers were also said to be actively striving to differentiate whether those living in each property were long-term residents or if they were visitors staying for a period of time.

> There has been measures that we use outside of that to try and get a more prediction of overcrowding, but from us it's more so about when we're going out visiting homes, what we're seeing. SH05

Other stakeholders reported that their organisations were conducting research (e.g. surveys and interviews) to understand the extent of overcrowding for their clients. For these stakeholders, overcrowding needed to be reframed away from a density measure to instead try and capture the personal and subjective reaction to living in a crowded environment.

> For me it's asking better questions. Rather than saying how many people you live with … So the way we asked the question about crowding was we said how many more rooms would you need to feel safe and comfortable … On average, people said over four rooms that they would need to feel safe and comfortable and that was with one standard deviation, so most people said that … So that's just to give you I guess how we framed crowding. SH14

Within remote Indigenous communities such as the APY Lands, the challenges of measuring the true extent of overcrowding was noted. To address this and be able to understand actual housing needs within specific communities, stakeholders recommended that more active consultation with community leaders and members occur.

> I do not think, to my understanding, that there is adequate measuring around how many houses we actually need in remote areas … I couldn't tell you from any information I get across my eyeballs … Look, they may need more houses, they may not need, because we don't actually even talk to community around whether they want to live there or not … We do not understand at this point in time what the current demands of housing in Aboriginal communities is. Like, I can categorically say we do not understand that because we're not asking questions that are relevant for communities to answer. SH21

All too often, stakeholders argued that perceptions of whether a household was overcrowded or not came from mainstream agencies and their workers. Instead, respondents highlighted the importance of ascertaining from residents themselves whether living in a large household was an active choice that met their needs or if this arrangement had been imposed upon them due to a lack of alternatives.

> So it's all white agencies and typically white workers that are getting to put their lens on that family's current status, whereas the family don't get to self-identify what's overcrowding and what's not overcrowding. I mean, have we gone to a family in a house going, what's the maximum number of people that you think should be living here? … Or who are the people specifically you want to live here and who are the people you don't want living here? SH21

> I think just respecting the wishes of the people in the home is important because sometimes we might view the overcrowding situation as not great but they might want to live like that … Sometimes we see strategies rolled out and it's going to be like this for everyone. I think we need to make sure that we are looking at the situation individually for people and really respecting their choice around is this how I choose to live as opposed to I'm living this way because it's the only option for my family members. SH18

The stakeholders interviewed also reported endeavouring to determine the impacts of crowding in order to see whether this way of living was considered to be problematic or not for that household. Subsequently, the individual circumstances of each household could be better understood and strategies implemented to address any negative impacts of crowding.

> [We are] going through this process of trying to understand people's actual—people with lived experienced—their perspective of overcrowding … I do think there needs to be a way of trying to capture what people's choice is. And what the factors are … that causes the family, that effectively are three separate household groups living together. Is it affordability that factors that? Is it cultural? Is it good? Is it that people have a positive experience in that? It's really hard. SH02

> I think kind of trying to redefine it more … around having somewhere safe and secure to live. Somewhere that someone can call a home … Whether they would see it as safe and secure and it doesn't breach their own standard of living and ability to meet the different needs they have whether that's health or education and so on. SH18

Hence, stakeholders suggested that measurements of overcrowding needed to be flexible enough to take into account individual circumstances and preferences. Current ways of measuring crowding and policy parameters to manage overcrowding were not felt to be responsive enough to adopt such a flexible approach.

> Is the place that this person staying right for them? And the answer is what's right for one person is not right for another person, and we don't have a system that is creative enough or flexible enough to enable that in any way, whether it's public housing, social housing, even private ownership doesn't even cater for that. SH21

2.1.3 Householder perceptions of overcrowding

Stakeholder respondents acknowledged that even if their organisation may determine that a household was overcrowded, this may differ from the perspectives of those living within the home. Hence, when considering how to measure overcrowding, respondents described the importance of capturing the perspectives of residents as to whether they themselves considered their home to be overcrowded or not.

Overwhelmingly, the majority of householder respondents that informed the qualitative interviews, from both ATSI and CALD backgrounds (and especially those from CALD backgrounds living in Alice Springs and Sydney and from ATSI backgrounds living in the APY Lands or Alice Springs town camps) acknowledged that their homes were overcrowded.

> Visitors and family they also stay in that house or maybe outside they camp. It's a bit crowded, overcrowded. APYA01-04

In contrast, some stakeholders stated that their clients' views about overcrowding were mixed, with some recognising that they were living in crowded conditions while others did not.

> I'm aware of [ORGANISATION], the social housing body that's responsible for housing, their different definition of overcrowding, you know the sexes and the age group, et cetera. I'm mindful of that. And some of my clients do feel that it is, they are in that situation, and some of them don't … Some people are by and large quite happy and some are not as happy. SH16

Therefore some people—who would be classified by the CNOS as living in an overcrowded housing situation—did not consider 'overcrowding' to accurately reflect their situation. For these individuals, living with a large number of other people was considered to be the natural way that they managed their home and as such their homes felt 'comfortably full' rather than overcrowded.

> We're also conscious that the individuals themselves don't consider themselves to be overcrowding a lot of the time. And they choose to live in different household formations and different configurations. SH04

> It's expected to be, you know the extended family allow for stay … These grandparents have nowhere to go. So there is no question … [it] is already accepted that they can come and live in the house, it's not seen as overcrowded because parents or grandparents, they are you know, they have respect for them so it's okay. SH19

Some CALD householders (particularly those living in multi-generational households in Adelaide) felt that their homes were physically large enough to accommodate their family. For other respondents, as long as their family life was functioning well, they did not consider their living situation to be overly crowded.

> No, because the house is big enough, it doesn't feel overcrowded. ADLC02

> The house can be crowded as long as the heart's not crowded, you know what I mean? That's how we think about it. So, if you're open-minded about it it's not crowded. ADLC09-14

It was also noted by some stakeholders working with Indigenous clients that living with extended family or temporarily helping to accommodate family members was a cultural norm. Thus while housing providers may consider their Aboriginal clients to be living in a crowded home, the clients themselves were said to not necessarily be cognisant of this.

> Within Aboriginal communities, people would not look at it as overcrowding as they are helping mob. To non-Aboriginal people and services, it would look like overcrowding, particularly for housing providers … There is an issue when working as an Aboriginal specialist, as there is vast overcrowding in Aboriginal families, but they do not see it as overcrowding, just helping people out. SH20

> I would say the majority of clients that are in … crowded housing, would say that they're safe and secure and living home with family … And I think we find that with a lot of our Aboriginal families. They don't see themselves as, it's just the norm, you know, this is just how it is and I do sleep on the lounge or I do sleep on the floor but in their sense they wouldn't necessarily say that they are unsafe. SH18

Indeed, some ATSI householders themselves described how, as a result of having grown up living with extended family members in one household, they were accustomed to residing with extended family members. Some suggested that they would feel isolated or lonely if they lived with a smaller number of people.

> I'll be thinking, oh it's boring where's people to talk to isn't it. Yeah, I like the company. All my life, yeah even when I was a little kid, I still had heaps of people around me. APYA16-18

> Since I was little from living on the Mission it's always been a lot of people in my family, you know, in the house. Like, from when we moved from the Mission and to [Location Name]. When my nanna lived there she had all her kids and her grannies there, so I'm really used to living in a big family and crowded. ADLA05

This sentiment was also expressed by several CALD household respondents living in multi-generational homes in Adelaide and Sydney. These respondents recognised that living together as a large family was culturally normative and as such they did not consider their homes to be overcrowded.

> This is the way I know it. I was living in a big family with my father, then now I have a big family and we all live together. We're not used to live by ourselves. We only know to live in a large family. SYDC08

Stakeholders also reported that although tenants may not directly describe their home as being 'overcrowded', this may be expressed in different ways with focus placed on the challenges of their living situation. Therefore, householders may refer to a lack of physical space and privacy within their home; of feeling exhausted, overwhelmed and anxious; or as unsafe and afraid as a result of their living situation.

> They might express it in different ways … They'll talk about being exhausted … 'cause they've had no sleep, they've overwhelmed, they're hungry 'cause all their food's been eaten. So, they will describe those stresses maybe in different ways 'cause they're never going to turn family away and are used to having lots of people around, but it is still incredibly stressful for them. SH07

> An old lady said to me she's just sick of her grandkids mucking around at night time because they're all sleeping in the lounge room, and she's got to put up with them playing up [laughing], and she just goes 'No, I've had enough of it, I just want my own space', and you go yeah. Fully understand that. SH05

These sentiments were likewise expressed in the householder interviews with people from CALD and ATSI backgrounds. Respondents commonly spoke of experiencing issues with a lack of adequate space for sleeping, welcoming visitors, their belongings, or to be by themselves. This could lead to stress and tension within the household.

> If you come to my house it is full. There is four beds in the one room and one bed in the other room and under the beds we put all the stuff under the beds too … Sometimes when our visitor comes they sit together. But they're sitting on the floor together. There is no spot for them … I'd love to have a big house … I want for all the kids to have their separate room, especially the girls. I want for them separate rooms for everyone or the living area to be a little bit bigger to sit nicely. SYDC06

> They're fairly small especially … with a family of five and you know, kids jumping around and things so it is quite small. But we seem to just be living on top of each other at the moment, so yeah. ADLA10

Respondents also suggested that a home could be considered to be overcrowded if the occupants were unable to use their home as they wished. For women from ATSI and CALD backgrounds who were sharing living spaces with male residents, this was linked to feelings of a lack of privacy and safety. For children living in crowded households, a lack of freedom to play was noted. Some household respondents also described dissatisfaction with being unable to use communal spaces as these were already being occupied, e.g. by people watching TV or children doing homework.

> In terms of families, I guess overcrowded become, when they cannot … develop their personality, they have to be restricted and they can use, taking showers, and they cannot get out of their particular room. SH19

> Their concern was privacy for the adults but freedom to play for children … We had a couple of women who weren't free to exist in the spaces in their house because there were other men occupying it. I would say privacy and freedom and that freedom to be oneself is really about safety. SH14

It was also noted by stakeholders that some Indigenous people may be reluctant to acknowledge that their home was overcrowded for fear that child protection agencies would become involved and remove their children.

> There is such a high rate of child removals from Aboriginal families there is a real concern about revealing … housing stress that people are under … so that they don't lose their children in family removals. SH18

2.2 Summary and policy implications

While acknowledging that the CNOS was the key measure used to assess overcrowding in Australia, stakeholders pointed out that the CNOS has many limitations. These included its inability to account for cultural difference in living arrangements, its reliance on survey data that was considered deficient in representing people from Indigenous backgrounds (especially those living in remote areas), and its inability as a measure to differentiate between crowded households that function well and those that are dysfunctional and experience issues.

Furthermore, stakeholders noted the strong association between homelessness and overcrowding, and that homelessness statistics were often masked by crowded living situations.

As a consequence of the limitations of current official measures of overcrowding, stakeholders recommended adopting different approaches to assess overcrowding. This included collating their own data on household numbers and also going beyond the use of quantitative data to ascertain from residents themselves whether living in a large household was an active choice or if this arrangement had been imposed upon them due to a lack of alternatives.

Our research indicates that approaches to assess overcrowding need to be developed that go beyond the use of quantitative measures of density. These approaches should have the capacity to capture personal and subjective experiences of living in crowded environments. This includes exploring with residents themselves whether they consider their home to be overcrowded or not, and whether their current living situation meets their needs and works for them. Measures of overcrowding should also take into account the preferred ways of living for households from Indigenous and CALD backgrounds.

3. Occupant density and crowding: empirical evidence

- This chapter presents results from extensive analyses of the relationship between household density and adult occupants' wellbeing using data from HILDA and the BNLA.

- Very few Australians live in housing without at least one bedroom for every couple and single occupant. Despite this, they still have strong preferences for homes with additional bedrooms.

- The relationship between occupant density and wellbeing is highly nuanced, and differs across households and between household members. Detrimental effects of density are primarily observed for parents, and associations are minimal or, if anything, positive for the wellbeing of other household members.

- Consequently, the modelling fails to identify definitive cusps or ranges of occupancy or density levels associated with lower wellbeing, and that could therefore offer a simple definition of overcrowding.

- The CNOS rules on who can appropriately share a bedroom conditional upon age and gender have little validity as a means of discriminating between crowded and uncrowded households.

- How well family members get along with each other is a critical moderating variable. Negative effects of higher household density are much reduced in well-functioning families. Multiple families living in the one home has, on average, a substantial negative impact on occupants' wellbeing in addition to any effect on household density.

3.1 Existing approaches and evidence in Australia

As noted in Chapter 1, the issue of overcrowding attracts considerable attention in Australia. Indigenous Australians and people from CALD backgrounds, particularly recent migrants, are acknowledged as groups suffering from high levels of overcrowding and substantial government funding is earmarked for addressing overcrowding. The CNOS is the most widely used measure for determining whether or not a household is overcrowded, and has been adopted by key Australian policy bodies and the Australian Bureau of Statistics. The CNOS assesses the bedroom requirements of a household based on the following criteria:[2]

There should be no more than 2 persons per bedroom.

- Children less than 5 years of age of different sexes may reasonably share a bedroom.

- Children 5 years of age or older of opposite sex should have separate bedrooms.

- Children less than 18 years of age and of the same sex may reasonably share a bedroom.

- Single household members 18 years or older should have a separate bedroom, as should parents or couples.

- A lone person household may reasonably occupy a bed sitter (i.e. a residence with no separate bedroom).

In descriptive statistics and empirical analyses, the CNOS is typically used to generate household-specific measures of crowding based on:

- binary variables designating households as either crowded or not crowded depending upon whether the dwelling has a sufficient number of bedrooms, or to indicate more extreme levels of overcrowding conditional on the extent of the shortfall in bedrooms

- a continuous variable equal to the required number of bedrooms minus the actual number of bedrooms where the required number exceeds the actual number, and equal to zero where the actual number is equal to or greater than the required number of bedrooms.

Reviews of the empirical evidence on the links between household crowding and occupants' physical and mental wellbeing, with an emphasis on child occupants and relevant Australian studies, can be found in Brackertz, Davison et al. (2019), Dockery (2020), Dockery, Kendall et al. (2010), and Dockery, Ong et al. (2013). While there is little question that certain groups, notably Indigenous Australians, do reside in housing of higher occupant density on average, evidence on the nature of the relationship between household density and the mental and physical health of occupants is far more ambiguous.

To our knowledge, no study has sought to validate the assumptions underlying the CNOS in the Australian context by investigating the ranges over which density has detrimental impacts on occupants. Waters (2001a, b) used the CNOS derived from 1995 ABS National Health Survey data and found minimal evidence of adverse associations between the CNOS measure and health effects. Using HILDA data, Mallett, Bentley et al. (2011) define households as overcrowded if the number of bedrooms does not meet the CNOS, finding that this and numerous elements of precarious housing interact to affect health outcomes. Other studies, such as Booth and Carroll (2005) have not directly used the CNOS, but tested similar density constructs conditional on the number of adults, children and bedrooms.

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[2] See https://www23.statcan.gc.ca/imdb/p3Var.pl?Function=DEC&Id=100731 or https://meteor.aihw.gov.au/content/index.phtml/itemId/386254

The appropriateness of the CNOS has most commonly been questioned in regard to its application to Indigenous Australians in recognition of potentially important differences in cultural norms around shared living and sleeping arrangements. Most notable in this regard is the extensive body of work by Paul Memmott and various collaborators (see Memmott, Birdsall-Jones et al. 2011; Memmott, Birdsall-Jones et al. 2012; Memmott, Greenop et al. 2012; Habibis 2013). In particular, Memmott, Birdsall-Jones et al. (2011: 36) note that ethnographic studies have demonstrated that sleeping alone would be almost unthinkable from a cultural perspective for many Indigenous people. This cultural norm is in direct contradiction with the CNOS expectations that single persons aged 18 and over should sleep in their own bedroom.

There are some clear parallels between the Australian literature and research on Canadian and other circumpolar Inuit populations. In that research, household density is typically measured as 'persons per room' and overcrowding defined against some benchmark on that measure, or using the CNOS (Lauster and Tester 2010; Riva, Plusquellec, Robert-Paul, Laouan-Sidi et al. 2014; Pepin 2018). Like Indigenous Australians, Inuit populations experience markedly higher rates of overcrowding relative to their respective general populations on such comparative measures (Lauster and Tester 2010; Riva, Plusquellec et al. 2014; Perreault, Riva et al. 2020). Lauster and Tester (2010: 524) highlight the arbitrariness of those measures, noting that the 'person per room' standard for overcrowding in the US has been revised downwards over time in response to a general decline in household density, rather than in reference to any empirical evidence on the impacts of household density. Moreover, they note the failure of such quantitative measures to take into account cultural differences: 'In effect, the cultural standards of white, middle class Canada … became imposed on the country as a whole, and beyond … through the adoption of the Canadian National Occupancy Standards'. (2010: 525). Lauster and Tester (2010) suggest qualitative indicators of overcrowding are needed to counter cultural 'ignorance' of objective density measures (see also Perreault, Riva et al. 2020).

3.2 Household density in Australia

To provide context to the discussion and analyses of the measurement of crowding, we first present descriptive data for the general Australian population on key metrics upon which indicators of household density are often based. These are the number of occupants in the household, the number of bedrooms, and the ratio of occupants to bedrooms, but assuming couples within the household share a bedroom. The information in HILDA on each household occupant and their relationship status within the household was used to derive the number of bedrooms the household requires to meet the CNOS. If this was equal to or lower than the actual number of bedrooms, the variable for the number of extra bedrooms required is set to zero. If number of bedrooms required exceeds the actual number, then extra bedrooms required is equal to that shortfall.

We refer to these measures as occupancy, density and CNOS, respectively. Table 1 presents descriptive statistics for these measures for the pooled sample of HILDA households from Wave 1 to Wave 19. That is, each household represents one observation, irrespective of the number of occupants in the household.

Table 1: Household occupancy and density, HILDA 2001–2019

	Mean	Median	Mode	Min	Max	Pooled obs.
Occupants	2.59	2	2	1	17	158,551
Bedrooms	3.14	3	3	0	20	158,360
Density (occupants/ bedroom)	0.65	0.50	0.33	0.05	6.00	158,360
CNOS—extra bedrooms required	0.03	0.00	0.00	0	6	158,360

Notes: Calculated using the HILDA household weights.
Source: Authors' calculations based on HILDA.

As can be seen, the HILDA sample included households with as many as 17 occupants. However, the 'typical' Australian household has just two occupants. High numbers of occupants are extremely rare—99 per cent of households have six or fewer people living in them. The median and mode for the density measure indicate that households often have two to three times as many bedrooms as there are couples or single persons to occupy them. Based on the CNOS, less than 3 per cent of households required an additional bedroom.

For the 2016 Census, the Australian Bureau of Statistics reported a derived housing utilisation or housing suitability item, calculated for private households and based on the CNOS.[3] This measure gives a very similar picture as the pooled 2001–2019 HILDA sample, in that 96 per cent of households were assessed in 2016 as having a suitable number of bedrooms given household occupancy. The more detailed breakdown of the measure, provided in Figure 2 below, demonstrates that the norm in Australia is for households to have a least one spare bedroom and for very few to require additional bedrooms by the standard set in the CNOS. Three-quarters of households have a bedroom that is surplus to 'needs'.

Figure 2: Housing utilisation, private dwellings, Australia, 2016
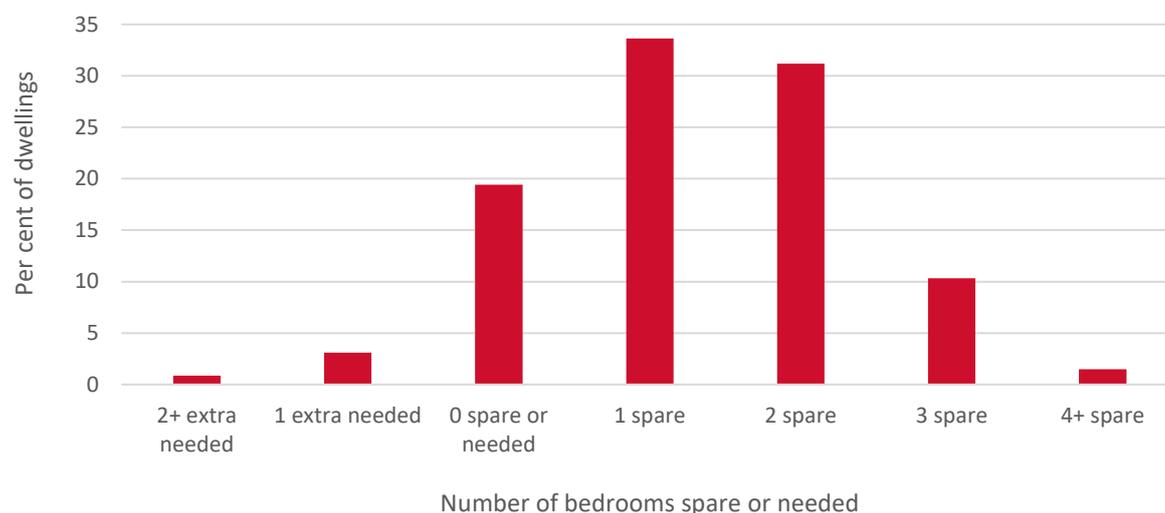
Source: Based on 2016 Census data accessed through the ABS on-line Tablebuilder facility.

These figures are based on counts of households. While a very low proportion of households have high levels of occupancy or density, the proportion of people living in such housing is somewhat higher, by definition of those households having more people. Table 1 shows that while there is an average of 2.59 persons per household and density of 0.65 per household, when those figures are calculated with persons rather than households as the unit of analysis, people (including children) on average live in households with a mean of 3.36 occupants and a density of 0.78. On a person-enumerated basis, the mean value for the number of additional bedrooms required is 0.07 (instead of 0.03); and 5.4 per cent of people live in households assessed as requiring an additional bedroom.

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3   See https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2901.0Chapter36002016.

Another consideration when assessing the incidence of crowding is the treatment of persons living alone. Generally, it is not possible for such persons to experience the effects of 'crowding' as conceived for the purposes of most research into household density, and therefore could be argued to be 'out of scope'. Critically, as noted by Krupat (1985), it is also likely that persons living alone will often have poorer mental and physical health, so their inclusion may skew the results of empirical estimates of the links between mental health and household crowding or household density. The HILDA sample suggests such effects could be substantial: pooled over 2001 to 2019 we find that almost one-quarter of all households are lone-person households, with 9.5 per cent of the population living alone. Table 2 reports the same density measures presented in Table 1, but with lone-person households now excluded. Even within multi-person households, it remains the case that very few are classified by the CNOS as requiring an extra bedroom (3.7%), though the point that persons living alone should be excluded from much of the analysis stands.

Table 2: Household occupancy and density, excluding lone-person households, HILDA 2001–2019

	Mean	Median	Mode	Min	Max	Pooled obs.
Occupants	3.10	3	2	2	17	112,392
Bedrooms	3.35	3	3	0	20	112,258
Density	0.70	0.67	1	0.05	6.00	112,258
Extra bedrooms required (CNOS)	0.04	0.00	0.00	0	6	112,258

Notes: Calculated using the HILDA household weights.
Source: Authors' calculations based on HILDA.

3.3 Validating crowding measures: evidence from HILDA

Conceptually, we perceive of crowding as levels of household density that impact negatively upon occupants, and with those effects transmitted primarily through adverse impacts upon psychological wellbeing. To define a measure of crowding therefore requires knowledge of whether and over what ranges the underlying construct has an adverse impact upon occupants. Hence, the analysis explores a range of potential density and outcomes measures and the nature of the relationships between them. Initially, the three measures of density described in Table 2 are examined using the HILDA sample: the simple number of people who usually live in the home, the ratio of persons to bedrooms (but assuming couples share a bedroom), and the number of additional bedrooms required to meet the CNOS. These are explored using a range of specifications of those density measures in multivariate regression models, as well as the optimal breaks approach, as described in Appendix 1. This section first looks at estimates for the general population using data from HILDA, and then at relationships for CALD populations using subsets of the HILDA sample and data from the BNLA.

Along with the three density measures, a range of outcome measures are tested for responding persons from 19 waves of HILDA. For the full sample, these include the SF-36 Mental Health Component Summary score and the SF-36 Physical Health Component Summary score; individuals' reported satisfaction with the home in which they live, and their life satisfaction overall; and their score on the 'Kessler 10' Psychological Distress Scale (K10).[4] For relevant sub-populations, we also model individuals' satisfaction with their relationship with their partner and with their relationship with their children. As explained above, lone person households were excluded from all samples for estimation.

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4   The questions contributing to the Kessler 10 scale have been asked in HILDA's self completion questionnaire every second wave, commencing from Wave 7.

3.3.1 Baseline models

Initially models were estimated across the full sample of responding persons (aged 15 years and over) from HILDA Waves 1 to 19. In addition to variables relating to occupant density, controls were included for gender, age, marital status, disability status, English speaking background, level of education, housing tenure, household income, socio-economic decile of the neighbourhood, and whether multiple family units live in the household. We focus on results obtained from models specified with random effects, rather than fixed effects. While fixed effects models control more rigorously for unobserved individual characteristics, effects of variables can only be estimated where there are changes in the value of that variable for given individuals. The effects for some key variables of interest, such as gender, cannot be estimated. Further, estimates of the effect of density measures are based only on persons who have experienced changes in that measure—essentially people who have experienced a change in the composition of their household, in the number of bedrooms in the dwelling, or changed household altogether. As this may be a relatively limited and non-representative sub-sample, results obtained through fixed effects models may also be biased. Hence, we prefer the random effects specification in this instance.

The effects of occupancy levels, density and number of extra bedrooms required (CNOS) were tested in linear and quadratic specifications (see Appendix 1). As occupancy levels and extra bedrooms required take on discrete values, these were also modelled as a series of dummy variables.

We started by estimating the simple linear relationship between occupancy levels and outcomes. These estimates show that a higher number of people living in a household is significantly associated with lower mental and physical health and lower satisfaction with one's home and life overall. It is also associated with higher psychological distress scores, although this estimate was not statistically significant. It should be noted that the magnitude of these effects are small when compared to other key variables, such as the positive effect of being married, or detrimental effects of having a disability.

Critically, replacing the number of occupants with potential proxies for crowding—occupant density or extra bedrooms required—offered no improvement in the explanatory power of the models. Testing linear, quadratic and more flexible dummy specifications, the simple number of occupants provided the best fit for the mental health score, the physical health score and life satisfaction. For satisfaction with the home, occupants per bedroom offered the best fit, while for psychological distress the simple number of occupants and the CNOS measure performed equally in terms of overall fit, but this was despite low levels of significance for the CNOS measure itself. Against expectations, the quadratic specifications suggest wellbeing initially declines as the number of occupants or density increases, but then improves with higher levels of density. The results imply that wellbeing increases for density levels above around 2 persons per bedroom, or above around 1–2 additional bedrooms required.

As a selected example, full results for the models for the SF-36 mental health score, and using three alternative specifications of the CNOS measure of extra bedrooms required, are presented in Table 3. Note the sample is restricted to households with at least two usual occupants. Results are reported from models with CNOS entered directly as a linear variable, with the addition of its quadratic and as a series of dummy variables. Specifying a series of dummy variables is constrained in the choices of ranges because of the skewed distribution of the variable. For 95.9 per cent of observations on individuals, their household has an adequate number of bedrooms, and we use this (CNOS=0) as the default or omitted category. Dummy variables are also created for individuals in households requiring one extra bedroom (3.3% of observations); two extra bedrooms (0.6% of observations) and three or more bedrooms (0.2% of observations).

The estimates for the control variables largely accord with expectations, with mental health positively associated with being married, more educated, home-ownership, higher socio-economic status of the neighbourhood, household income and still attending school. Being a sole parent and having a long-term health condition that limits the amount of work one can do is associated with lower mental health. Mental health generally increases with age but at a diminishing rate. Living in a multi-family household is associated with substantially lower mental health. These findings broadly apply across the various measures of wellbeing tested.

With the number of additional bedrooms required entered linearly, the estimated coefficient (β=-0.07; p=0.38) suggests declining mental health associated with each additional bedroom required, but the estimate is insignificant (i.e. we do not reject the hypothesis that the actual effect is zero). The inclusion of the quadratic term returns a more negative estimate of the direct effect (β=-0.30; p=0.04) and a positive second-order effect (β=+0.11; p=0.04). This could be interpreted as density initially having a negative effect, but with the effect diminishing as the number of required bedrooms grows. However, the coefficients imply a turning point of around two extra bedrooms required, beyond which the effect of additional required bedrooms as measured by the CNOS is estimated to have a positive association with mental health.

Table 3: SF-36 Mental Health Component Summary score and household density—regression results using different specifications of CNOS (bedrooms required)

Specification of CNOS	Linear		Quadratic		Series of dummies	
	Coef.	P>z	Coef.	P>z	Coef.	P>z
Constant	49.09	0.00	49.10	0.00	49.10	0.00
Female	-1.80	0.00	-1.81	0.00	-1.81	0.00
Age (years)	0.02	0.18	0.02	0.18	0.02	0.19
Age^2/100	-0.09	0.00	-0.09	0.00	-0.09	0.00
Married	0.92	0.00	0.92	0.00	0.92	0.00
Sole parent	-0.41	0.02	-0.41	0.02	-0.41	0.02
Long-term health condition	-3.57	0.00	-3.57	0.00	-3.57	0.00
Country of birth						
Australia	—		—		—	
English speaking	1.26	0.00	1.26	0.00	1.26	0.00
Non-English speaking	-0.19	0.19	-0.19	0.20	-0.19	0.20
Highest level of qualification						
Post-graduate degree	0.93	0.00	0.93	0.00	0.93	0.00
Bachelor's degree	0.75	0.00	0.75	0.00	0.75	0.00
Diploma, Cert III/IV	—		—		—	
Year 12	0.46	0.00	0.46	0.00	0.46	0.00
Did not finish Year 12	-0.30	0.01	-0.30	0.01	-0.30	0.01
Still at school	1.24	0.00	1.23	0.00	1.23	0.00
Housing tenure						
Home owner	—		—		—	
Private renter	-0.71	0.00	-0.71	0.00	-0.71	0.00
Public/community renter	-1.58	0.00	-1.57	0.00	-1.58	0.00
Other	-0.24	0.09	-0.24	0.09	-0.24	0.09
Neighbourhood SES decile	0.12	0.00	0.12	0.00	0.12	0.00
Household income (log)	0.18	0.00	0.18	0.00	0.18	0.00
Multi-family household	-0.59	0.00	-0.60	0.00	-0.60	0.00
CNOS	-0.07	0.38	-0.30	0.04		
CNOS-squared			0.11	0.04		

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Specification of CNOS	Linear		Quadratic		Series of dummies	
	Coef.	P>z	Coef.	P>z	Coef.	P>z
Bedreq dummy variables						
CNOS=0					—	
CNOS=1					-0.19	0.11
CNOS=2					-0.20	0.49
CNOS=3+					0.37	0.37
Observations	212,819		212,819		212,819	
Individuals	29,047		29,047		29,047	
Obs/indiv						
Minimum	1		1		1	
Average	7.3		7.3		7.3	
Maximum	19		19		19	
R-squared	0.1203		0.1204		0.1204	
Wald Chi-sq	4,846	0.00	4,847	0.00	4,848	0.00

Source: Authors' calculations based on HILDA.

The results obtained when the number of additional bedrooms required is entered as a series of three dummies indicate that, relative to having an adequate number of bedrooms by the CNOS, none of the coefficients are statistically significant. The estimated coefficients indicate mental health is estimated to be lower if there is one or two additional bedrooms required (β=-0.19 and β=-0.20, respectively). The estimated effect of the household requiring three or more additional bedrooms is positive (β=+0.37), but again not significantly different to the base case of having an adequate number of bedrooms. Recall there are very few such observations on households requiring three or more bedrooms (just 444 individuals over the 19 years).

Overall, these results provide minimal evidence of detrimental effects of crowdedness on occupants' mental health that operates in addition to the effect of the number of occupants. The direct number of occupants living in the household in fact performs better than the CNOS in explaining variation in occupants' SF–36 mental health score in both the linear and quadratic specifications. This assessment is based on the variables having a higher level of significance and the model returning a marginally higher R-squared. This finding is reminiscent of previous warnings in the literature that size and density effects can be conflated. Effects such as excessive noise or over-stimulation may occur as the number of the people in a household increases, irrespective of density.

The density measure—the number of couples and other persons per bedroom—also appears statistically preferable to the CNOS measure. Results from the quadratic models imply a larger, negative direct effect of additional required bedrooms (β=-1.54; p=0.00). The coefficient on the quadratic (β=+0.41; p=0.00) implies positive effects for households as persons per bedrooms surpasses two, as with the CNOS-based measure. Essentially, the added specifications embodied in the CNOS of the sharing rules based on children's ages and gender are not supported in these data with respect to their ability to account for variation in occupant mental health, and that observation holds across the other outcomes variables tested.

Testing for optimal breaks

The mixed results obtained when standard functional forms are imposed on the density and CNOS variables highlight the potential value of the optimal breaks approach, in which the actual associations in the data are used to identify the intervals over which density has differential effects. The optimal breaks approach was applied to identify preferred specifications for both household density and CNOS as potential measures of crowding in models for the five key outcome variables (mental and physical health, psychological distress, life satisfaction and home satisfaction). For all five outcome variables, the model selection tests (i.e. Bayesian Information Criteria) indicate that the household density measure offers a better fit in explaining outcomes, although the differences are generally marginal.

As one example, estimated coefficients for the household density variable in the optimal breaks model for mental health are reported in Table 4. The results imply that occupants' mental health increases with density where there is a low ratio of persons to bedrooms, and the effect of increased density becomes negative beyond a threshold of 0.5. While this general functional shape is consistent with a 'crowding' effect, the breakpoint of 0.5 implies adverse effects beyond a cusp of two bedrooms per couple or occupant. Two bedrooms available per 'sleeping unit' in a household could not realistically be considered crowding, and thus the mental health associations do not appear to capture crowding effects.

Table 4: Estimated effects of household density on mental health component summary score: optimal breaks approach (n=212,819)

Density intervals and estimated coefficients			
Intervals	[0:0.33]	[0.33:0.5]	[>0.5]
Coefficients	1.723	0.294	-0.263
(P>z)	(<0.01)	(0.08)	(<0.01)

Source: Authors' calculations based on HILDA.

Those results also show little alignment with the adequacy assumptions embodied in the CNOS. Using the same approach to test for intervals for the CNOS variable, the simple linear model (with no breaks) provided the best fit, with the coefficient on CNOS negative but insignificant as per Table 3. The estimated association between requiring an additional bedroom by the CNOS standard and the mental health score (β=-0.076) is smaller than the direct estimated effect of an additional person in a household, highlighting the challenges in separating the effects of density from those of occupant numbers. The optimal breaks approach also identified no breaks in the models for the CNOS variable for physical health or life satisfaction.

The optimal breaks models identify substantial negative associations between the household density and CNOS variables on people's satisfaction with the home in which they live. It appears people have strong preferences for more bedrooms—but that preference for additional rooms holds even for people living in dwellings with quite low occupant density.

3.3.2 Estimates by household type and relationship status

A potential reason for the counter-intuitive results for density variables is that additional persons may have contrasting effects according to household type. The 'third' person in a couple household will typically be intrinsically different in terms of intra-household relationships to a third person in a sole-parent household. While the CNOS rules for who can reasonably be expected to share a bedroom are designed to account for differences in household structure, the results above suggest that those rules do not adequately differentiate between crowded and uncrowded households. Moreover, effects of increased occupant density may be different for parents and children.

It is also likely that impacts of occupant levels and density may differ for men and women, including because of the gender divide in household roles. Estimating models separately for men and women confirmed that the CNOS specification rarely offers any advantage over models using the quadratic specification with household occupancy or density in explaining variation in outcome variables. While previous literature suggests women's wellbeing may be more susceptible to crowding, results from the HILDA data find men's mental health, physical health and Kessler 10 Psychological Distress scores are actually more sensitive than women's to changes in occupant density. When it comes to subjective ratings of satisfaction with the home or overall life satisfaction, however, women's assessments are more negatively associated with higher density.

To explore potential differential effects of density by household structure and conditional upon the relationship status of persons within those households, models were estimated separately for couple households and sole-parent households. Within those sub-samples, models were also estimated separately for the parents (either members of the couple or the sole-parent) and for other persons. Recall that people within HILDA households become responding persons once they turn 15 years of age, so the 'other persons' in the estimating sample are people aged 15 and over living with one or both parents.

Generally, evidence of an adverse association between density and psychological wellbeing is stronger for parents. Selecting the model specification using the optimal breaks approach indicates that, in couple households, mental wellbeing declines with density beyond a cusp of one couple or person per two bedrooms. That effect applies only to parents—for others within the couple households, the preferred model shows monotonically increasing mental health with higher density. For ease of interpretation, results are reported below from models of the mental health component summary score and including the CNOS as a series of binary dummy variables for one extra bedroom required, two extra bedrooms required and three or more extra bedrooms required. The coefficients can therefore be interpreted as the association of that level of 'crowding' relative to cases in which no additional bedrooms are required. For people living in couple households (Table 5), it can be seen that the weakly significant association between mental health and crowding for the overall sample disguises contrasting effects between parents and others in the household. Among people in a couple, requiring additional bedrooms has a negative effect. For their children, additional bedrooms required is associated with better mental health, and the estimate is significant even at quite severe levels of 'crowding'.

Table 5: Estimated effects of additional bedrooms required on mental health for persons in couple households, HILDA Waves 1–19

Sample		CNOS: Number of extra bedrooms required		
		One	Two	Three or more
All persons aged 15+ (n=179,002)	Coefficient (P>z)	-0.251* (0.08)	+0.121 (0.75)	+0.473 (0.41)
Married persons (n=154,152)	Coefficient (P>z)	-0.561*** (<0.01)	-0.755 (0.18)	-1.425* (0.10)
Non-married persons (n=24,850)	Coefficient (P>z)	+0.229 (0.33)	+1.050** (0.03)	+1.816*** (<0.01)

Notes: ***, ** and * indicate the estimate is significantly different from zero at the 1, 5 and 10 per cent levels, respectively. See Table 3 for other control variables included.

Source: Authors' calculations based on HILDA.

Table 6 contains the corresponding results for sole-parent households. Again, some negative associations can be observed between extra bedrooms required and the parent's mental health score, while no significant associations are found for the children of those parents. The finding that parents' wellbeing is more sensitive to higher density than other occupants within couple households generally holds true across the various outcome variables and specifications of density. There is less of a contrast in the estimates between parents and non-parents in sole-parent households.

Table 6: Estimated effects of additional bedrooms required on mental health for persons in sole-parent households, HILDA Waves 1–19

Sample		CNOS: Number of extra bedrooms required		
		One	Two	Three or more
All persons aged 15+	Coefficient	-0.537**	-0.710	+1.395
(n=22,050)	(P>z)	(0.05)	(0.31)	(0.18)
Sole parents	Coefficient	-0.705*	-0.969	-0.148
(n=12,388)	(P>z)	(0.08)	(0.38)	(0.93)
Other persons	Coefficient	-0.503	-1.177	+1.831
(n=9,662)	(P>z)	(0.20)	(0.13)	(0.20)

Notes: ***, ** and * indicate the estimate is significantly different from zero at the 1, 5 and 10 per cent levels, respectively. See Table 3 for other control variables included.

Source: Authors' calculations based on HILDA.

In the case of sole-parent households, the optimal breaks approach does not identify any break for the density variable that improves the model fit. The linear model confirms a negative and highly significant association between parent's mental health and density, and no significant association for other household members.

Occupant density and family functioning

Previous literature (for example, Gormley and Aiello 1982) has highlighted the potentially important moderating role of family functioning, and this was reinforced by insights from the qualitative interviews. To test this, we drew on responses to three questions asked in HILDA's self-completion questionnaire. For those items, people were asked to assess their satisfaction, on an 11 point scale ranging from 0 (totally dissatisfied) to 10 (totally satisfied), with:

- your relationship with your partner

- your relationship with your children

- your partner's relationship with your children.

This necessarily limited the sample for this exercise to partnered parents living with children. Responses to each of those items were standardised to have a mean of zero and standard deviation of one, and the three resulting values summed to give an 'index of family functioning'. We then split respondents into two groups: those who returned an index below the sample median of the index, and those who returned an index value above the sample median. The former represent a group who are relatively dissatisfied with their intra-family relationships, and the latter a group who are relatively satisfied.

Using this experimental proxy for family functioning, models for mental health and the Kessler 10 Psychological Distress Scale were estimated including an interaction term between the family functioning dummy variable and CNOS, and separately for the two samples (those who felt their families got on relatively well and the remainder). The results for the key variables of interest are reported in Table 7. Commencing with the models which include a term to capture the interaction between wellbeing and CNOS, we now observe a direct detrimental and significant association between the number of additional bedrooms required to meet the CNOS and wellbeing (a negative coefficient for mental health and positive coefficient for the K10). The interaction terms show that this association is substantially reduced within well-functioning families. There is an additional large, direct beneficial effect on wellbeing associated with living in a family with positive relationships (significant at the 1% level for both outcome measures).

Estimations for the separate samples of people living in relatively well-functioning and relatively poorly functioning households confirm this finding. The estimated coefficients imply significantly lower mental health scores associated with higher CNOS values for both samples, but the coefficient is larger (more negative) for less functional families. For the K10 score, there is a positive and moderately significant association with required bedrooms among less functional households, indicating greater distress, but no significant association with psychological distress is observed for people in well-functioning families. Even using such a rudimentary measure of family function, these results provide strong evidence that higher density does have less of a detrimental effect on parents' mental health when intra-household relationships are harmonious.

Table 7: Regression estimates for CNOS (extra bedrooms required) conditional on family functioning; mental health and Kessler 10 Psychological Distress Scale

	Dependent variable	
	Mental health	K10
Model with interaction terms		
CNOS	-0.73*** (<0.01)	0.74*** (<0.01)
Well-functioning family	2.06*** (<0.01)	-1.61*** (<0.01)
Well-functioning * CNOS	0.53* (0.06)	-0.64** (0.025)
Observations	116,892	12,015
Models for separate samples		
CNOS (well-functioning) (n=12,287/8,523)	-0.44** (0.01)	0.12 (0.53)
CNOS (poor functioning) (n=10,759/8,090)	-0.57** (0.02)	0.59** (0.02)

Notes: ***, ** and * indicate the estimate is significantly different from zero at the 1, 5 and 10 per cent levels, respectively. See Table 3 for other control variables included.

Source: Authors' calculations based on HILDA.

3.3.3 Isolating variation by dwelling size and number of occupants

To further elucidate the relationship between household density and occupants' wellbeing, we select people living in dwellings with a given number of bedrooms and look at how outcomes vary by occupancy levels. The typical Australian home has three bedrooms. Using the HILDA sample of households—that is, dwellings as opposed to persons, pooled across 19 waves, around 42 per cent of households had three bedrooms, 27 per cent had four bedrooms and 18 per cent two bedrooms. In terms of the proportion of persons living in homes of different sizes, 40 per cent of enumerated persons lived in three-bedroom homes, 34 per cent in four-bedroom homes and 13 per cent in two-bedroom homes. Thus, homes with two, three or four bedrooms account for 87 per cent of the housing stock, and house 87 per cent of the Australian population living in private residences.

Given this, we investigate separately the samples of persons living in two, three, and four-bedroom homes, and model the effect of the number of people living in the household. For this exercise, we looked at occupants' mental health, K10 psychological distress scale and satisfaction with the home in which they live, and included the same set of controls as above. Occupancy was modelled as the both straight number of occupants and the number of 'sleeping units' (with couples counted as 1 unit on the assumption they would share a bedroom). The two measures of occupancy give similar results, and we focus the discussion on results obtained when couples are treated as a single occupant unit.

Declines in wellbeing are apparent on each outcome measure as occupancy increases, and generally those declines are sharper for occupants of smaller homes consistent with crowding effects. However, those declines are also evident at occupancy levels below those that would normally be considered crowded: for example, a drop in average mental health is associated with an increase from one to two couples/occupants, and again from two to three occupants even in three and four-bedroom homes. Figure 3 and Figure 4 illustrate the regression estimates for the mental health component summary score and the K10 when occupancy is modelled as a series of dummy variables and using the quadratic specification.

Figure 3(a) plots the coefficients on the dummy variables for each level of occupancy, and can be interpreted as the estimated effect relative to the omitted or default category of one person or couple. A lower score on the vertical axis indicates lower mental health. Mental health drops sharply with additional occupants, particularly in two-bedroom homes, but appears to plateau and even start to improve at higher levels of density. Note that the coefficient estimates are not precise for some high occupancy levels due to fewer observations. However, the relationship is confirmed when the comparable results are fitted from the quadratic specification in which each estimate of the coefficient for occupancy and its quadratic term was highly significant (p<0.01), with the exception of the quadratic term for three-bedroom homes which was significant at the 5 per cent level (p=0.02). To put the magnitude of these effects into perspective, the mental health scale has a standard deviation of 10, while the largest estimated coefficient, relating to the case of having four occupant units as opposed to one in a two-bedroom home, is -1.67 (p<0.01). For someone initially at the mean or 50th percentile of the mental health scale, such a negative shift would correspond to a movement down to around the 43rd percentile of the population distribution.

Figure 3: Estimated association between household occupancy and mental health (effect relative to household with one person or couple)
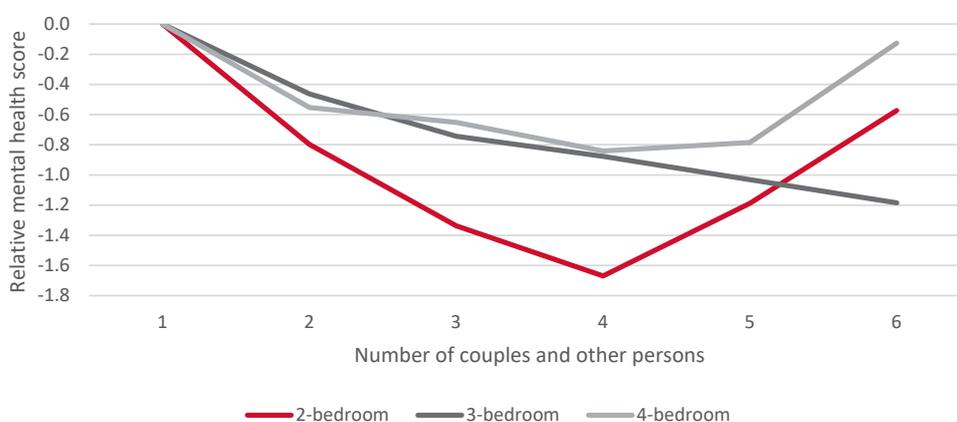
a) Occupancy as a series of dummies

b) Fitted from quadratic coefficients
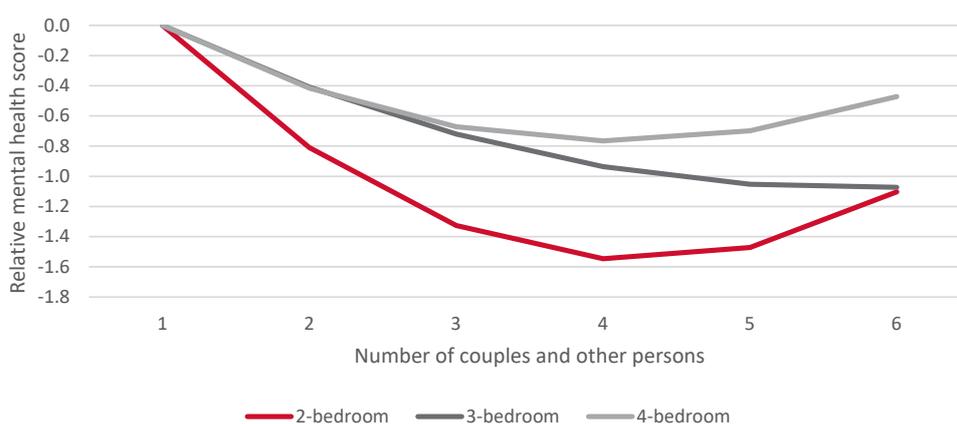
Source: Authors' calculations based on HILDA.

Figure 4: Estimated association between household occupancy and k10 psychological distress scale (effect relative to household with one person or couple)
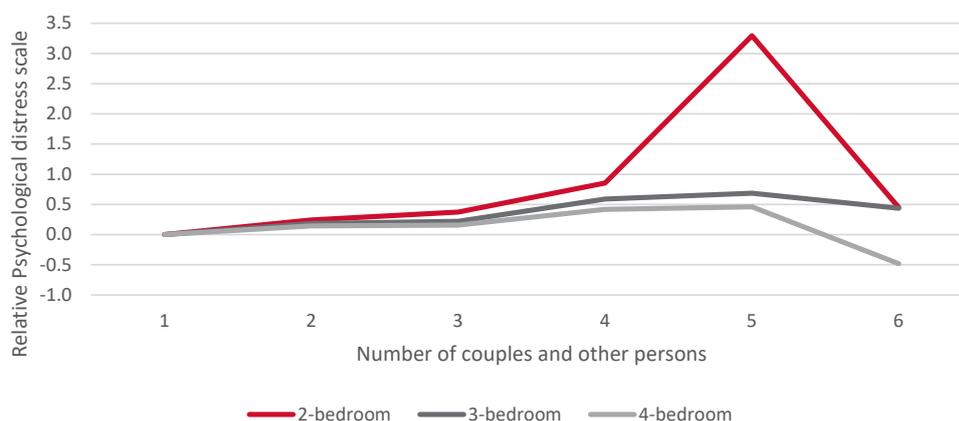
a) Occupancy as a series of dummies

b) Fitted from quadratic coefficients
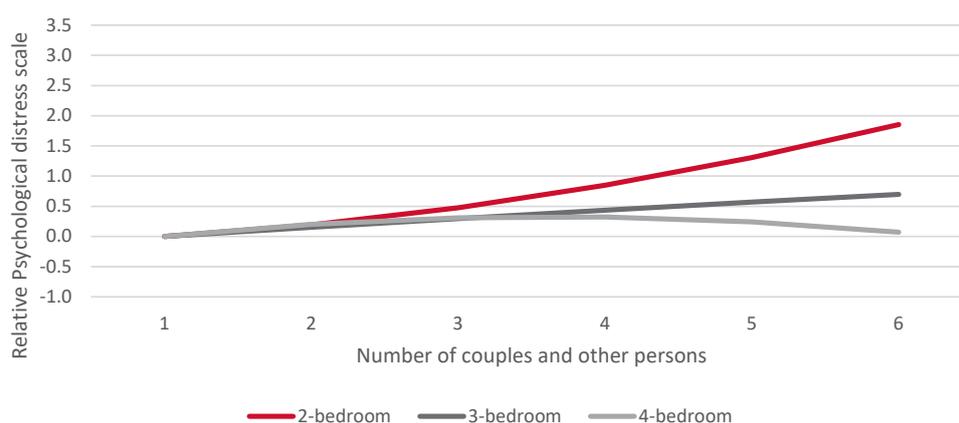
Source: Authors' calculations based on HILDA.

Figure 4 contains the corresponding representation of results for the estimates for the K10, with a positive value or movement up the scale indicating greater psychological distress. The estimates for dummy variables indicate that psychological distress increases as the number of occupant units increases to five, and then declines. Second order effects are not apparent in the quadratic model for persons living in two-bedroom homes, but note the estimate on the quadratic term in that model is imprecise (β=0.003, p=0.78), and the model fit statistics indicate the model specified with dummy variables is preferred. The sample standard deviation for the K10 scale is 6.67, and thus the extreme estimate for persons living in two-bedroom homes with five occupant couples or individuals (β=+3.29, p=0.02) marks a substantial impact, equating to a shift in the distribution from the 50th percentile to almost the 70th percentile in terms of the score on the psychological distress scale. In contrast, the largest estimated coefficient for people living in three or four-bedroom homes equates to a more modest shift of around four percentile points up the distribution from the mean.

The optimal breaks approach was also used to select the best fitting functional forms for models of the mental health score and the K10 for people living in two-bedroom, three-bedroom and four-bedroom houses. For people living in two-bedroom and three-bedroom dwellings, the results indicate wellbeing declines linearly with the number of occupant units, and this applies to both the mental health score and the K10. Break-points where the occupant-wellbeing gradient changes are identified only for persons in four-bedroom homes. For mental health, these show declining wellbeing as the number of occupants increases from one to four persons (β=-0.23, p=<0.01), and a more

modest decline for additional household members beyond that point (β=-0.11, p<0.01). For the K10, psychological stress is estimated to increase with additional occupants up to five persons or couples (β=0.11, p<0.01), but actually stabilise or marginally decrease beyond that point (the coefficient is negative but insignificant). Again, these results are counter to our a priori expectations that increases in occupancy at low density levels would have small or even positive effects on wellbeing, but those effects would become negative beyond some cusp that corresponds to feelings of crowdedness.

Coefficients for estimated associations with occupants' satisfaction with their home cannot be depicted in the same fashion, as these are obtained from ordered probit models rather than linear regression. These show a steady decline in satisfaction as household density increases, and that decline is sharper in two-bedroom homes.

The steeper decline in wellbeing observed in homes with fewer bedrooms highlights a potential misspecification of the CNOS as a measure of crowding. The results suggest any adverse effect of an additional required bedroom in a small (two-bedroom) home should be substantially greater than the effect of requiring an additional bedroom in a four-bedroom home. However, the CNOS variable would have a value of one in both cases and would not pick up this difference when entered either in the linear or quadratic specification. From this perspective, the density measure of occupants or family units to bedrooms could be considered a favourable specification, and may explain why it appears to perform as well or better than the CNOS in many models without imposing added sharing assumptions. In line with this reasoning, we did re-estimate a number of models with the CNOS-determined number of extra bedrooms required expressed as a ratio to the existing number of bedrooms, but this did not appear to improve the explanatory power of those models.

Holding number of occupants constant

An alternative approach is to hold the number of household occupants constant, and look at the effect of variation in the number of bedrooms. In terms of the distribution across dwellings, one-third of all dwellings have two occupants, and 24.5 per cent of dwellings have just one occupant. Roughly equal proportions of dwellings have three and four occupants, at 16.5 per cent and 15.6 per cent, respectively. The story is, of course, slightly different on a person basis. Around one-quarter (26%) of all people live in homes with just two occupants and a further quarter (24%) in homes with four occupants. The other significant categories are three-person households (19%) and five-person households (14%).

Again we looked at the mental health summary score and Kessler-10 psychological distress scale along with people's satisfaction with their home. These models provide relatively few statistically significant relationships between the number of bedrooms and mental wellbeing, but again strong evidence that people are more satisfied with large houses. Even in households with as few as two people, preferences for large houses are observed, the results implying a house with at least five rooms is preferred. However, the positive gradient between the number of bedrooms and the level of housing satisfaction does become steeper for higher occupancy households.

For mental health and psychological distress, significant effects are generally only discernible at extremes in some models, such as one-bedroom homes with multiple couples and occupants, and positive effects of having a fourth, fifth and sixth bedroom for households with five or more couples and occupants. For households with four couples or other persons, no significant relationships between the number of bedrooms and mental health or between the number of bedrooms and psychological distress are observed at all.

3.4 Crowding and ethnic background

A recurrent theme in the literature is the observation that the impact of crowding relates to the psychological response to perceptions of excessive household density, and there are likely to be substantial differences across people of different cultural backgrounds in terms of how they perceive density. The importance of appreciating cultural differences was reinforced in the interviews with housing service providers. Table 8 draws on 2016 Census data to provide a sense of the variation in residential density experienced by people of different ethnic backgrounds in Australia. It is not possible to present figures on a household basis, since households may include people of

a range of ethnic backgrounds, prohibiting assignment to any one ethnic or cultural background. Instead, the table presents figures on an individual basis and conditional on peoples' country of birth. For Australian-born individuals, an average of 3.37 persons usually resided in the dwelling in which they were counted on the night of the 2016 Census, and 5.9 per cent were in a dwelling requiring at least one additional bedroom based on the CNOS. It is clear from the table that a number of ethnic groups live in higher density households. Those born in North Africa and the Middle East and in the three Asia regions all have a higher average number of residents in the dwelling. The proportion of households requiring an extra bedroom is highest for those born in Southern and Central Asia, at 22.3 per cent, and markedly higher for those born in North Africa and the Middle East, South-East Asia and North-East Asia. Persons born in Europe and in the US or Canada generally live in dwellings with fewer usual residents and which are less likely to require additional bedrooms.

Looking at those ethnic groups displaying higher housing use, it is noticeable that the variation in the measures relating to bedrooms required is considerably greater than the variation in the number of occupants. The average number of residents per dwelling is at most 16 per cent higher than for Australian-born persons (3.92 for those born in North Africa and the Middle East, compared to 3.37), but the proportion living in dwellings requiring an additional bedroom is 3–4 times higher, as is the average number of extra bedrooms required. The most obvious potential explanation for this is that those ethnic groups typically live in houses with fewer bedrooms. However, further investigation reveals this is not the root cause: the average number of bedrooms ranges from 3.05 for those born in Southern and Central Asia to 3.40 for those born in Sub-Saharan Africa, and was 3.39 for Australian-born persons. Hence, the higher values of those CNOS-based measures for those migrant groups must be attributable to differences in household composition, in terms of the age profile of residents and the number of dwellings with multiple family units or multiple generations.

These figures will underestimate the extent of cultural differences, since Australian-born children of migrants will live in much the same housing circumstances as their parents, but in the data available will be classified as Australian-born, hence diluting the extent of cultural differences. Given this variation in living circumstances across different ethnic groups within Australian society, and how this is reflected in standard indicators of 'crowding', it is clear that culturally-based differences in how people perceive and psychologically respond to density could potentially affect population-based estimates of the link between household density and wellbeing. A population-average estimate may mask substantial differences in how physical density measures translate to a subjective sense of crowding. To explore the importance of cultural differences, we undertake further analyses of the HILDA data, estimating separate models for two groups with contrasting cultural background and, in the following section, analyses of the data from the BNLA.

Table 8: Number of residents and number of bedrooms in dwellings by country of birth, 2016 Census

Origin—region of birth	Percent of population	Average number of residents in dwelling[a]	Average number of bedrooms in dwelling[b]	Proportion in a dwelling requiring an extra bedroom[c]	Average number of extra bedrooms required[d]
Oceania and Antarctica	74.8	3.37	3.39	5.9	0.08
Australia	*71.7*	*3.37*	*3.39*	*5.8*	*0.08*
North-West Europe	6.6	2.70	3.24	2.3	0.03
Southern and Eastern Europe	3.0	2.66	3.18	4.3	0.05
North Africa and the Middle East	1.7	3.92	3.22	20.1	0.29
South-East Asia	4.0	3.72	3.27	17.9	0.27
North-East Asia	3.6	3.47	3.18	16.2	0.23
Southern and Central Asia	3.6	3.81	3.05	22.3	0.34
Americas	1.2	3.13	3.08	8.4	0.12
USA/Canada	*0.6*	*3.12*	*3.20*	*4.7*	*0.06*
Sub-Saharan Africa	1.5	3.52	3.40	9.2	0.13
Total	**100.0**	**3.34**	**3.34**	**7.5**	**0.10**

Notes: Based on Census place of enumeration data, as housing adequacy variables not available by place of usual residence.
a.   Mean calculated from data topcoded at 8=8 or more.
b.   Mean calculated from data topcoded at 30=30 or more.
c.   Proportion living in household requiring 1 or more bedrooms.
d.   Mean calculated with values of 0 if no extra bedrooms required or if residence has spare bedrooms; values of 1, 2 or 3 for residences requiring that many extra bedrooms, and 4 if 4 or more extra bedrooms are required.

Source: Authors' calculations based on HILDA.

3.4.1 HILDA and cultural background

It seems clear from Table 8 that, relative to the Australian-born population, persons born in Asia tend to reside in dwellings that have, on average, slightly more persons and slightly fewer bedrooms, but a markedly higher incidence and number of extra bedrooms required by the standards underlying the CNOS. This applies to those born in South-East Asia, North-East Asia and Southern and Central Asia. We create two samples of contrasting cultural background from the broader HILDA sample, which for convenience are referred to as Australian and Asian. Persons in the Australian sample include all persons who were born in Australia and have at least one parent who was born in Australia. Hence, these are second-generation Australian-born on at least one parental side. The Asian sample includes all those who were born in Asia or have both parents born in Asia. Hence, this includes both first-generation and second-generation Asian migrants. The rationale behind this distinction is to generate two samples, each with relatively homogenous within-group cultural backgrounds but with contrasting between-group cultural backgrounds while also ensuring sufficient sample size for estimation.

Table 9 presents results of models of the SF-36 mental health and physical health component summary scores for these two groups. For brevity, we report only the estimated coefficients for the variables relating to occupant density, but the full set of controls reported in Table 3 was included in the models. The direct linear association between density (persons per bedroom) and mental health is similar for both groups, but the association with the physical health scores is actually larger (more negative) for the population of Asian background. For both mental and physical health, the coefficients for the quadratic specification of density are highly significant and this specification provided the highest r-squared statistics.

Concentrating on these results from the quadratic models, one might well accept the *a priori* expectation that people of Asian ethnic backgrounds are more accustomed to and less sensitive to impacts of higher occupant density. However, the results using the number of extra bedrooms required as determined by the CNOS point to the opposite conclusion. Significant and negative effects on health are apparent only for the population of Asian background, and the estimates associated with requiring two extra bedrooms are substantial. The estimated effect of requiring three or more bedrooms is insignificant, but the number involved is extremely small, with just 9 cases observed over the 19-year panel for the Asian-born sample. Models for psychological distress also suggest that Australians of Asian background are more affected by crowding than are native Australians, and this applies to both specifications (persons or couples per bedroom and the CNOS). The association between density measures and satisfaction with ones' home are very similar for both groups across the various specifications.

Hence, the results provide little support for the hypothesis that people of Asian backgrounds are less impacted by higher household occupant levels because of different cultural norms. However, it does seem to be the case that the CNOS is relatively more effective in modelling outcomes for people of Asian background, while the simpler ratio of occupants to bedrooms appears relatively better for the Australian-born population. This suggests the sharing rules embodied in the CNOS and relating to when it is appropriate for people of different ages and genders to share bedrooms, are more applicable to Australians of Asian background.

Table 9: Estimated coefficients for household density in models of mental and physical health, Australian and Asian-born occupants

	Mental health score				Physical health score			
	Australian-born		Asian-born		Australian-born		Asian-born	
	Coef.	P>z	Coef.	P>z	Coef.	P>z	Coef.	P>z
Density models								
Linear specification								
Density	-0.59	0.00	-0.67	0.01	-0.34	0.00	-0.61	0.02
Quadratic specification								
Density	-1.35	0.00	-0.09	0.89	-0.92	0.00	-0.29	0.63
Density-squared	0.38	0.00	-0.27	0.36	0.30	0.00	-0.15	0.56
CNOS models								
Linear specification								
CNOS—bdrms req'd	-0.05	0.64	-0.76	0.01	-0.13	0.16	-0.71	0.01
Dummy variables								
No bedrooms req'd	—		—		—		—	
1 bedroom req'd	-0.15	0.28	-0.59	0.09	-0.15	0.23	-0.51	0.10
2 bedrooms req'd	0.16	0.65	-2.54	0.00	-0.48	0.13	-2.57	0.00
3+ bedrooms req'd	-0.03	0.95	0.10	0.98	0.22	0.70	0.70	0.83
Observations		179,858		12,174		179,469		12,151
Individuals		21,877		1,675		21,844		1,677

Notes: See Table 3 for other control variables included.
Source: Authors' calculations based on HILDA.

3.4.2 Evidence from the BNLA survey

The *Building a New Life in Australia* project is centred around a longitudinal survey that traces the experiences of refugees who settled in Australia under a humanitarian visa. While the formal name of the survey is the *Longitudinal Study of Humanitarian Migrants*, we refer to it by the more widely used acronym of BNLA. BNLA is comprised of two cohorts: an 'offshore cohort' who were granted a permanent humanitarian visa while living overseas and subsequently arrived in Australia between May and December of 2013; and an 'onshore cohort' who applied for asylum after arriving in Australia and were granted a permanent humanitarian visa between May and December of 2013. The initial survey was conducted between October 2013 and March 2014, with 1,509 people who were named as the Principal Applicant for a humanitarian visa interviewed. A further 890 persons associated with those migrants were interviewed, and these included 755 adults and 135 adolescents who were named as Secondary Applicants on those visas. Follow-up surveys have been carried out annually, with data from five waves available at the time of writing (DSS et al. 2019).

The data collected included demographic information on the family and a number of items relating to housing circumstances, including the number of bedrooms in the family's home. It also collected additional data on respondents' assessments of the adequacy of the housing, which allows us to look at how well these assessments vary with standard measures of density. Table 10 presents figures on the occupancy levels in the households of the BNLA sample pooled over the five waves. Some limitations to deriving these figures should be noted. The density measure is calculated as persons per bedroom allowing for couples to share a bedroom. However, it is only possible to identify one couple in a household, based on whether the principal respondent is married. While incidences will be rare, it is possible that some households include more than one couple, meaning we would over-estimate the required number of bedrooms, and this could potentially affect both the density and CNOS measures. There are several further limitations with regard to deriving the number of bedrooms required by the CNOS with these data. The total number of occupants living in the households is known in all waves, so the density measure can be calculated. However, demographic data, including age and gender, are collected for up to 10 household members. In the first two waves, data were only collected for members of the original migrating unit, and not for other household members they may be living with. Starting from Wave 3, data were collected for all household members. Hence, estimates of additional bedrooms required relative to the CNOS are calculated only for Waves 3–5. Even for these waves, it is only possible to derive the number of additional bedrooms required for households with up to 11 members. This covers over 99 per cent of observations, but the few observations that must be omitted are likely to include the more severe cases of crowding.

With these limitations in mind, comparing Table 10 with Table 1 shows the migrant sample do live in more densely occupied housing than the general Australian population, with on average around one additional person per household and a density of 1.19 persons per bedroom compared with 0.65 for the HILDA sample. This is largely due to differences in the number of occupants. The typical household for these migrants has four occupants, as opposed to just two for the wider Australian population. Residential density for this group is compounded by their dwelling having fewer bedrooms, with an average of 2.88 bedrooms per BNLA household compared with 3.39 for the HILDA sample, though for both groups a three-bedroom dwelling is the norm.

As best we can ascertain based on the CNOS for the BNLA households, the mean number of additional bedrooms required is 0.5 as opposed to 0.03 for the HILDA sample. Two-thirds of the migrant families (65.6%) lived in dwellings with an adequate number of bedrooms by the CNOS, although a substantive proportion of households did require one additional bedroom by this standard (20%) or two additional bedrooms (10%). For the BNLA households for which the CNOS could be determined, less than 5 per cent required three or more bedrooms.

Table 10: Household occupancy and density, BNLA 2013–14 to 2017–18

	Mean	Median	Mode	Min	Max	Pooled obs.
Occupants	3.77	4.00	4.00	1	15	6,278
Bedrooms	2.88	3.00	3.00	1	10	6,056
Density	1.19	1.00	1.00	0.1	11	6,056
Extra bedrooms required (CNOS)[a]	0.52	0.00	0.00	0	6	3,265

Notes: Calculated using BNLA Principal Applicant weights.
a.   Calculated for waves 3–5 only.
Source: Authors' calculations based on HILDA.

In waves 1, 3 and 5, BNLA respondents were asked how satisfied they were with a number of aspects of their housing, including with the number of rooms. Note that the question referred to rooms, not to bedrooms. Responses were recorded on a 4-point scale of 'very dissatisfied', 'dissatisfied', 'satisfied' or 'very satisfied'. Coding these from 1 (very dissatisfied) to 4 (very satisfied), there is a significant and negative correlation between the density measure and satisfaction with the number of rooms ($r=-0.14$, $p<0.01$). A similarly negative correlation is observed between density and satisfaction with the size of rooms. Figure 5 also shows that, for Waves 3 and 5, the proportion expressing dissatisfaction with the number of rooms is higher for those living in households classified as requiring extra bedrooms by the CNOS.

Figure 5: Dissatisfaction with number of rooms and CNOS, BNLA Waves 3 and 5
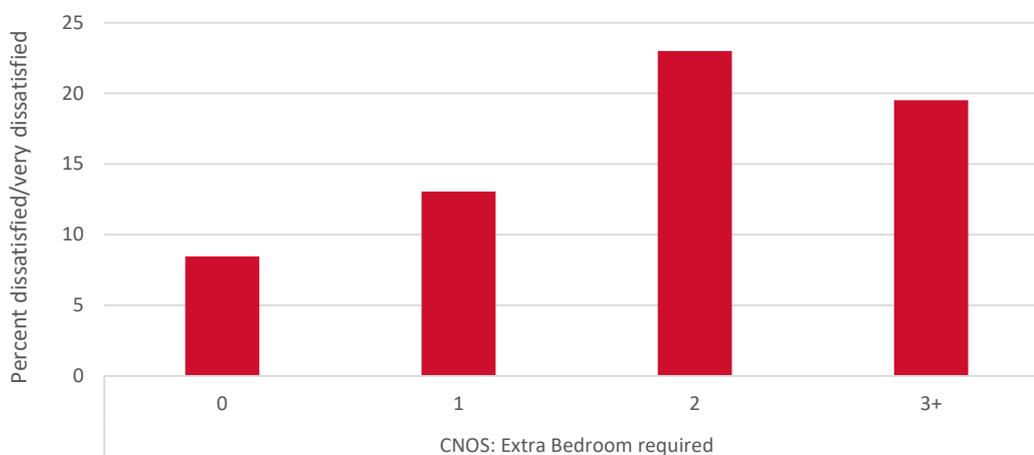
Source: Authors' calculations based on HILDA.

While the density and CNOS-based measure of bedrooms required do have the expected association with residents' satisfaction with their dwelling's number of rooms, evidence of correlation with measures of socio-emotional wellbeing is hard to find. In all waves, the BNLA questionnaires include the set of questions comprising the short (6-item) Kessler psychological distress scale. There is no correlation between the Kessler-6 total score and the density measure, or between the number of extra bedrooms required and the total Kessler-6 scale. Two other measures of subjective wellbeing were investigated—respondents' satisfaction with their life as a whole (asked in Waves 1–5) and happiness with their relationship with their partner (asked in Waves 3–5). Both of these correlate positively with the measures of density and required bedrooms, suggesting people are more satisfied with their life and happier in their relationships when living in housing with higher internal density. The correlations are small, but statistically significant for life satisfaction as shown in Table 11.

Table 11: Correlations between socio-emotional wellbeing and density measures, BNLA

	Kessler-6[a] (scale 6–30)	Life satisfaction (scale 0–10)	Happiness with partner (scale 1–7, waves 3–5)
Density (all waves)	r=-0.00 (p=0.93)	r=+0.05 (p=0.00)	r=+0.05 (p=0.02)
Bedrooms required (CNOS)—Waves 3–5	r=-0.00 (p=0.89)	r=+0.07 (p=0.00)	r=+0.03 (p=0.10)

Notes: a. For the Kessler-6 scale, a higher number indicates a greater level of psychological distress.
Source: Authors' calculations based on HILDA.

While the BNLA dataset does not provide as rich and consistent a set of variables as HILDA for the purposes of panel estimation across waves, it is possible to include a set of key controls for demographic background (gender, age, marital status), English language ability, employment status, location (major city or regional) and socio-economic status of the neighbourhood. Multivariate regression models for the K6, life satisfaction and satisfaction with respondents' relationships with their partner were estimated incorporating those controls and measures of household occupancy and density. When the number of occupants or ratio of occupants to bedrooms was entered as single linear variables, the results show improving psychological wellbeing and life satisfaction as the number of occupants in the home increases. Results for models for K6 and life satisfaction using the quadratic specification of the ratio of persons to bedrooms are reported in Table 12. Few occupancy or density variables were significant in the model for partner satisfaction. The reported coefficients on density and density-squared imply that wellbeing improves up to a point of three people per bedroom before then starting to decline. Recall the CNOS assumes at most two people should share a bedroom.

The variable for the number of extra bedrooms required according to the CNOS was not significant in the model for the K6 score, whether entered linearly, with its quadratic or as a series of dummy variables. For the model for life satisfaction, the linear results imply higher life satisfaction in more crowded houses (i.e. with more bedrooms required). The terms in the quadratic model are significant and imply rising satisfaction up to a point of two additional bedrooms required, a result consistent with a positive coefficient for a dummy variable indicating two extra bedrooms required ($\beta=0.23$, $p<0.01$).

Table 12: K6 Psychological distress scale and life satisfaction—regression results using occupant density, BNLA

		K6 Psych. Distress Score (linear regression)		Life satisfaction (ordered probit model)	
		Coef.	P>z	Coef.	P>z
Constant		8.271	0.00		
Age (in years)		0.161	0.00	-0.003	0.76
Age-squared		-0.144	0.00	0.007	0.47
Male		-1.050	0.00	0.041	0.42
Marital status	Married	—		—	
	Separated	1.736	0.00	-0.118	0.11
	Never married	0.435	0.06	-0.156	0.01
Parent		0.170	0.57	-0.201	0.01
Labour force status	Employed	—		—	
	Unemployed	1.652	0.00	-0.332	0.00
	Not in labour force	1.291	0.00	-0.161	0.00

		K6 Psych. Distress Score (linear regression)		Life satisfaction (ordered probit model)	
		Coef.	P>z	Coef.	P>z
Education level [1–7][a]		0.273	0.00	-0.131	0.00
English proficiency on arrival	Speaks very well	-2.227	0.00	0.362	0.00
	Speaks well	-0.944	0.00	0.131	0.00
	Speaks not well	—		—	
	No English	0.768	0.00	-0.162	0.00
SES Decile of neighbourhood		-0.059	0.10	0.012	0.18
Region/remoteness	Major city (none)	—		—	
	Inner regional	0.261	0.41	0.068	0.45
	Outer regional	-0.871	0.10	-0.118	0.54
Density (persons/bedroom)[b]		-0.631	0.01	0.212	0.00
Density-squared		0.089	0.06	-0.034	0.00
Observations		6,573		5,939	
Individuals		2,262		2,263	
Obs/indiv	Minimum	1		1	
	Average	2.9		2.6	
	Maximum	5		5	
R-squared		0.094			
Wald Chi-sq		399.6	0.00	213.6	0.00

Notes: Panel models estimated with random effects. Estimates for the 10 Cut points for the ordered probit model not reported.
a. 7 point scale ranging from 1=none to 7=university degree.
b. Numerator is reduced by 1 for couple households assuming the couple share a bedroom, but does not account for the possibility that others in the household are also couples.

Source: Authors' calculations based on HILDA.

These results are consistent with wellbeing increasing with household density, but now indicate that this applies over ranges well beyond the point that would normally be considered as overcrowding. Possibly this reflects cultural preferences or norms for higher density living, in contrast with the findings above with respect to Australians of Asian background. More likely, the difference relates to the recent humanitarian migrant status of individuals in the BNLA sample. Positive effects of higher occupant density identified in the qualitative interviews may be stronger for this group, such as sharing of expenses, strengthening kinship and cultural identity, and the security of living with others sharing the same background and language in a foreign land.

3.5 Implications for measuring crowding for policy and practice

There is a complex relationship between occupant density and wellbeing within and across households. Any measure based only on readily observable metrics of household composition and the number of bedrooms is unlikely to accurately discriminate between households that are overcrowded—in the sense that occupants are suffering significant adverse effects from excessive density—from households that are not overcrowded. While such measures may have some descriptive value, they will not adequately meet informational needs for many policy and practice purposes, including the targeting of assistance. This applies to the CNOS, which in general performs no better in explaining variation in occupant wellbeing than direct occupancy counts and simple density ratios. These results suggest the assumptions embodied in the CNOS on appropriate sharing of bedrooms by occupant age and gender have limited validity for the population overall, in addition to other evidence on its lack of applicability for Indigenous Australians.

Some key challenges in developing indicators of overcrowding are that there are significant adverse effects of higher occupancy levels that are independent of density; and effects of higher density differs according to relationship status within households. Parents are more susceptible to negative psychological impacts of higher density while, over the ranges relevant to the vast bulk of Australians, increasing density may even have positive effects for other adults. Potential directions for developing improved measures of overcrowding in population-representative or large-scale surveys include incorporation of wider measures of available space and facilities (such as number of bathrooms and toilets) rather than the existing focus on the number of bedrooms; and giving greater weight to households with multiple family units and those with a small number of bedrooms.

The limitations of occupant density measures for identifying overcrowding mean that additional subjective data, or what Brackertz, Davison et al. (2019) describe as 'stress measures', are required in settings where it is important to positively identify overcrowding accurately, such as for housing providers and welfare support services. Household or family-functioning is an important moderator of adverse effects of density on wellbeing, and should be a priority in the collection of such subjective data. The very low incidence of overcrowding in the Australian population further favours targeted measurement over broad-based surveys in the identification of overcrowding for many policy and practice purposes.

4. Prevalence and drivers of overcrowding

- **Indigenous Australians and people from CALD backgrounds are particularly at risk of overcrowding.**

- **Five further groups at risk of overcrowding include people from lower socio-economic backgrounds, older people, women escaping domestic violence situations, young people and international students.**

- **Three primary types of living arrangements are common among overcrowded households; family living situations, having visitors, and house share arrangements.**

- **Overcrowding is driven by:**

  - Issues with the availability of housing, including limited housing stock, difficulties accessing public housing, a lack of housing diversity, poor quality housing, and discrimination in the private housing market.

  - Cultural norms and obligations

  - Patterns of Indigenous movement between remote communities and regional and urban centres

  - Personal factors including the inability to afford accommodation, limited services in remote areas resulting in people having to travel to receive services, and escaping challenging circumstances including domestic violence and unemployment.

- **The COVID-19 pandemic impacted upon overcrowding by placing added pressure on households in urban centres to accommodate people unable to return to remote communities with border closures, but also with the influx of people returning back to their homelands as a result of policies encouraging people to return to country to protect their health status.**

4.1 Prevalence of overcrowding

A further focus of the qualitative interviews centred on the prevalence of overcrowding within each of the research sites, including identifying the groups that were considered most at risk of overcrowding. The types of living arrangements that were most commonly found among crowded households were also discussed.

4.1.1 Groups most affected by overcrowding

Across all the locations that formed the focus of this research, two key groups were identified by stakeholders as being at particular risk of overcrowding: Indigenous Australians and people from CALD backgrounds. The prevalence of overcrowding was said to vary according to location and remoteness.

Within Adelaide and, especially in Alice Springs, Indigenous people were reported to be considerably over-represented in the data relating to overcrowding and homelessness. While stakeholders focussed on the overcrowding experienced by Indigenous people living in public or social housing, it was also noted that sometimes crowding occurred for this cohort within the private rental market.

> You come to a place like Central Australia—where you might have eight family members in a three-bedroom home … With my east coast hat on … that's serious overcrowding … Here in Alice, a lot of people would say that's perfectly normal. SH02

The mobility of people from the APY Lands into urban centres was also reported to be a factor which strongly contributed to Indigenous overcrowding in Adelaide and Alice Springs.

> The overcrowding has always been a major issue. Yes, that's … I think that would have to be one of the major issues in regard to keeping a tenancy with our [Indigenous] clients … This was set up for clients coming down from APY that were sleeping rough or overcrowding. I think that's the whole purpose of this site. SH17

This sentiment was also expressed by ATSI householders who identified experiencing continued issues with crowding resulting from visitors arriving from the APY lands and staying for extended periods.

> [We] have a big issue with visitors crowding [our] house. Almost every night a group of 5–6 people from the city come over and refuse to leave. … they have come down from the lands and refuse to go back—when people have taken them back to the lands they run away and come back to Adelaide and to [our] house. ADLA06-07

Likewise, household overcrowding was perceived by stakeholders as being an extensive—and often under-estimated—issue for Indigenous people living in remote communities in the APY Lands. Living in large multi-generational households was reported to be common, and as impacting all communities within that region. A severe lack of public housing was said to impact strongly on levels of overcrowding within the APY Lands. As a consequence, stakeholders estimated that around half of all properties within the region were overcrowded, with extreme levels of crowding said to be occurring within some homes.

> Oh, it's a massive issue, there's massive overcrowding … There's large numbers of people that are actually homeless that kind of it's hidden because … Anangu all live together in family groups and there's just large numbers of young people that don't have housing that have kids that are just constantly moving between houses, groups of men where they, acute acquired brain injury that are essentially kind of homeless and can't get moved on, and a range of people that are homeless and are drifting between houses all the time. SH07

> I think where it is happening it's to an extreme. It might be to an extreme of the people living in that house really need three other houses. SH09

Householders from the APY Lands themselves reported the overcrowding that they experienced in their communities, providing estimates that suggested that the majority of houses on the lands were overcrowded.

> Nightmares every night; 15 or 20 people in one house. Yeah. It gets crowded. That's how crowded families are. Every house. Yeah all full up. APYA01-04

> I have family, all the family, they are, all that mob, they live too many in the one house, four they've got in the house, four families, they got a lot of kids, they've got a lot of kids. See, too many in the one house. I reckon they've got to split up, get another one. APYA05-07

The overcrowding that occurred on the Lands was said to be systemic, but also was reported to fluctuate with visitor numbers that depended on cultural or sporting events.

> In a one bedroom there's my son, his partner and his kids. They all there and maybe children. So a parent in each room. Lounge room too. We have visitors. Families travel. And families coming in and visitors. Sometimes they're in the lounge room or outside. Also for cultural stuff as well, funerals and any events as well. Yeah, people come in. Football. Yeah football. That sort …. Visit and family they also stay in that house or maybe outside they camp. It's a bit crowded, overcrowded. APYA01-04

Housing overcrowding was also reported to be common among CALD communities within all three of the regions that were the focus of this research (i.e. Alice Springs, Adelaide and Western Sydney). Overcrowding for this group usually occurred within the private rental sector, due to a lack of eligibility for public housing. It was noted, however, that particular migrant groups were more likely to experience overcrowding in each location.

Within Alice Springs, African migrants (especially from South Sudan) were described as being at particular risk of overcrowding. Stakeholders reported that this cohort commonly moved to the area from Melbourne and Sydney, often securing employment in relatively low-paid work (e.g. care work, security roles, hospitality). A resulting low income, along with the relatively high cost of private rentals in the region and a propensity to have families with large numbers of children, frequently led to this group experiencing overcrowding.

> African people coming up from the southern states … They might be living in a place like Melbourne … and drive to Alice Springs 'cause see there's plenty of work here … [but] nowhere to live for a family … who has seven or eight children plus a mother-in-law or someone else tagging along with them … I've sort of heard that they might just go in as one person and they'll get a two-bedroom flat and then move everybody in … most of them are working 'cause you can't get income support, so they tend to go for the private rental market. SH02

> Availability is a big thing in Alice Springs but absolutely … I think that cost issue does lead to overcrowding in the sense that, for example, migrant communities are unable to get a bigger place, but they might not want to be in overcrowding but they band together. SH11

In comparison, within the metropolitan Adelaide area, the CALD communities most likely to experience overcrowding were said to have migrated to Australia from South East Asia (including Cambodia and Vietnam), China and the Middle East. Multi-generational living was identified as being common within these communities, due to parents and grandparents also choosing to migrate and live with their family in Australia. Housing affordability (especially in suburbs closer to the Adelaide CBD), limited English language skills and a preference for communal living were said to contribute to overcrowding for these groups.

> In the northern suburbs, mainly Salisbury where I think thousands of Cambodians are living here. It's not just the Cambodians, but the Vietnamese and other people from South East Asia and also people from the Middle East as well. But I can say we are flexible. Many of us when we start, when we start settling in Australia and it's hard to find a place to rent. We can live in the same house or in a granny flat. SH12

Finally, within the Western Sydney region, people from locations such as the Middle East (e.g. Iran), Asia (Bhutan, China, India and Malaysia), Pacific Islands and some African nations were described as often living in overcrowded households. As with the other locations in the study, housing affordability and/or cultural preferences for extended family living, contributed to crowded living situations for these cohorts.

> I've come across working with the different community groups, like the Iranian community, Bhutanese community, Indian community and other, different communities, African communities … When a person does not have a job, he or she doesn't have source of income. And when a person doesn't have source of income, definitely a person can't pay the rent, so can't sustain tenancy. That is the issue. SH10

> If you are a husband, wife, with two children living in a two-bedroom unit in Fairfield, at some stage as the children grow, depending on their gender, it becomes an overcrowding situation, you know. I mean, when they're boys and girls, when they're young they can stay in one room, but as they grow older then they would need separate rooms, and the income doesn't, so the income doesn't grow any higher, your Centrelink income or whatever that you are on. SH16

The Sydney region was said to be a common arrival point for new migrants to Australia. Stakeholders noted that recently arrived migrants—and especially those seeking asylum, or who were on humanitarian, temporary or student visas—were at particular risk of overcrowding. Visa constraints relating to hours of employment and ineligibility for Centrelink payments and public housing were reported to contribute to difficulties in securing appropriate and affordable housing.

> People who have been seeking asylum … you're here for years and you may not have work rights and there are not charities and you're not eligible for funded support and your family is sick of supporting you, and then that's where we see their housing and stuff really fall through. SH14

> We get a lot of … Pacific Island families out here in our area who are not entitled to any government assistance, even emergency accommodation, transitional housing, temporary accommodation, all of that, they're just not entitled to any of that. Which is why we see a significant amount of our own community that are … living in overcrowding situation. SH19

Several further groups were also identified to a lesser degree by stakeholders as being at risk of overcrowding. The first of these were people from lower socio-economic backgrounds who—if unable to obtain public housing —found it challenging to afford a property in the private rental sector. In addition, young people—who were more likely to have a lower income and not have a previous rental history—were felt to be at increased risk of living in crowded housing situations.

> Overcrowding affects those in the lower socio-economic groups, as in housing in general is tied to income. SH02

Women escaping domestic violence situations were a further cohort described as being at particular risk of overcrowding. The limited availability of suitable crisis or transitional housing and long waiting times for public housing properties was said to often lead to these women (and their children) being forced to stay with family members, resulting in household overcrowding.

> In the domestic violence space … if a woman needs to escape violence, we have the women's shelter which is absolutely crisis accommodation. And so they do their best to support women to exit into other forms of accommodation. But because we don't really have that many options in town, that can be quite difficult. And often women will exit from the shelter into either where they have come from because there's no other choices or they will exit to a family member's home and often that is a home that may already be overcrowded, and they are adding to that overcrowding because there's nowhere else for them to go. SH11

Stakeholders also noted that overcrowding could occur when a household took in older family members who were unwell or could not afford their own accommodation.

> The senior peoples are very separate, you know … Most actually are able to manage by themself, they were living by themselves in their individual property, they're okay. But … one person got sick and another person can't able to manage … they need to go back with their children's home. SH15

Finally, stakeholders within the Sydney region reported that international students were sometimes having to live in overcrowded households (either with extended family members or in house shares with other students). This cohort also included people on student visas who had been unable to complete their course but continued to stay on in Australia.

> Another factor impacting here is the international students … International students come there and having no source of income, only 14 hours and 20 hours access to work … These people are linked with those families who are, come from overseas and they are either niece and nephews or child or could be anything. You know, the relation is being extended in a way … And crowding over the situation … it is better, save say the accommodation rather than find independent place to living there. SH11

> When I think about the student visa holders that we have seen it's usually people who have kind of thrown out of the education system … It's people who were studying and whose usually their family was supporting but maybe not doing so well at school anymore, haven't been able to finish. Sometimes issues with like visas and applying for a protection order. Then their families cut them off and then they end up I guess in vicarious situations. SH14

4.1.2 Types of living arrangements

Three primary types of living arrangements were said to be common among overcrowded households. These were family living situations, having visitors, and house share arrangements.

Family living situations

Respondents reported that some crowded households were comprised of family members living together on a permanent basis. These included large nuclear families, multigenerational family groups and extended family groupings.

Within some CALD communities (and especially those living in Alice Springs and Sydney), having large numbers of children within a nuclear family was said to be common. Tied in with a lack of available and affordable properties with four or more bedrooms, families were forced to live in smaller properties. As a consequence, siblings had to share bedrooms to a greater extent than prescribed by the CNOS, and therefore these households were officially classified as being overcrowded. Parents living with their children (both school-aged and adult) was the most common living arrangement for the CALD household respondents in Sydney. Only a small number of ATSI respondents were living with a large number of children. This type of living arrangement was more common among ATSI respondents in Adelaide.

> Just one lady last week, she's in her 30s, and then she's expecting her fifth child … She live in a two-bedroom unit and I said, oh that's getting a lot to come here. [She said] No, no, my family. We're a large family. We love kids. SH08

Across all the research locations, multigenerational family groups—comprised of parents, grandparents and grandchildren—living together in crowded households were also said to be commonplace among CALD and Indigenous families. Multigenerational family groupings was the main type of living arrangement found among the CALD households interviewed in Adelaide (and to a lesser degree in Sydney).

> We have one son, 42 years old, and he married … and we have a granddaughter, six years old. Five people, three generations living in one house. SYDC02

> Even in Adelaide now you know the house so expensive, so some of the parents if they came here, if they come here, they certain they do have to live, they have no choice, they have to live with their children. SH13

Multigenerational family groupings were also a common type of living arrangement found among the ATSI households interviewed for this research. In the main, this type of living arrangement was necessitated by a lack of housing in regional and remote areas.

> What we're seeing [in APY Lands] is largely families living either under the veranda of their homes, or temporary accommodations set up in and around the household, whether it's wiltja style construction, or cars, or other vehicles that people are residing in, or just inside the house, large family groups, intergenerational families living under the main roof. SH05

It was also culturally normative that grandparents or aunties sometimes assumed the primary care role for grandchildren/nieces or nephews. In some instances though, these multigenerational family groups were a result of formal court orders directing the care of children to either an auntie or grandparent.

> My sister had a house in [NAME]. But the oldest son came back to [NAME] with my mum … about two years ago and he just refused to go back to his mum. So he's been living with my mum prior to him coming into my care. But the younger one was living in [NAME] with his mum, yeah, until they went to [NAME] and then that's when the Department basically didn't remove them but came to an arrangement that I would care for them. And then that's when I brought the boys back to [NAME] to live with us. ADLA01

A further type of family living situation that was identified by respondents as resulting in overcrowding was extended family groups living together. These households were comprised, for example, of a mixture of parents, siblings, in-laws, cousins, and children. This type of family living situation was said to be especially common for Indigenous people, particularly for those living in remote communities such as the APY Lands and resulted primarily from a severe shortage of housing in the region.

> I've got my cousins. My two cousins there. Three of them, three cousins. They live in one room. One of them live in one room and the kids they bunch up in the little room there with me and my partner. I've got three kids. APYA01-04

> My brother and my brother's partner and children, and my daughter, my daughter's partner and my granddaughter, and my niece. Yeah, more than ten … Four kids, four daughters and then partner, you know, and … her partner's brother is staying with them too. And there's her brother and wife and kids, you know. [I: Wow! How big is your house?] Three bedrooms. APYA19-21

Only a small number of CALD respondents were living in extended family groups. This type of living arrangement was more common among respondents in Adelaide and Alice Springs than Sydney. It was also noted by stakeholders located within Sydney that some international students from CALD backgrounds came to live with extended family members in Australia, at times leading to crowding within those households.

> When I came here we all shared room. Her [my cousin] and her kids, and her sister. She got like five kids, and her sister got one kid. Yeah, all of them live one side, me and my kid lived one side, but it's the same. We're still sharing the toilet and the bathroom. More than 16 people there. ASC10

Several reasons were expressed by respondents for why family members lived together in crowded living situations. Some families were said to have made a proactive choice to live together on a permanent basis due to cultural expectations, previous experiences of living in large households, and/or a wish for companionship.

> Sometimes we get seven people in a house and who are quite comfortable living in that because, you know, Middle Eastern families, Pacific Islander communities, you know they do have large families and some of them are quite comfortable sharing the room with three, maybe because they don't know any better, they haven't had an alternative in their life. SH16

Visitors

A further type of crowded living arrangement experienced by many Indigenous households was having visitors come to stay. This arrangement was especially noted as occurring within Alice Springs and Adelaide where visitors from the APY Lands frequently came to stay with their extended family. Within the APY, it was common for householders to report having visitors from other communities come and stay. While some of the CALD respondents reported that they occasionally had family visitors, this type of living arrangement was not common among this cohort.

Respondents described this occurrence as being part of traditional Indigenous movement and mobility patterns between communities and into larger centres such as Alice Springs and Adelaide. A lack of alternative and appropriate accommodation (e.g. visitor parks) or the ability to afford existing short-term accommodation options was felt to contribute to crowding within extended family members' homes.

> There's elder hostels here in town and they're often full, but there's also a huge cohort of people who just go, 'I don't want to stay at the hostel because it's too expensive'. So getting some understanding of that being another factor again—it's a financial thing. I can kind of impose myself on this family here or pay $35 dollars a night. SH02

> Other families from other communities come. Sports or funerals. Sometimes they stay four to six months. APYA01-04

At times, visitors were described as being welcomed by householders who appreciated the opportunity to spend time with their family members.

> For a funeral or for, but that's good, you know, they come and stay like one week … maybe one or two and then go back. That's okay with me. APYA19-21

However, while being appreciated, it was noted by some householders that their house was just too small to accommodate visitors and this led to overcrowding.

> So yeah, the place I'm living at the moment, because it's got two bedrooms and it's got … one bathroom, toilet, shower, and laundry and, you know it's hard for me to have visitors. Because I like my families to come in from bush, like my mum to stay. But it's too small, the place is too small. ASA08

> So like sometimes my brothers come when they have meetings and work wise, you know, and they do spend like couple of months staying there, but the house is always like overcrowded … And not enough space there, you know, like rooms because my older brother he'll come with his family and bring his family with him and he's got a big family and then a month later my other brother will come. Like he'll have a meeting because he works at [location name] with the [organisation name], he's the Director, and he'll come. APYA10-15

In contrast though some visitors were said to overstay their welcome, bring too many people with them, or partake in antisocial behaviour which led to issues within the home.

> Family just come and visit and they go back, especially my son, but I don't know the others they come and stay how many weeks or months. Yeah. But they should go back to their own community and stay there instead of coming to town. ASA02

> Others are very transient … So they might come and stay for three months and then they're off again … So they might stay with one family member for a few months and then out[stay] their welcome so their family member will arrange for them to go to mob over that's in the next town along. SH18

The length of time visitors stayed was reported to be highly variable with some only staying a few days or weeks, while others would stay months and sometimes years. This was often dependent on the willingness of the head tenant to let visitors stay for longer periods of time or whether visitors had alternative accommodation to return to.

> Sometimes. Some stay for one week or a few days or four weeks. ASA01

> Weeks and months and maybe a year or maybe two years. They stretch it out. It depends on if the family let them in and that's it, they're stuck in that house. ASA12

House share arrangements

House sharing arrangements was a final type of overcrowding described by respondents. This was discussed as occurring to a lesser degree than the above-mentioned types of overcrowding. However, within the CALD respondent cohort in Alice Springs, house sharing was more common than extended or multigenerational family living situations.

Respondents noted that in order to reduce their housing costs, multiple families sometimes opted to live together within the same home. Typically in this situation, each separate family (parents and children) would have their own bedroom, with other rooms in the home—kitchen, living room and bathroom—shared communally.

> Then with families, we're kind of see lots of individual families sharing together and they seem to be usually from the same cultural background and probably have been pointed to each other by people in the community … Largely it seems to be just through cultural connections. SH14

> At [ORGANISATION] with the community housing often there'd be two families living together, not related necessarily and sometimes they'd both be working part-time, have a bit of income on top of Centrelink, a few kids, and just not be able to crack it in the private rental market, so just staying, staying, staying and looking more and looking until something changes or the cycle. SH03

Several respondents from CALD backgrounds living in Alice Springs described their personal experiences of house sharing. While some were sharing a home with a friend (and their respective children), others were living with a landlord or members of their cultural community who were previously unknown to them.

> I just live with a friend and my kids together … I have eight. She have three kids … That's 11 … plus two adult. 13 [people]. ASC05

> The house which I used to live before, I think we have about nine people, some of them … I never saw them. Because I used to wake up at five and then go … to work … By the time I reach house, that one just get his car and drove to work, and then I will come and then sleep. A rotation like this. ASC02

Some respondents within Alice Springs and Sydney also described single men from CALD backgrounds banding together to share a property. These residents were typically students or low-paid workers who were unable to afford their own private rental accommodation within expensive city locations. These house shares had either been arranged via social media advertisements or linkages within their community.

> Another housing issue is that there are some mainly single men. It's not easy for them to get houses. Either the rent is too expensive and then sometimes they come together and they live in a group. Sometimes it doesn't work or they're overcrowded, and then it is generally discovered that there's about 10 men living in a two-bedroom unit, so they get kicked out. SH08

> In casework what we're seeing is single people in house shares. When we try and find out how they found that housing and where they found their other housemates, often it's through informal things like Gumtree. But usually also if there's sort of someone in the community pointed the accommodation out to them. Lots of single people in house shares. SH14

4.2 Factors leading to overcrowding

Several key factors were described by respondents as contributing to overcrowding. These included the availability of housing, housing affordability, cultural obligations, Indigenous mobility, personal factors, and the impact of COVID-19.

4.2.1 Availability of housing

Issues relating to housing availability were seen as being the primary factor that led to overcrowding within each of the research locations. Several factors relating to the availability of housing were raised by respondents, included limited housing stock, difficulties accessing public housing, a lack of housing diversity, poor quality housing, and issues in the private housing market.

Limited housing stock

Issues with the availability of housing were reported across all housing sectors—public, social, and private.

> The simple lack of housing across the whole market is a factor. SH02

> We will be lucky to get a house. There's no houses here and there's too many people. That's why there's so many people sharing accommodation in Alice Springs, people just living together. ASC07

> In this community people really need another house for their family. APYA01-04

In particular, a limited supply of public housing was noted by respondents across all the research locations. Stakeholders stated that little new stock of public housing was currently being built, or had been developed over recent years within any of the research locations. Within the Northern Territory alone, for example, stakeholders estimated that there was a short-fall of around 8,000 to 12,000 public housing properties. This was felt to be strongly contributing to housing overcrowding in Alice Springs and other parts of the territory. Likewise, an inadequate supply of public housing was particularly noted in the APY Lands, where stakeholders estimated that up to half of all properties were currently experiencing overcrowding (and sometimes to an extreme degree).

> Ultimately it is about the shortage of housing … We just do not have the supply we need … We think we need between—across the Territory for everyone, not just Aboriginal populations—we need between 8 and 12,000 properties. SH04

> We've got 49 per cent of our homes in the APY lands already heavily overcrowded. SH05

Stakeholders acknowledged that there were issues that made the building of new public housing challenging. Within the Alice Springs town camps and the APY Lands, for example, it was noted that there was limited new land to build upon due to the existence of protected sacred sites, Crown Land or land belonging collectively to the community.

> Some of the communities that we've been to there are no lots available because of the land tenure … So, it's not just a matter of walking around saying, 'gee there's plenty of land out here', and just plonking the house down. And that's even the case in the town camps here in Alice Springs. So, if you go out to the town camps some of them are surrounded by quite a number of acres of land, some of it's crown land, and some of it's under various lease agreements or native title agreements. So, everything has to line up so that we're not contravening major legal issues with land tenure. SH03

Additional issues affecting the building of new properties within very remote areas such as the APY Lands were also reported by stakeholders. Within those areas, access to water and sewerage was said to be very limited. A lack of accommodation for construction workers and tradespeople, alongside a very high relative cost of building new homes in remote locations was also noted.

> The other thing for us out in remote communities is we're really constrained now by service land so the sewerage and the water and the power are all at capacity. And the cost to put in new subdivisions and the cost then to upgrade the headworks for water or your power generation or your sewerage at the other end is just phenomenal. And even if you've got the pipes underground it can cost you $150–200 grand just to service a lot that you can plug a new house into. SH03

Respondents also reported that there were currently very limited options for short-term, affordable accommodation servicing visitors who came into major centres from remote communities. As a result, visitors had no option but to stay in the homes of family members instead. However, stakeholders also acknowledged that—even if short-term accommodation were more readily available—some of these visitors would still choose to stay with their family either for the companionship or to save money.

> $400 or $500. It's too much. A couple only pay us a little bit of money and we had to pay the rent and everything, but when you stay at visitor's park it costs $500. ASA02

Difficulties accessing public housing

As a consequence of the limited supply of public housing discussed above, long waiting lists within the sector were described, particularly for those who had not been assessed as being a priority applicant.

> But all the houses are taken already. You know, and the waiting list you have to wait a long time to get a house. Maybe 10 years hopefully. ASA11

> Yeah. So at the moment I am on a waiting list for, with [Department Name] for a property … I'm Category 3. And even though with my 20 year of DV [domestic violence] abuse I'm still Category 3. ADLA02

For example, within Alice Springs it was noted that public housing applicants currently had to wait up to eight years before a property became available to them. As a result, stakeholders suggested that some people living in crowded households did not even bother to put in an application to access public housing as they considered that it would take too long to be given a property. Consequently, public housing waiting lists were not felt by respondents to accurately reflect the real level demand for this form of housing.

> For a one to two-bedroom [in Alice Springs], it's four to six years. And for a three-bedroom, it's six to eight years. SH11

> With both of those waitlists [urban and remote], that's the main demand of where people have applied. People choose not to apply for either of those waitlists due to the shortage across the board. So I wouldn't take them as an indication of demand. SH04

Access to public housing was considered by stakeholders to be a particularly pertinent issue in remote locations such as the APY Lands. In that location, the supply of public housing was described as being especially limited with limited prospects of increasing this housing stock in the future. Difficulties accessing public housing in that location, and the other research sites, were felt by respondents to contribute strongly to overcrowding. Prospective applicants had few alternative options, resulting in them having to live in crowded housing situations.

> And, like especially in the community, you wait for about 30 years or 50 years, you know, for new houses to be built. And that's the reason why the families get really overcrowded, you know. APYA10-15

> Ultimately it is about the shortage of housing … Our waitlist for remote communities is only half what it should be because people know it's a forever wait to get a house so they just stay with family and don't put their name on the waitlist. Our remote waitlist is only two and a half thousand which is such an underestimate because people just don't go through the paperwork, knowing that it's pretty hard to get anything. SH04

Challenges were reported in the ability of people from CALD backgrounds to access public housing. While some were ineligible due to visa restrictions, others had too much income to be entitled to a property. However, as some CALD people only earned a relatively low income, their ability to afford a private rental property was compromised. Consequently, incidences of overcrowding could occur.

> She was working, and when she moved from the rental property she was renting, she went to the housing to ask for temporary accommodation, and they say no, because you've been working you have enough money, can't give her temporary accommodation. When she put her application for rental accommodation, they say you don't have enough income. So she's stuck in the middle … so now she's living with a friend and it has been nearly a month now since she moved out. SYDC04

Application processes for public housing were reported to be complex and bureaucratic. This could present difficulties and act as a barrier for Indigenous and CALD families wanting to secure their own property. Issues had also been experienced with appointments not being arranged or applications being processed.

> Just the housing application form, to apply for housing … I know they have said they have simplified it but to me, ask me that's not simple … The system itself is quite complex. SH19

> If housing department also help us, then we can move out … We have given application. Two, three times, we have gone and talked to them. They said they will fix an appointment to discuss everything … But they haven't given me a call. They haven't given an appointment … I am highly worried for how long I have to stay like this. SYDC03

Lack of housing diversity

Current stocks of public, social and private housing were not considered to be a good fit for many of the individuals and families currently living in overcrowded housing situations. In particular, lack of diversity in the size of available homes was noted. For example, for larger families, the limited availability of public housing properties with more than three bedrooms was reported and this led to families being unable to be allocated a property. Likewise within the private housing sector there were also very limited options to access larger properties, and those that were available were very expensive.

> The shortage is the main reason, but I think also the configuration of the current supply is not right … With all our building codes and regulations, it gets quite expensive to build properties that are larger, so most of the properties, definitely in the housing space, most of our properties are four-bedroom or less. Which are not big enough for quite a lot of our families we're trying to house so there's that issue, or that complication, as well as not enough small properties in the urban. SH04

> Other people coming [to Alice Springs] with eight children. So with eight children normally … the biggest they get is four-bedroom. In Melbourne they got six … There's hardly anything to find … They're very, very rare … So the chance of them getting a house with the Housing is nil. SH08

Other respondents reported a need for smaller houses to accommodate more nuclear-type family living arrangements. Smaller houses were also considered to reduce the likelihood of having requests from extended family members to stay and were considered easier to clean and maintain.

> In this community we want single houses, two-bedroom houses for the couple with two kids. APYA01-04

> And it depends on if you're a two-person waiting for a house and then you get a flat, you know, you can't give a two-person that's waiting for a house and give her a four-bedroom one, you know? ASA12

The design of properties in the APY Lands and Alice Springs was also stated by stakeholders to be inappropriate for larger households. Living areas and outside shaded areas were described as being too small and an inadequate number of bathrooms (often just one) were noted within most properties. Stakeholders also said that existing properties did not sufficiently meet Indigenous housing design principles. Hence the current housing stock was not considered to be appropriate for the traditional way of living preferred by some Indigenous people. This was said to include a preference for outdoor living spaces with adequate shade and outside cooking areas that would have the added benefit of reducing some of the internal wear-and-tear within the home. Several respondents also noted a cultural need, where possible, for separate bathrooms and screening to better protect the privacy of male and female residents.

> Housing design's got to be one massive key area for any housing investment. There's a national Indigenous housing design guide but that doesn't often get used. So, there's certainly ways there which could possibly improve it. SH03

Quality of housing

Alongside the need for an adequate supply of housing, respondents also reported that this housing had to be fit-for-purpose and of a satisfactory quality. However, several householders reported that their house was of poor quality, hard to clean and required repair and maintenance.

> I swapped that house with my cousin, so he's got a different house. My power is off, the oven and light, I always get new bulbs in the shop, it's not a very good house so I need a new house or renovated, you know. APYA19-21

> Yeah, easier to clean the wall, like this wall clean, but this one too hard to clean now, we've got to scrub them and scrub them and everything. They don't even clean. ASA05

Many respondents noted the inadequate cooling of the public housing in the APY Lands and town camps in Alice Springs.

> Little rooms … but I sleep in the lounge room. It's cool. ASA06

Several stakeholders expressed concerns that budgets for the repair and maintenance of public housing stock were inadequate and had been reduced over recent years. Within the Alice Springs area in particular, stakeholders reported that, due to the need for repair, some properties were currently sitting empty and unable to be leased. In a relatively small location, the existence of these vacant properties was considered to contribute to overcrowding within existing housing stock.

> Unfortunately, over the last year … we've seen a reallocation of funds away from repairs and maintenance … Some agencies have some of their properties offline for many, many months because the maintenance is just not getting done … One of my agencies has like 12 homes just not ready, not habitable for a year because of the maintenance needed to be done. I just don't think that that's acceptable … We're living in a fairly small town and like, one house does matter. SH11

The poor quality of some private rental properties was also noted by respondents (and especially those in New South Wales). At times this had led to tenants having to move out of the property and into alternative crowded living situations. Living in a poor quality property also compounded some of the difficulties experienced with overcrowding and its impacts on the physical health and psychological wellbeing of household members.

> We are finding in our region … they've got slumlord real estates … They may have been able to get private rental, but the private rental houses are so dilapidated that … you wouldn't put a dog in there. SH18

> Outside the house all it been damage water, everything … The carpet too … no good for the kids, and then my son wake up in the morning sick … I said I'm tired all the time, all the time, 2 years or 3 years, come fix it … say I'm going to move, I can't stay anymore. And that's it yes. I'm moving, take the key on the agency, that's it, and then I'm calling a friend. Say okay, come stay don't worry. So she help me. SYDC04

Issues with the private rental market

Challenges within the private rental market were also felt to be contributing to overcrowding. A limited supply of rental properties was noted and tight rental markets were described in each of the states and territories included in this research. This often made it problematic for people from Indigenous and CALD backgrounds to obtain a property.

> Alice Springs has had a really, really tight rental market the entire time. I guess, it's like peaking at the moment with more people coming from interstate, people who are on higher incomes. SH11

> Getting a rental property just seems very difficult at the moment … I was assuming I'd only be here at my parents place for three max, maybe four weeks you know, so yeah. And it's been nearly six months now that you know, we've been looking and yeah, just not getting anywhere, so it's really difficult and yeah, just makes you want to sort of throw in the towel and just go back … up that way where things are difficult as well, but I think I have a better chance of getting settled up there. So it's more just a waiting game here and yeah, it's not fun when you've got kids, they just want to be settled. ADLA10

Given the tightness of the rental market, estate agents were said to be able to pick and choose tenants as they received so many applications for each available property.

> It is hard to quantify though because the real estate agents don't need to give an excuse, they don't need to say why they won't accept someone. But, you know, it's a common view from all of the workers that I speak to, all the workers in my network feel that clients are discriminated against fairly regularly … So when the market is so packed and the real estate agents can just easily say well we've just chosen someone else because they are on a higher wage. SH11

Particular challenges were noted in the ability of people from CALD backgrounds (and especially those who were new arrivals to Australia) to successfully secure housing. Without a strong rental or employment history, many were unable to obtain their own accommodation and had little option but to stay with family or friends. Issues experienced with being able to secure a rental property was a key contributor of overcrowding especially for the CALD respondents living in Alice Springs.

> Then obviously also struggling to get into the property market because they don't have the rental history. They don't have money for bond and rent in advance. They don't even have a solid income to actually secure a property. I think rent amount is an issue, but I think also how people enter that market is another challenge. SH14

> For the people that are arriving in a city, like us. If you just want to know, is it hard to find a renting place? I have three months and since I've been there, I've been looking for it … I'm the one that's been going for nearly four months looking for a price rent and I did not find it. ASC14

Discrimination was reported to be occurring in the selection of private tenants by some real estate agents. Respondents said that people from Indigenous and CALD backgrounds (including those with large families) faced considerable difficulties obtaining a rental property and, as a result, were forced to live instead with others in crowded housing situations. Some CALD respondents spoke of submitting multiple rental applications with no success. Adverse conditions within the private rental sector were also felt to contribute to discrimination against these groups, compounding their ability to find a home.

> They want to get a house but they can't get a house because of discrimination … especially [REAL ESTATE AGENT] here … As soon as they see you're African they will give you the application but they know that they'll throw that in the bin … They will not even consider you. They will tell you that oh … someone else got the house, but then you go to their website the house is still there. ASC01

> I've been knocked back, knocked back every time because it's like I apply, because I do it online. And then it's like I swear not even like five hours later the landlord is no longer proceeding with your application. And I was like, oh, okay [laughing]. Well okay, these many barriers. Number one, I'm a black woman. Number two, I'm a black woman with kids. And I'm unemployed. You know what I mean? ADLA02

However, stakeholders acknowledged that it was difficult to prove that discrimination in the private market was occurring as real estate agents were not required to declare why an applicant was unsuccessful in obtaining a property.

> When you go to an inspection, you're competing with 30–40 other people and some of those people have well paid jobs and our client group, they go there, they present well and everything else but there's that stigma. The minute they walk in, there's that stigma that they're Aboriginal … It's discrimination. But it's unwritten discrimination. They just won't admit to it. We have had one client; they've applied for 40 houses—and nothing. So, eventually went into community housing because of that reason. So, they're up against a lot of discrimination. SH17

> There's no real evidence of that [discrimination], but they are feeling like that, yes. The real estate agent looks for somebody they know and they can trust. So … if there's three people applying and one of those is a white guy, I think he will get it first and we'll wait for the next queue. It took me nine months before I can secure my first unit and I could secure that unit because my wife, her employer is a friend of the real estate agent. Otherwise it's very hard to get into for the first time. SH12

Several stakeholders also expressed views that private landlords took advantage of tenants from CALD communities (and especially those with limited English). Examples were provided of CALD households experiencing issues with the return of bond payments and undertaking necessary repairs to the property. Others were said to be being charged high levels of rent despite living in poor quality, overcrowded properties.

> I see a lot of landlords and real estate agents taking advantage of our client's vulnerability, lack of English, lack of understanding of tenant's rights and obligations, a lot of that I see, especially with bond matters, with repair matters. You know, the toilet is leaking for three/four months and the tenant doesn't complain because out of the fear that they may lose their home, the landlord may kick them out, et cetera, if they start whinging. So you get a lot of that, people living with old carpets, old ovens, you know kitchen cupboards that are falling off. You know, in my opinion they shouldn't have been allowed to have let the property out in the first place, but they do get away with it when you've got desperate clientele. SH16

> Some of the conditions that our clients are living which is like extremely cramped … You would think that they wouldn't be paying so much money for that one bed, but they are still paying $150, $170, $200 a week to live in conditions like that. But I guess that's just people being able to exploit people who are desperate. SH14

4.2.2 Housing affordability

The affordability of private rental properties was said by respondents to be a second key factor contributing to overcrowding in Adelaide and, more prominently, in Alice Springs and Western Sydney. Private rental costs were reported to be particularly high within these latter locations and out-of-reach for many CALD and Indigenous tenants.

> Private rentals are out of reach for basically everybody, you know. And with our client group they can't afford $400–$500 a week. So although we'd like to see everybody housed in private rental, it's just not feasible. SH17

Large families were particularly constrained as to the size of the house that they could afford to rent in the private market. Issues were also highlighted in the ability of some families to afford to pay the bond and advance rent payments.

> A bit difficult because the renting is really high here in Alice Springs, it's very expensive, especially for big family like me and my kids … Here one week is $550 for a week for three-bedroom and I have big family. If I look for four-bedroom I think it will be more than that. It's a bit difficult. So I'm waiting … I have to calculate my money if I have enough for renting, if I have enough for their school fee, and the food for the kids. Yeah, I have to make sure there's enough, and plus the childcare for my son. ASC10

> A woman with five, six, seven kids is possibly going to be moving into an overcrowded environment because she can't afford a place with more than two bedrooms. And so then that is technically overcrowded. SH11

Housing affordability was seen by stakeholders as being a particularly challenging issue for people from CALD backgrounds who were often ineligible to apply for public housing (either due to their visa type or level of income) and instead were reliant on accommodation within the private rental market. This was confirmed in the interviews with CALD householders (and particularly those living in Alice Springs), for whom a lack of affordable housing options was the main driver of housing overcrowding.

> I still have clients who live in a shed, not proper in Winters and in the Summers still is very hot. It's just to live there to save a bit of money … But it's not a proper accommodation at all. I submit her application for government housing … since then they've just been waiting for a place for nearly ten years already and could get not get. Why? SH12

Relatively low income levels made it challenging for some people from CALD backgrounds to be able to afford market rents. CALD respondents (especially those living in Alice Springs) described being in a difficult situation with their housing. While ineligible for social or affordable housing (due to visa or income requirements), they struggled financially to meet the high costs of a private rental property.

> One day I got to [HOUSING PROVIDER]. And then they ask me to bring to them my, my pay slip. So when I bring my pay slip and then the lady just look at me and then she told … we will not support you. My income was too high. ASC02

Some had financial commitments to family members in their home country which further affected their ability to afford accommodation. Also several CALD respondents had moved to Alice Springs for work and reported they were still supporting and paying the housing costs for family members living interstate. Others were said to be attempting to save money on housing costs in order to raise money to sponsor family members to come to Australia.

> The renting here in this small town is quite expensive. You find yourself renting paying about $500 a fortnight and … maybe like your family's not here, you're paying double rent, the rent for that house and the rent here, all their life there and your life here, it's quite expensive. ASC09

> Also they don't want to spend much money because they have a lot of other commitments … They want to support the extended family members who are in back home … [Or] save their money to bring their family members by sponsoring. SH15

4.2.3 Cultural obligations

Cultural norms and obligations were described by respondents as being a third key factor that resulted in some people from Indigenous and CALD backgrounds sharing a home with family members or visitors.

Living with extended family or as a multigenerational household was therefore perceived to be culturally normative for Indigenous Australians and some CALD communities. Cultural obligations were described that included expectations that family members would assist each other through the sharing of a home and other resources.

> I suppose it's very culturally appropriate … Aboriginal families, we don't leave our families out on the street. So if you happen to have pay day this week and your niece or your nephew down the road hasn't got any money, you're going to bring them in and feed them. Do you know what I mean? And I actually think, I know sometimes that's viewed as negative, but I really think that's a strength that we have as Aboriginal people that we do look after our own. SH18

> My niece, my nephew and my aunty. Those are the few places we have to go. I don't stay with strangers. ADLA04

Some respondents from CALD communities stated that it was culturally normative for different generations of their family to live together. This included cultural expectations that children would continue living with their parents until they were married.

> Because our culture, we grew up like that in culture, we living together. Only if someone married can go, but if he is still single we will stay together. SYDC10

Moreover, within some CALD communities (including the South Sudanese community in Alice Springs), respondents suggested that having a large number of children was culturally normative. Having a big family was reported to be a traditional expectation in their home country, alongside perceptions that a family was stronger if it were larger. However, a lack of availability and affordability of larger houses was contributing to the overcrowding experienced by these families.

> Back home [in South Sudan], and this is what reason they give me, the reasons for them to have all those kids is because they believe the bigger the tribe, and the majority of them are Warab Tribe, the bigger their tribe is, the stronger they are, and there are people that work on the land as well. So the more effective they are with larger family. SH08

Large family groupings were also said to be common within some Indigenous communities and contributed to overcrowding when all were living in the same property together.

> A lot of us have big families, its multifaceted and a huge issue … One family I worked with had 7 kids and at one stage they were all home with all their kids, only 3 bedrooms, a few tents set up in the backyard, living room constantly full, little ones running around in nappies. SH20

Respondents were cautious, however, of extrapolating expectations of cultural obligations to all people from Indigenous and CALD backgrounds. Therefore, it was recognised that while some people actively chose to live in a crowded home due to cultural norms, others had no choice but to share their home, e.g. due to issues relating to housing availability or affordability. Also instances were described where people expressed a wish to live in smaller family groups while still being close to their extended family, but could not afford this option.

> [Some] people would more live as bigger family groups, people don't want to be alone … But equally, people would probably live in groups close to each other … Loads are just around necessity … We come down and stay down here for a while because there is no option. Like there is just no option that they're going to get their own home. SH06

Indeed some stakeholders working with CALD communities questioned whether it was actually culturally normative for their clients to live in large households. In their opinion, stereotypes wrongly persisted that people from CALD backgrounds were used to, and wanted to, live in extended or multigenerational family units.

> In our experience and we went in with quite an open mind, a lot of people say, 'Well maybe it's a cultural thing, you know, people prefer to live like that'. None of the people surveyed, none of the people we interviewed were happy to be living in those situations, in shared accommodation or in overly crowded situations. For none of them it was the norm … I mean maybe people are used to having their parents come and stay or a relative come and stay, but not the intense sharing that goes on. SH14

This viewpoint was confirmed in the CALD respondent interviews. While some respondents reported that they were living with family by choice and that this was expected within their culture, others stated that housing availability and affordability was the primary reason for their crowded living situation. However, even for those who were living together for cultural reasons, dissatisfaction was often expressed with regard to the limited size or quality of their property and the difficulties this presented for the household.

> Generally all Afghan culture are the same. They're always living with the children. The children living with them. They are always close with each other, so it is okay. But recently when we have this small house, sometimes it becomes a little bit hard for me. SYDC06

> Culturally we do share, but it's to a limit, to an extent … I have four kids in a bedroom … and it's too squished … The house is disgusting. I personally find it disgusting. I'm not trying to be rude, but it's very uncomfortable … The house it gives me a lot of stress. SYDC07

Similarly interviews with Indigenous householders indicated that sometimes there was little choice but to share their residence with extended family due to limited housing availability.

> Got a son there. His partner and three kids. They're all in the one room and I got a daughter, her partner and daughter in one room too. And also young daughter … I got a room, me and my partner … .Sometimes my other daughter sleeps in the lounge room, because there's no room. But in this community we have no choice but to help each other, support each other. APYA01-04

> I got, I'm staying with family. The house is crowded. Mother, grandmother, brother, niece, nephew … 10 I think, including the kids. APYA05-07

Stakeholders also noted that at times Indigenous people may be reluctant to accommodate certain family members. However, they may be unable to refuse this request due to power dynamics within their family or safety fears.

> We know that some women and some men don't have power within their family because of dynamics to say no to certain people, whether they can or cannot stay there. And it's too dangerous for them to say no. SH21

4.2.4 Indigenous mobility

Patterns of Indigenous movement between remote communities (including the APY Lands) to Alice Springs and Adelaide were described as contributing considerably to overcrowding within those areas. A temporary influx of visitors into these centres was said to occur at certain times of year, e.g. during summer time (over the school holidays and to escape the oppressive heat in remote communities), for particular events, and to participate in cultural business.

> Mobility is not random. It's not that people are randomly going to different places. It's that people are moving between places and moving between households. Generally if you look at a town camp like [LOCATION], then you'll talk to people and the majority of people are Pitinjarra speakers because that's a southern town camp, those communities to the south are those communities … So there's nothing random about it. And it's complex really. SH01

> It would be more Christmas, school holidays, they all come here in just summer time. ASA02

Visitors were also reported to come into Alice Springs and Adelaide at other times of the year to access services and attend recreational events. Shopping was a common reason for why people would travel to regional and urban centres. Food and other items were said to be especially expensive in remote communities and people travelled to access more affordable goods.

> Shops like are too dear … cost a lot of money for the freights and things to take out there. And it's really expensive to keep things on the shelf. So they can come into Alice Springs to Coles and Woolies it's much cheaper. ASA11

It was also noted that connection to country was strong for many Indigenous people. Hence, movement into the APY Lands was also observed for cultural and sorry business or to attend annual carnivals.

> Houses at this time of the year is out of control … Everyone comes here and numbers of people in houses in Adelaide is incredible. So, but then things like football, football carnivals, funerals, business, when business comes, yeah, then the population can swell massively and that's huge, huge stress on housing. SH07

> They were down for a funeral, there was like over 12 people in the house. Yeah, but just yeah, there no privacy it's like kids and other kids like sort of that don't get along and whatnot. ADLA08

A further reason for visitor flow into urban centres was to escape challenging circumstances within their community (including humbug, violence and antisocial behaviour). Others were said to be seeking better opportunities (both personally and with regard to employment) by moving into a city. These factors resulted in overcrowding for their family members who offered to then accommodate them.

> There has been violence up on the lands and they do come down to escape that and again … the impact on those that are already living here is quite substantial. SH17

> We have a lot of young ones … moving to mob in our area. They want to get away from ice, they have got a bad name, running from cops, and look for employment in Greater Sydney, but this [is] perpetuating a cycle of overcrowding. SH20

Indeed, householders based in urban centres frequently reported the challenges they experienced accommodating family from remote communities.

> They won't listen to me or other people but they just come here. They knew that we are their families. They don't listen. They think about it, my sister there, my cousin there, I might go to their place. ASA04

As a consequence of these various and often fluctuating patterns of Indigenous mobility, stakeholders reported that it was very challenging to determine how many people were living in a particular property at any one time. Also, depending on the reason for the visit, visitors were said to stay only for a few days or for an extended period of time.

> But because of mobility issues between homelands and communities and between communities and also into town, it's very difficult to get any accurate picture of what the population is in these locations. They balloon out and then they shrink and then they balloon out, depending on what's happening in the communities—ceremonies and football and everything else that's going on. SH04

> I don't think we truly understand what's going on in that space … It's not as simple as, someone's coming to stay. In communities there are the tragic death rate that happens in our communities, there's constant funerals, there's constant mourning times. SH21

While Indigenous mobility patterns were reported to contribute to overcrowding, often this was short-term and seasonal. However, many people experienced barriers returning home once in an urban or regional centre. Often the main barrier was financial, with many having spent the funds allocated to their return trip. This resulted in extended periods of stay with family and friends which exacerbated the crowding that was often already occurring. Combined with cultural obligations to have people stay, this caused stress and tension for many householders.

> And then they find themselves stranded here, so they're left behind with us, and we find it hard … Yeah, to get rid of them. And … we say go, and we feel like we're a little bit like not treated right. You know, it feels like you can't tell people to go. ASA07

4.2.5 Personal factors

Several personal factors were highlighted by respondents as contributing to housing overcrowding. Some people were said to be reluctant to take on the responsibility of having their own home including not wanting to have a permanent home base. This included instances when head tenants had elected to give up their property.

> People don't necessarily want a permanent house, people don't necessarily want to take on that responsibility as well … There are definitely instances where an individual is the primary leaseholder and they may choose to give up their house because the responsibility of being the key tenant just becomes too great in the sense that they are legally responsible for anything that goes on in that property and any damage and they can't deal with it because they've got however many people who are causing trouble or just being there and they can't necessarily control that. So I think that's a sad, that's a really, really sad consequence of overcrowding. SH11

> She was living with her two kids in her mother's house in a single bedroom. And also, who lived there was her mother, her mother's partner, her brother and then this young woman and her two children. Now, she wanted to get out of that situation 'cause she just wanted her own space for her children and eventually did move out. But then after a period of time found the pressures of managing a house, as a single mum with two young children, became—was too much basically. And she ended up having to move back in with her mother … financial reasons forced her to move back. SH02

Others—due to a low income or precarious employment—were unable to afford their own home. These factors led to people having to share properties with others, and at times, resulted in overcrowding. This issue was especially highlighted by CALD household respondents living in Alice Springs and (to a lesser extent) Sydney.

> There is definitely a lack of employment options for a lot of our families so I do think that has an impact. Particularly when you're wanting to access a private rental market … We are getting people that are wanting to live together in those situations because they'll put their money together to try and be able to afford the rents that are there. SH18

> My husband only pay the rent. We depend on him because we don't have enough income to rent out another house. So finding very difficult … We are looking for work to move out, looking for a two-bedroom house. But my income what I am getting is not enough to pay rent. SYDC03

Due to limited health services within remote communities such as the APY Lands, respondents stated that some Indigenous people were forced to come to Alice Springs or Adelaide to access these services. In some situations —e.g. when receiving ongoing dialysis—this led to them having to relocate on a permanent basis. Overcrowding then occurred at times due to a lack of available accommodation or people being too unwell to manage their own accommodation.

> Alice Springs is the major service centre in a massive region. So it's the major service centre for the APY lands, for the parts of WA, for Macdonell Regional Council, for Central Desert Regional Council … So people are coming to Alice Springs to access services that they can't access in remote communities … People with chronic diseases are accessing health services … There's a whole lot of gaps in what services are available in remote communities. SH01

> Like this whole contingent of people who have to go on dialysis so people go with them. So they're just kind of, if you want to live, you have to go there and have medical kind of stuff. SH06

Many people from remote communities who travelled to urban and regional centres to access health services took the opportunity to visit family and friends while there, extending their stay and often contributing to housing overcrowding.

> They come to the hospital for appointment. They stay in the hostel and from there they tend to come mine, 'I don't want to go back to community. I want to go and look around for my family', that's what all the people do that. ASA02

It was also recognised that some Indigenous people living in dry communities in the APY Lands would come to Adelaide and Alice Springs in order to access alcohol. Often these individuals may be accompanied by other family members who may all then stay for an extended period of time.

> Because the lands are a dry zone, I think that has … if they can come in and they can drink, I think that has a lot do to with it as well. And then the family will come down, there has been a few people that have actually asked family to come down because they're lonely here and that can be another issue. Because once they get here, they don't want to go back … They seem to enjoy being here. SH17

> My point of view is visitors come in here because people are now on dialysis, and their family tend to follow, you know? So when one come into town for dialysis the whole family tend to come in, and they want to—I don't know, it's their way of protecting or looking after that family, but as soon as they get here they all on alcohol, you know. And then they bring another lot of family in and then another lot of family, and then it goes overcrowding, you know? And then the more they come and they stress more people out, the ones that are in dialysis. ASA10

Aligned with this, stakeholders noted that some people with alcohol, drugs and gambling issues were unable to afford or manage a tenancy. Instead, they lived with others in overcrowded housing situations.

> The local people, they have some addictions so they need to spend some money for their alcohol … and the gambling issues, so they don't want to spend much money for their rent. But they need to go with the overcrowding set up. SH15

Several respondents within Alice Springs reported that some CALD families came to the region from interstate to seek better work opportunities. However, at times, this move was said to not be adequately planned, with families arriving without having secured their own accommodation and then often having no option but to share a home with other family or community members.

> They don't plan it. Some of them, they just drive. They just arrive. They've got SUVs and they put seven kids in a car and they just drive from Melbourne to here. And then they come here, and say, can you help me with looking for accommodation. Of course we can't. We don't have accommodation. SH08

> I was so struggling in Melbourne with jobs … My close friends told me that Alice Springs is a really good state, there is a lot of jobs, just come. So and then I decided to come here so when I came here I didn't have any housing to stay in so I was struggling. I slept in the car … with the kids in there. ASC01

For new migrants to Australia, a lack of a rental history and understanding about how to obtain a property was felt to contribute to overcrowding. Some new migrants were also reported to be more comfortable living with other members of their community than alone.

> So for example, me, as the new migrant, I came to live in Australia as a new migrant two years ago and then I find it was certainly hard to find a place to stay, because I don't have a record, a rental history in Australia. So a real estate will not look at my application … I apply about 15–20 applications … I have very good income in my bank account, but they just don't care. SH12

> When they move into, migrate into the new place and, you know, cultural shock is there … So some guys, they prefer a particular suburb … the community, they are living around there. So that is another reason for the overcrowding … So they don't mind, so I need to be comfort zone, you know, within my community people. And language barrier is also another reason … okay I have a community, people are living here, they can communicate easily. SH15

As described above, women escaping domestic violence situations were described as being at high risk of overcrowding. A limited availability of appropriate crisis and transitional accommodation was described and, at times, they were directed to hostel or visitor park accommodation. Rather than have to stay in unsuitable accommodation, these women instead had to reside with family members leading to crowded households. People from CALD backgrounds who had experienced trauma were also said to sometimes feel more comfortable living with family members in crowded living situations.

> They're fleeing from violent situations so they have to move out from the partner and they need accommodation. So that's a bit difficult, that one. So normally there is the women's shelter and they can live there for months or weeks, but they can't live there forever. SH08

> We service people from humanitarian background and disadvantaged group. All these people who we service have come from the war background countries where they have a lot of post-traumatic issues. And those issues are impacting their lifestyle. So quite a lot of family, so when we try to separate them and … even if they have the capacity to pay the rent, they say no, it is, it is good for us to live within our communities where we can express our feelings being there together. SH11

Other women were said to be forced to remain in violent and overcrowded living situations due to a lack of affordable alternative accommodation.

> The options for people seeking asylum are so limited. We've got women who don't leave violent homes because they won't be able to get into a refuge because they have no income to be able to secure a bed. The free beds are so limited. SH14

Finally, several respondents from CALD backgrounds reported that one of the reasons they lived together in large households was to make it easier to care for dependent family members. This included the provision of care to grandchildren or older adults.

> Auntie's been with her brother [and his family] for a while … .She's 74 and she's never married … It's her brother's job to look after her … She's special … They can't abandon her because of the father's gone, so someone cares for her. ADLC09-14

4.2.6 Impact of COVID-19

Finally, the COVID-19 pandemic was described by some respondents as impacting upon overcrowding, especially for Indigenous households. For example, within Adelaide it was noted that the closure of the APY Lands at various times during the pandemic had resulted in visitors being unable to return to their homelands; this had placed added pressure on households in Adelaide to accommodate people for longer periods in crowded conditions. Likewise the closure of some remote health services due to COVID-19 restrictions had led to patients having to move into urban centres for treatment, often staying with family members.

> I think there is a huge issue with the overcrowding, especially during the whole COVID thing. That was a lot worse … because people couldn't actually go back home and there was no other alternative for them to stay with family … And a lot of medical reasons, like when COVID was on they closed down [ORGANISATION], so that means that all of those patients had to, they had to come down here. And again, just sending them down here with nowhere to stay, it was like … where are they going to stay? With family. And then they'd bring their family. SH17

Conversely, householders also spoke of the influx of people returning back to communities as a result of policies aiming to return people to country to protect their health status. This led to concerns about householder wellbeing and placed increased demands on already overcrowded houses.

> So we are worried about COVID. Like to keep family safe, you know, like. Especially the tenants and the families that all have houses, you know, and people coming back home fill their house up and then it'll be overcrowded. APYA10-15

Several CALD respondents also described the negative impact that the pandemic had had on their livelihood and housing situations. For the respondent below, job loss followed by the sale of her rental unit had left her with no option but to enter a crowded house share arrangement.

> During the Corona, I lost my job and two weeks later, they sold the unit that I was renting. I had to move out … The cheapest was to go and find a room for now. We looked around and someone told us that she's looking for someone to come help her pay rent because she separated with her husband and he left her alone. We came and we rent a room and that's where we are now. ASC07

4.3 Summary

Indigenous Australians and people from CALD backgrounds were consistently identified as being particularly at risk of overcrowding. Five further groups were identified as being at risk of overcrowding: people from lower socio-economic backgrounds, older people, women escaping domestic violence situations, young people and international students.

Three primary types of living arrangements were said to be common among overcrowded households. These were family living situations (large nuclear families, multigenerational family groups and extended family groupings), having visitors come to stay (particularly for Indigenous households), and house share arrangements (particularly for CALD households).

Several factors relating to the availability of housing were reported by respondents as contributing to overcrowding including limited housing stock, difficulties accessing public housing, a lack of housing diversity, poor quality housing, and discrimination in the private housing market.

Cultural norms and obligations were described as being a key factor that resulted in some people from Indigenous and CALD backgrounds sharing a home with extended family members or visitors. Related to this were patterns of Indigenous movement between remote communities and regional and urban centres, which were described as contributing considerably to overcrowding.

Several personal factors were also said to contribute to housing overcrowding including the inability to afford accommodation, limited services in remote areas resulting in people having to travel to receive services, and escaping challenging circumstances such as domestic violence and unemployment.

Finally, the COVID-19 pandemic was described as impacting upon overcrowding. Indigenous households were especially affected with border closures and lockdowns resulting in visitors being unable to return to their homelands, placing added pressure on households in urban centres. Overcrowding within remote communities was also impacted by an influx of people returning back to their homelands as a result of policies encouraging people to return to country to protect their health status.

5. Experiences of overcrowding

- Overcrowding has considerable impacts (both positive and negative) for households.

- Positive impacts of living in a large household include caring for family members, strengthened family ties, the promotion of cultural identity, and financial benefits. Companionship and better health and wellbeing were two further perceived positive impacts of living in large households.

- Positive impacts of overcrowding are only achieved by those crowded households that function well.

- Negative impacts of housing overcrowding are more prominent and include limited access to adequate space and privacy, excessive noise, incidents of antisocial behaviour, poorer health and wellbeing, child safety and wellbeing concerns, increased housework, food theft, and family and financial strain.

- Overcrowding also impacts service providers (and especially housing providers) through having to undertake additional property repairs and maintenance, the provision of intensive tenancy support, and assistance to find alternative accommodations.

- Both housing providers and householders attempt to manage overcrowded living situations.

- While organisational policies and guidelines relating to managing overcrowding (e.g. tenancy numbers, tenant responsibilities and visitors) exist, there is often considerable flexibility shown as to whether these are enforced in practice.

- **Household members also implement rules and strategies to manage overcrowding including the management of sleeping arrangements, adapting living patterns, restricting alcohol consumption, and protecting possessions and food from theft. Common strategies to manage visitors include refusing to accommodate unwanted visitors, using the support of housing providers or the police, making use of outdoor spaces and having a small house and/or a dog (especially a 'cheeky dog') to deter visitors.**

A key focus of the qualitative interviews with stakeholders and householders from Indigenous and CALD backgrounds was on experiences of overcrowding. In particular, perspectives were sought about the impacts and management of overcrowding. To further highlight the rich stories householders shared with the researchers, we also constructed composite case studies for both ATSI and CALD householders detailing 'positive' and 'negative' experiences of overcrowding. Composite case studies are developed by amalgamating material from multiple cases to construct a single account that highlights a specific issue (Duffy 2010). The benefit of this approach is that it allows the author to convey the depth and complexity of information gained by contextualising a case in a manner that is accessible to academic and non-academic audiences alike, while also preserving the anonymity of the source (Willis 2019).

5.1 Impacts of overcrowding

5.1.1 Positive impacts of overcrowding

Respondents recognised that living in larger households can, at times, provide positive impacts for household members. Four benefits were most commonly reported: caring for family members, strengthened family ties, the promotion of cultural identity, and financial benefits. However, it was recognised that positive outcomes were only achieved by those crowded households that functioned well.

Caring for family members

Being able to care for family members was described as being a potentially positive impact of living in a large household. This was particularly the case for households comprised of multiple family generations. Specifically, having family members who were readily available to provide support with caring for children was felt to have benefits for the wellbeing of children, to save on childcare costs, and enable parents the time to work or pursue training opportunities. Many of the grandparents interviewed expressed joy in living with their family and being able to spend time with, and help care for, their grandchildren.

> There's that sense of belonging, that's massive within the Aboriginal communities. There is the fact that it takes a village to raise a child, so … there's more people in that household that are able to sort of assist with that child and raising the children, so I think that's positive. SH18

> It's okay for like my family's kids because my mum looks after the kids and I let her stay in the house because she's got my nana, her mum, and nephews and nieces and grandchildren. ASA08

The ability to assist and care for members of the older generation was also noted as being a benefit of living in a multi-generational household. Respondents from CALD households stated that knowing their child was there to care for them when needed provided them with a sense of ease.

> When I am ill, my son can take care of me in time, because we're living together, that's one of the good things. If we live far away from their son, when I got ill, then son cannot come to our home. ADLC03

> When I'm not well I've got my daughter to look after me, or if my daughter's not well, I'm there to look after her. It's just that bit of security. ADLC09-14

Some respondents living in multi-generational households also described the readily available emotional support that they gained from living with other family members.

> There is always support. Either physical support or emotional support. Every time there is pressure from work, we'll have some kind of pressure at work, and when I got home my mum, when she sees me, she says you don't look good, are you okay? … So when she sits and listens to me this is great support so I feel better … So I always feel that I'm secure. At night when I'm sleeping I can feel safe because I know that other people are around me, other people are in the same house with me. SYDC09

Strengthened family ties

A second key positive impact of living in a large household that was reported by respondents was the strengthening of family ties. Many respondents described the importance of family for people from Indigenous and CALD backgrounds. The richness of life that extended family living could bring was also noted. Living together in a large household was seen as helping to foster active family connections, and the ability to spend time and do activities together.

> People want their family to come and stay. They don't want them to overstay their welcome, but they want to come and to stay … I mean family is important … So it's really rich intergenerational family groups and if we just stick with this idea that the house is just for the people who are living in it, without thinking about the extended family, then that richness is kind of lost. People are isolated. SH01

> [I] like being around family like makes you feel happy and all of that. You feel good inside. You need family for like support and help and like get together again. ASA07

Promoting cultural identity

Living in a well-functioning large household was also perceived by respondents as potentially supporting the promotion of cultural identity for people from CALD and Indigenous backgrounds. Living within, and supporting other members of, an extended or multi-generational family group enabled people to meet their cultural obligations and to follow cultural practices together. For some Indigenous households this included hunting and living off land.

> They'd want the family to be there. Especially the granny and the aunties and the uncles, so that way they can bring the children up together, and they know their family and then they know their culture … I spoke to one of the ladies and she was saying that a lot of their culture is disappearing because the young ones aren't listening and there's no one to tell them, no one to sit down and tell them their stories, so I think in that regard I think that the positive is where the family get together, they talk, they teach the children. SH17

> It's not only that living in that house, it's where those really strong families are because generally they're hunting and practicing their cultural practices as well as living off the land and all those things contribute to a healthier wellbeing of that household. SH04

Communal living was also described as providing an opportunity for elders to pass on cultural traditions, stories, and language to the younger generations within their family. Shared mealtimes with the cooking of recipes from their homeland was perceived to be another way of keeping culture alive in multi-generational households from CALD backgrounds.

> It's good to live with families because you'll, you know, like have stories and teach your kids how to, you know, stay safe and all that. APYA10-15

> Sometime the grandchildren can learn some culture … from their grandparents … They might pick up some of the Chinese culture maybe like they can speak in Chinese, they can be bilingual, they know our Chinese community, they have to do this and do that. For the Chinese food they know Oh this is Chinese food … So, at least they will know these kind of things for the cultural point of view. SH13

Financial benefits

A fourth key potential benefit highlighted by respondents of living in a crowded household related to financial matters. Sharing a home with others was perceived as being a way to afford the often high cost of private rental accommodation. Living with others enabled the sharing of living costs such as rent, food bills, and utilities.

> People just gladly said, no, I'm not used to living with other people … What it was was a very deliberate response or a strategy to be able to afford accommodation … We've currently got a family that's living in one bedroom and … they've chosen to stay in the one room so that another family can move in and they can then have some more disposable income for other things. SH14

> So I helped with, I'd chuck in for rent, not the whole amount. Because there was so many adults and then I'd also throw in for food. So I didn't have to pay a big portion, it was just pay what you can but contribute. Yeah. And if there was a week that, you know because I had a bill due, there was no big fuss about it. ADLA02

For Indigenous householders, having visitors that contributed to household costs and housework was considered less of a concern than visitors that did not contribute.

> Some visitors are good because they tend to give a hand cleaning the house. Some visitors are good because they tend to buy their own food while they're staying at the house. Help you with the power cards. ASA12

> Some people bring like food, the bush tucker and all that, like kangaroo and all that. And we welcome that, we welcome them. A bit of kangaroo and emu meal, bush tucker, all of that. And we welcome them and we appreciate it, you know. But others just come for, I don't know, just to enjoy themselves in town. ASA07

It was also noted that shared living was used by some people from CALD backgrounds as a vehicle to save money and purchase their own home. It could also enable people to be able to offer financial support to relatives living in their home country.

> They're okay, they are accepting the overcrowding … They are still managing with … the parents, grandparents, children and maybe their in-laws … They're supporting each other to save their money to buy a house to move, etc., by themselves. SH15

> So I told him, 'You pay one fortnight, I'll pay one fortnight'. That way I have something because I am supporting my children back home. ASC06

Other positive impacts

Several further positive impacts of living in crowded housing situations were noted to a lesser degree by respondents. First, living with other family members was felt to offer companionship and therefore prevent loneliness. It was also suggested that some Indigenous people preferred to share their home with others as they felt afraid sleeping in their property (or their bedroom) alone.

> I scared to be alone by myself to be honest … To have my kids around of me it's given my peace. Make you feel like you are not alone. SYDC12

> Yeah, we need them because I'm staying here by myself for many, many years. Many, many years, so I need to have friends to come and visit me. ASA04

Aligned with this, communal living was considered by some respondents to enable people from CALD backgrounds to maintain their own cultural values and avoid some of the perceived detrimental effects of Western ways of living.

> And one could also say that if you have individuals living in individual rooms, etc. it promotes individualism, selfishness, greed, you know the identity becomes distorted, their hearts don't open up to other people, basic social skills get limited. If a kid is sitting in a room all alone playing video games all day because he's got privacy, you know that could be detrimental, as the western world is finding out now. They get lonely. They talk to people who are thousands of kilometres away instead of talking to their neighbours. SH16

A further positive benefit related to the health and wellbeing of household members was the recognition that some people from Indigenous and CALD backgrounds had experienced extremely challenging personal and family situations, including incidents of trauma in the past. Having family living close by in the same home had the potential to help these people cope with these experiences and provided an opportunity to express their feelings together.

> Compared from my life in Afghanistan or Pakistan, here is the best. Because of the situation, the past was a very bad experience. SYDC06

> When they are with their own communities, so they feel comfortable to open up themself. And as much as they share their feeling … and they keep their mind free of tension, pressure or any sort of traumatic issues. So that is one of the reason, I see, to my experience, people like to live together. SH10

Finally, having a house to live in (even if it was overcrowded) was seen by many stakeholders as providing a degree of safety and security to household members.

> It's shelter … and for some individuals, it's great to be able to have access to a bathroom and a roof and some safe walls around them. So that is definitely a benefit for many. SH11

Composite case studies

The following composite case studies illustrate some of the positive effects of overcrowding: the first provides an example of a CALD householder living in Sydney and, the second, an Indigenous householder in an Alice Springs town camp.

CALD: Positive Case Study

Nadirah

Nadirah is a 32 year old widow with four young children. Having fled Iraq after her husband was killed, Nadirah arrived in Australia three years ago along with her children, her parents, and three unmarried sisters. Her two brothers are currently living in Turkey but hope to eventually come to Australia. Nadirah completed the Adult Migrant English Program (AMEP) at the local TAFE and has been volunteering at a nearby community centre that provides services for new migrants. She currently receives Centrelink payments but hopes to eventually find paid employment. Her parents are of retirement age and they speak little English. Nadirah's youngest sister is currently studying Year 12 at the local high school and the other sisters help their mother to maintain the household. Nadirah's children attend the local pre-school and primary school.

LIVING ARRANGEMENTS

The family live together in a privately rented, three-bedroom house in South Western Sydney. Nadirah and her children share one of the bedrooms, her sisters share another, and her parents occupy the remaining bedroom.

The house is in good repair and the family takes great pride in ensuring that it is clean and tidy. They have a good relationship with their neighbours who marvel that they are so quiet, given the large number of people living in the household.

Space in the house is limited. The family use the garage for additional storage, and Nadirah's parents have a desk in their bedroom that her younger sister uses for her studies because there is no room in her bedroom. It is difficult for Nadirah's children to play because there is little space in the house and yard. Instead they spend a lot of time at a nearby park.

"To have my family around me it's given me peace. Make you feel like you are not alone."

Despite these challenges, Nadirah does not feel that their home is overcrowded. Instead she enjoys the security and support that comes from living with her extended family, especially given the trauma that she and her children experienced when her husband was killed.

FACTORS LEADING TO OVERCROWDING

Culturally, Nadirah says that it is traditional for families to reside together in multi-generational family units. However, the houses in Iraq are designed to accommodate larger families. Nadirah feels that the family needs to find a bigger house so that they can live more comfortably.

The family wants to continue to live together but would like a bigger property in the same suburb. They are familiar with this area, having been originally housed there as part of the Humanitarian Settlement Program, and there is also a strong community of migrants from Iraq locally. However, house prices and the cost of rent in the area is high and there are very few properties that are large enough for their needs.

Nadirah applied for public housing two years ago to see if they could access a bigger house. However, despite submitting the forms several times and going in person to follow up on her application, she has never heard back from the public housing department. Nadirah is unsure whether her family is currently on the waiting list to receive public housing or not.

In order to afford their current house, the family pools their finances and Nadirah's father coordinates paying their expenses. Although they want a bigger house, Nadirah is concerned about taking on a house with higher rent. While her family might be able to afford it now with their combined finances, if one of Nadirah's sisters were to marry and move out they may struggle to pay the rent in the future.

IMPACTS OF OVERCROWDING

Nadirah's mother has severe arthritis so the family feels that is important that Nadirah and her sisters are able to assist with the housework. In addition, given that neither of their parents speak English well, they also help with shopping and accompanying their parents to medical appointments, and the like, where they can help to translate. Similarly, as a single mother, Nadirah can rely on her family to help with caring for her children. She foresees that this will be especially important when she gets a job in the future. Nadirah also feels that living in a multi-generational household is beneficial for her children as they can learn about their culture from their grandparents.

One of the main benefits of living with family, according to Nadirah, is the emotional support that they provide to each other. For Nadirah and her children this is especially important given the trauma that they have experienced in their past.

However, Nadirah also acknowledges that living with family can be challenging. Having to share a bedroom with her children, can make it difficult for Nadirah to have enough privacy and time to herself. Nadirah is also aware that any mess her children create impacts the rest of the family, which means she has to work extra hard to keep the house tidy.

In addition, even though her youngest sister has a desk to study at in her parents' room, Nadirah is aware that sometimes the house is too noisy with four young children also living there. As a result her sister is often forced to go to the library or elsewhere to find somewhere quiet to study.

ATSI: Positive Case Study

Poppy

Poppy is a 56 year old Arrente woman who lives with three of her grandchildren in a two-bedroom house in a town camp near Alice Springs. After her husband passed away Poppy moved from community, where her six adult children continue to live, into Alice Springs to be closer to her sister. She applied for public housing when she arrived in town and then spent two years living with her sister, Lily, while waiting to be assigned her own house by the housing committee. While she lived with Lily, Poppy contributed towards the rent and helped with the chores around the house. Poppy has been in her own place for six months and has been able to have her grandchildren come to live with her. Despite living apart Poppy and Lily continue to be inseparable throughout the day, spending most of their time at the local community centre painting and talking with their friends.

LIVING ARRANGEMENTS

Poppy lives with three of her grandchildren in a two bedroom house. She shares a bedroom with the two girls, aged 4 and 6 years, and her 8 year old grandson uses the other room. One of Poppy's adult daughters often comes to town with her partner for a few weeks to do some shopping or for medical appointments. When they do, they sleep in the living room. However, Poppy generally discourages visitors and only allows certain family members to stay in her home.

Poppy is the only person named on the lease for the property, and as such she is very conscious of the fact that it is her responsibility to pay the rent and to keep the house clean and tidy. She knows that she can trust her daughters to help her with the chores if they stay with her, but she is worried that if she allows others to stay they will not help and she will end up with a lot of extra work to do. Poppy and her sister Lily often work together to keep up with the housework in both of their houses.

Prior to Poppy moving into her home, the property was updated and previous damage was fixed. As such, it is in good repair. Poppy observed that it is much easier to clean than the house that she shared with her husband in her home community. The only complaint that she has about the property is that there are not enough cupboards or shelves for storage, which means that things can get a little untidy.

FACTORS LEADING TO OVERCROWDING

For Poppy, a long waiting list for public housing meant that she had to stay with her sister until a property was assigned to her within the town camp. While private rental options were available, Poppy could not afford the rent in Alice Springs which is very expensive.

Now that she has her own place, Poppy is grateful that it is only a small house. She feels that this discourages unwanted guests because they can see that she does not have sufficient space for them.

> *"I'm right with two bedroom. I don't need bigger one. If you can get like three or four bedroom have them all rushing. Pulling up oh we've got a swag here. We'll go inside in your house."*

Others in the town camp, like Poppy's sister Lily, have larger houses and they feel the pressure to house family when they come to town. Lily's backyard often has people camping who have come to town for appointments and cannot afford to stay at the caravan park or to get themselves home. This is a source of frustration for Lily as they rarely help with the rent or chores and are often noisy at night when they start drinking.

IMPACTS OF OVERCROWDING

The ability to have her family around her is deeply important to Poppy. Given that there is a cultural expectation that Poppy will take on the role of "growing up" her grandchildren, she is delighted that she now has her own place and can have the children live with her. She loves being able to share stories about their culture and taking her grandchildren out bush.

One of the biggest issues for Poppy, and the other ladies in her community, is the number of visitors that stay within the town camp. Of particular concern is the noise and the behaviour of these visitors and the impact that it has on their ability to sleep.

Poppy bands together with her sister Lily and their friends in the town camp to keep on top of the behaviour of visitors. They all encourage Lily, who has a particular problem with visitors at her house, to call the police when her visitors start arguing. Poppy says that she also calls the housing department or police when issues occur in the town camp.

If things get too noisy at her house, Lily will spend the night at Poppy's house so that she can get some sleep. Lily does not like to do this, however, because then there is no one there to keep people out of the house and to stop them from stealing her belongings and food.

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5.1.2 Negative impacts of overcrowding

Despite these potential benefits, respondents also frequently expressed perceptions about the negative consequences of housing overcrowding. Twelve primary negative impacts were reported as resulting from overcrowding and are described below.

Lack of space and privacy

Challenges around having adequate space and privacy were noted as being a common issue within crowded households and was the most frequent issue raised by respondents from CALD backgrounds (especially those living in particularly crowded homes in Alice Springs and Sydney). It was also the second most frequent concern for Indigenous householders.

Respondents spoke of having inadequate space within their homes with particular difficulties noted around the use of communal spaces. Household members were often unable to use the kitchen or bathroom when they wished and difficulties were noted for children being unable to have space to play or study. Moreover, given their already cramped surroundings, being able to invite visitors to their home was also problematic.

> I don't think there's anything good about it. You need your own space to have, to relax your mind, to feel free … Sometimes you need a bit of space, not so crowded all the time, because there's only one living area for everyone, and you know kids, they will never settle in one place and always arguing … I go 'okay guys, please go in the room now, we need a bit of space. I'm getting so crazy'. ASC10

> The house is too small. I have a visitor like a sister and a mum, but they never come when we get the house because the house too full. ASC05

Respondents also stated that a lack of space sometimes meant that residents did not have private or safe places within the home to sleep. Family members commonly had to share bedrooms, and other spaces in the home (e.g. the living room) were at times also used as sleeping spaces. These arrangements often affected the household's ability to obtain sufficient sleep and disagreements between those sharing a sleeping space were said to be common.

> The younger sister is 20 and … sometimes when I'm sleeping she sleeps very late at night because she stays awake till let's say 3 or 4am in the morning, she is studying, submitting assignments, and when she tries to get up to her bed she wakes me up. And I say, please do it slowly and quiet because you are waking me up and I can't go back to sleep and I have work in the morning. And she says, but I am, I'm not making any sound … So there is always this argument. SYDC09

> I was sleeping on the floor. They gave me a small mattress then gave me blankets. I was sleeping there with the kids running around everywhere, I can't even ever rest. ADLA03

Difficulties with a lack of privacy in crowded homes were frequently noted by respondents. This included being unable to have time alone when wanted or to follow preferred patterns of living.

> Not having your own space. That was, I think that was, and it's not the fact that I was living with my family, I think that you need that just as an individual. Do you know what I mean? It doesn't matter if you're a kid or if you're an adult, I think we all need our own space. It doesn't mean you don't love and care for your family. But I think that was the one thing that I missed was having my own space. ADLA02

> People have got none of that absolute basic stuff which, you know, you get home and you're really irritable, you have something to eat, you sit in the cot, you watch a bit of TV, you know … there's none of that to do any of that kind of rest and relaxation and just, I need five minutes to myself. SH06

Respondents also spoke of being unable to have private conversations within their home or having privacy to dress or use the bathroom.

> When you live in that small space there's no privacy. When you talk, your communication is exposed to someone who is close to you and … It's also not easy to read when you try to study or maybe read for leisure, you don't have a space to read. So, there are a lot of challenges being in that confined space. ASC09

> And at my house I've got two young fellas staying and there's no privacy for me. Like when I'm, when I want to go and have shower I get, like when, someone might open the door. Because there's a lot of young men coming to visit them. APYA10

Connected with this lack of space and privacy, difficulties were also noted with the ability of residents to keep their belongings safe. Challenges were particularly experienced with access to paperwork and documents, medications, food and technology devices such as phones and tablets, with examples provided of these items being damaged or stolen.

> People just cannot hold onto anything like once you talk to people, it's just a constant part of life is that you, everything gets stolen, everything gets broken … there's nowhere to store your food, there's nowhere to store basic medicines … There's nowhere to store your private papers … Everything's just tricky. SH06

> At the moment the one I live is the upstairs house, safe area, but sometimes the last owner steal some of my stuff … I put a small shelf at the back. I didn't have a locker so some of my stuff was missing. SYDC07

Respondents reported that the COVID-19 pandemic and associated lockdowns were particularly difficult for people living in crowded households. For example, in an already busy house, finding adequate space and quiet for adults to work from home or children to do online schooling was challenging.

> The other thing I would say is not being able to use spaces. So for adults … not being able to, for example, work from home. They didn't have space to work from home unless they just used their bedroom. SH14

> During the COVID time … when they're in an overcrowding situation the classes are online and they don't have their privacy to have their class and that affects their education too. So sometimes they don't have enough access for the internet because too many people sharing one internet, of course the accessibility would be less. SH15

Noise

Respondents (and especially householders) described noise as being a common challenge of living in a crowded home. Many respondents felt that living in a relatively small space with others meant that their homes were too noisy and it was difficult to obtain sufficient peace and quiet.

> I can't relax because I have two TVs, one for my kids, one for my husband … Everything loud. The space very small. Every time, I have headache and I have migraine. SYDC01

> She was so annoying and I was glad she went … Waking up at 4:00 in the morning talking on the phone and she's not realising that we're living with her … That's why I don't like people living with me. ASC

Excessive noise levels within the home could impact on the ability of household members to sleep properly. A lack of adequate sleep could lead to irritability, add to tensions in the house, and negatively affect work and daily activities.

> The negative impact is a lot more than the positive impact. It affects health, mental and physical. You don't sleep well … There's noise or disruption. SH12

> That's another thing. Another problem is noise. Can't sleep. We get really stressed out. ASA10

Likewise, some respondents described being cautious about making too much noise and disturbing others in the household. This was particularly the case when listening to music or the TV, doing housework, or when their children were playing. As a consequence, these respondents often stated that they changed their ways of living to ensure that their homes were quiet enough.

> One problem is I wake up early at 8 o'clock. My daughter-in-law, she wake up at 10:00. This means I have to stay in my bed, do not make any noise because she want to sleep. That's why I have to stay in my bed until she wake up, until she wake up too. I can't move, because I can't move. I can't do anything. She want to sleep … I hope I'm living alone. It's better. SYD13

> Like kids wanting to go to the toilet in the middle of the night, it felt like we were getting growled at almost, because they needed to do that. Because you know, like we'd get up and for some reason it seemed like the floorboards would creak a whole lot more of a night time so that people would hear us walking, you know trying to sneak through the house in the dark. But yeah, and that happened every night as well so that's, I think that contributed to a lot of the stress as well, yeah, so yeah. ADLA10

Antisocial behaviour

Incidents of antisocial behaviour were described by respondents as occurring in some overcrowded households and was the most common issue raised by Indigenous householders. Within Adelaide and the Alice Springs town camps, this was felt to be particularly so when certain visitors came to stay. Problematic levels of drinking were reported, partly due to the fact that alcohol was easier to access within urban areas than in remote Indigenous communities. Moreover, sometimes pre-existing tensions between households in the APY Lands were said to be brought into Alice Springs or Adelaide.

> So there's a number of different ways that visitors can impact upon households and it sort of comes hand-in-hand with antisocial behaviour, problem drinking … Depending on what the motivations for people to be spending time on town camps actually is then that can exacerbate the issue. So there'll be houses where you know there'll be large amounts of partying and antisocial behaviour and drinking and that can be an issue for the neighbours. SH01

> You can see down there, hear them arguing. They are overcrowded over there, too … They're drunk and then that's when all the violence come out, you know. All the frustration and the anger and everything like that, and they take it out on people, people get hurt in that process, too. ASA07

Examples of antisocial behaviour within some households—alcohol and drug misuse, noisy parties, fighting, and damage to items in the home—were provided by respondents. Overcrowding in itself was considered to be a factor that could heighten this behaviour and make it more challenging to manage. Sometimes these incidences were said to escalate to such a level that the police had to become involved.

> Because my husband have this drinking problem, it's difficult to be in one room. Not enough space … The main problem, because of the space, we had to live in one room. So more interaction and more getting annoyed and then he started to hit. If it is spacious, we would have stayed away from him in the same house, so nothing would have happened. All because of the house happened. SYDC03

> The alcohol. The alcohol is the problem. You set rules that they are not to come back drunk or not to argue with the person that, the boss of the house. If they do that, I want to say that I'm going to ring the police and they'll lock you up. Either you do that or either you walk away from, from whatever they was doing, you walk away, you're alright, I don't have to ring the police, but if they is still there arguing or, being a nuisance in the house I ring the police and get them removed that way … . Alcohol is the big problem that we face every day. ASA12

Health and wellbeing

Respondents commonly recognised that the pressures of living in, and managing, an overcrowded housing situation could lead to poorer wellbeing and mental health.

> Yeah, and then if anything broke or whatever, my kids sort of got the blame for things and whatever, even if it wasn't them you know, so. Yeah, so that was quite stressful, yeah, and just the constant arguments was just too much. ADLA10

Living in a crowded household was acknowledged as having a negative impact for people with pre-existing mental health conditions.

> We had 13 members living in the home, that included adults and children from a CALD background. And obviously the personal impact was mental health and physical health … They're under extreme pressure so that's a significant consequence as well as the stresses of mental health, as well as the stresses of other family with really no option at all. SH19

Some of the respondents from CALD backgrounds described how a lack of choice over their crowded living situation had impacted upon their psychological wellbeing. These experiences included feeling as if they were not free or at peace, and as being under considerable stress. For several respondents, overcrowding had led to them struggling to cope with their housing situation and life in general, and culminating in them becoming clinically depressed.

> I can't handle this anymore. 11 years is too much … I want to go back to the way I was when I had my own place, had my own block, can plant anything I want, eat anything I want. The way I used to love it. Because back home, I had that freedom. But coming here is like prison for me. And I've been struggling with it so many years now. ASC06

> The last year because my kids growing, they needs more and more and more, so I find it very hard … I was very depressed to be honest … So, I ask my case worker, I said 'I need the counsellor, I need someone to speak about my issue because I can't say that for my kids, and mother, I have to be all the time strong for them', but we are human being at the end. SYDC12

Situations of humbugging, elder abuse and antisocial behaviour were said to be more common in crowded households, and this too negatively impacted on wellbeing.

> The pressure of them managing a house with family 'humbug' and elder abuse and all that sort of thing, can actually be, in our opinion, can be much more detrimental to their health. SH02

For women living in crowded homes with men (other than their partners, fathers or sons), safety was highlighted as a potential concern which could impact upon their wellbeing.

> There are problems particularly for women … It seems to be important as a safety thing. For women, ideally a lot of them wouldn't be living with men … It's women feeling—people in the house may have made comments or advances and then they no longer feel safe to occupy the house and the public areas of the house. SH14

> I find it a bit hard because, yeah, with visitors, when I've got a little granddaughter at home, the visitors just come in and out. ASA08

Respondents (mostly stakeholders) also described the negative impact that overcrowding could have on the physical health of people living within the home. For example, infections (such as shigella and scabies), rheumatic heart disease and glaucoma were said to be more common within crowded households due to poor environmental health conditions. A lack of access to adequate hygiene facilities contributed to these illnesses, e.g. having to share a bathroom or toilet with many others, and hardware (such as toilets and showers) which was often broken through overuse.

> We saw largely those homes that were overcrowded were experiencing high levels of Shigella presence in those houses, and similarly … rheumatic heart disease often is associated where there's high levels of overcrowding going on in the house. SH05

> There's not much space in that one there, not for noise, but for all of those things that are happening in the house, and even the toilets get blocked and that's really stressful. It's a health issue. It's something that you need to be fixing up straight away. And the rubbish get more fuller when visitors are here. The rubbish get more fuller quicker and it's, the rubbish pick up is only on Friday, but it get full up. ASA12

A crowded home was said by respondents to be more difficult to keep clean and the accumulation of rubbish (both from humans and pets) could be detrimental to the physical health of residents. Pest infestations were also reported to be more common in overcrowded properties.

> It's clear that the living circumstances are creating a lot of stress and particularly like around that hygiene stuff and … they talk about pests and cockroaches and children getting bitten and not being able to manage pest control. SH14

> Sometimes stressful. I get stressful, like I said, about the messy floor and everything and dirty Kimbies around. I hate that. ADLA05

Child wellbeing and safety

Specific issues relating to the wellbeing and safety of children were described by respondents. Concerns were commonly raised regarding the development and education of children living within crowded households. School attendance and functioning was said to be challenging at times. A lack of sleep and the presence of itchy skin infections also had a negative impact for children on their learning and school attendance.

> There's the children. There's no space. It's impacted on their education. There's no place to do their homework. They cannot study. There's no room to move and they get sick. I remember there was one lady and she told me, oh my kids are getting all those rashes because we just had to sleep in the floor in somebody's house. SH08

> And then you get kids at school … but then they get there and they're irritated as, you know. I've also got scabies and nits and I'm irritated and I'm irritating my little buddy next door. Neither of us are learning, we're both in trouble, before we know it, we're sent home. Like, it's just this ridiculous vicious cycle. SH06

Many respondents from CALD backgrounds spoke of the challenges for children living in a crowded home. In particular, not having a dedicated and quiet space in which to study was said to be problematic and hamper learning. The ability for adult learners to undertake training and further education was also affected by overcrowding.

> Sometimes when the kids come together, one of them starts studying and the other want to watch TV. They fight with each other. One of them to turn off the TV and the other telling him to go outside to the laundry to study there because it's the living the room. Especially when they're doing homework, there's no spot for each of them to sit and do their own work. SYDC05

Respondents discussed the pressure that parents faced in trying to keep their children quiet so as not to disturb other residents in the home. This impacted on the ability of children to have a proper childhood and to play freely.

> I have to manage them [my children] all of the time especially as they like to play outside and cannot where we are currently living … I am constantly trying to quiet them and get them to play in the bedroom only. ASC11

> The parents will kind of say that they're not happy with the living arrangements with their kids, that their kids are sharing, that there's too many people. Often … they're actually worried because the children are annoying other people in the house, like the baby's crying or there's kids with special needs and that's causing disharmony with the other housemates. It's more mum and dad talking about how it's not a good environment for the kids … One of the participants said that their children, their three girls said: 'Papa can you stop bringing all these people here. We can't play'. SH14

Concerns were also raised by stakeholders that children living in crowded housing situations were more likely to be exposed to conflict and trauma. This included children being witness to incidents of fighting, domestic violence, and sexual assault. As a consequence, considerable impacts to their wellbeing were noted and behavioural issues (e.g. sexualised behaviour and/or violence towards other children) could arise.

> Sometimes that has a strong effect on behaviours of children as well when they're in overcrowded housing. Particularly if it's a house that's got domestic and family violence, drug and alcohol abuse, mental health. SH18

> The incidents of trauma in young Aboriginal kids and the impact that has on their early childhood development … It's what they see and experience every day in incredibly overcrowded houses. And the impact that has on the lives of those young kids, you know, that has an impact through their whole lives. SH04

Challenges were reported of keeping children safe in crowded houses that contained many other residents. Children were therefore considered by respondents to more likely be at risk of sexual abuse and neglect.

> Children can potentially be really unsafe and particularly from older male relatives or older male visitors and just the everybody sort of sleeping on a mattress on the floor, well, no child can be protected 24 hours a day and then find like that. So, I just think it is a sort of really, really increases risk. SH03

> It's not safe too, like when, like people, like I regret it, may leave our door open when people sleep or kids sleep. APYA19-21

Some of the stakeholders interviewed described instances where they had to do mandatory reporting due to child protection concerns. Stakeholders also reported that they were working with families in an attempt to prevent child removals due to unhealthy living environments.

> Domestic violence is quite high and child abuse, or just child neglect, and so quite often our staff are having to do mandatory notifications … That does present issues for us in terms of future accessibility back into that house because a lot of people still see the stolen generation and government vehicles rocking up to community and just removing a child, and so that mindset in people in remote communities is still quite prevalent, and so we're seen as contributing to ongoing removal of children by doing that. SH05

> They get helpline reports put in because your children are living in an unhealthy environment, so often then … we're trying to keep them in the house but we might also be trying to work with Family and Community Services so that … their children don't get removed because of the environment that they're living in. SH18

Extra housework

A further negative impact of living in a crowded home was the additional housework that this generated. From extra cooking to extra cleaning, many householders spoke of the increased housework they undertook as a result of the number of people residing in their home.

> When they leave it's really, because my son's partner is a bit lazy. Leave Kimbies and everything around, I hate that. Then when they leave, it's me cleaning up and I've got a buggered shoulder and shit and I've got to clean up. ADLA05

> It's too hard to clean it, too crowded. Yeah. You'll be cleaning it … from morning until late, you know, like when it's overcrowded. APYA10-15

For many, the constant housework resulted in increased stress and burnout.

> We try and look after our house, like keep it clean, maintenance, everything like that, and do gardening and make it look good, you know. But we haven't got the time to do it. That's what I said before when I got the house first, doing my own things, but I got sick through the stress and everything and all the worry and everything. I just, why bother, you know. Can't do it right, yeah. I had to give up. It's just hard with people coming in and out and everything. ASA07

Food theft and security

Issues with food theft and security were said to be common for crowded Indigenous households, and especially within the APY Lands. An unwillingness or inability by some household members to contribute towards the purchase of food was described as frequently leading to a lack of food within the home. Respondents reported that this situation was compounded by others from within and outside the household taking any available food for themselves. Examples were provided by several stakeholders of household occupants not having regular access to food and as a consequence going hungry.

> Our workers just come in tired 'cause they've had no sleep, they're overwhelmed, they're hungry 'cause all their food's been eaten … There's no food security, your food will get stolen all the time. SH07

> Just imagine you live in a house with let's say 12 people, you've got to call for Woollies and you spend $300 and you buy staple stuff that you eat and then you put it there. Things you put in the pantry probably will then be gone … Somebody was complaining, said oh, I keep on buying but the others don't seem to buy, they keep on using whatever I buy or whenever I cook … Whenever I cook a big pot of food and then their kids come and join my kids to eat. SH08

Several CALD respondents spoke of housemates eating their food without permission. However, at times, due to the precariousness of their housing situation, they were reluctant to address this issue directly.

> On occasions they eat it. They came one day, I get paid fortnightly, and I'd go down to the butcher and buy $100 worth of meat for us. It was maybe a month ago, they had a barbeque and they barbequed all the meat … and I couldn't ask her. Maybe it's because of my situation, I couldn't raise my voice or anything. She might just kick us out of the street. Just bide your time. At least I have a roof over my head. It's hard in Alice Springs. ASC07

Indigenous householders frequently reported the theft of food and other personal items. Food theft was also identified as a stimulus of friction and arguments.

> Because I've noticed with [Name], … people in the house, oh give her some teabags. And then later on she's looking for teabag, hey what happened to her tea bags and then arguments would start and mmm. APYA16-18

> Yes, a lot of stuff of mine went missing. I can't even find my USB, my speaker, all that, my devices, my phone was stolen. It's just happening everywhere. ASA08

Strain on family relationships

Respondents recognised that while conflicts can occur in all households (including those that are not crowded), family strain was often heightened by overcrowding. For instance, respondents stated that when occupants do not have the opportunity for adequate space and privacy from each other or had different kinds of daily routines, challenges around maintaining normal relationships can occur. It was also noted that within a crowded home, small issues can more easily develop into big issues, and that household members can feel as if they have lost control over their own life and that of their children.

> In sharing house, is nowadays because everyone have these feeling of how to manage your things. Sharing a house because I've got my own ability to live, someone maybe, he like to play music, what do you say? And someone doesn't like noise, someone can open the door and slam it. These kind of things, sometimes, are not good when you share because you don't know the feeling of the others. They might be create conflict within the house. ASC13

At times, those living in overcrowded houses were said to not contribute in an equitable manner to the running of the household (e.g. adequately contributing to financial costs, cleaning or the maintenance of the property). This could then lead to extra work for certain members of the household. Stakeholders also noted situations where the head tenant did not want to take responsibility for the full running of the home by themselves, leading to further strain and disharmony.

> We once rented a house with my husband, myself, our two young daughters and son, and then my older son and older daughter, who had a husband and a wife. And then their kids. So there was about … 10 people in the three-bedroom house. And it was unbelievable. We would all go to work, come back, everybody's relaxing, I'm doing all the work … I only sleep for two, three hours. ASC06

> So we've often heard women saying who are paying the rent and are considered the head tenant, 'why would I clean up after all this mob all the time because no one else is doing' … So [the] house is just left in that state because it falls to one person all the time, and they get tired of it as anyone would. SH05

Within multi-generational CALD families, respondents described the challenges that could sometimes arise as a consequence of the different beliefs held by younger and older generations within the home. These differences included conflicting perspectives on the following of traditional cultural values that could lead to disagreements and family strain.

> Living together has a positive side and a negative side. For the older generation we all like the family living together because that's Chinese culture, but the younger generation they would like to live separately … The young people in the family should listen to the older ones, they should listen to their parents … But now sometimes something has changed and the young generation sometimes they don't listen. ADLC07-08

> If you go back to the villages in the Middle East, it's usually an extended family … so you'd have your grandparents living with you and the parents and the children all living in one … But in Australia, I've noticed that will work from in the beginning to a certain degree and then that will start diluting as well … You've got the children behaving according to Australian cultural norms, and there's always a clash between the two at some stage or another. SH16

Stakeholders acknowledged that overcrowding can render such a strain on families, that relationships can potentially break down irrevocably. At times, it was noted that this could lead to conflict and incidents of domestic violence or self-harm.

> The safety stuff is enormous. In particular domestic and family violence, you can't separate people and keep the victim safe or get the perpetrator out because there's no other housing. SH04

> Before you know it, there's really serious DV [domestic violence] or someone hanging from a tree, you know. Like things just go from naught to a million really, really quickly … It's actually this whole combination of craziness which people just feel completely disempowered with. SH06

Financial strain

While some crowded households benefitted financially by living together, others could be financially disadvantaged if residents or visitors did not contribute to household expenses. This was especially problematic given that living costs (such as utilities) were typically more expensive for a larger household.

> When the bill's too high you're like, 'Why?' $2,200 for three months [for electricity]. And the bills go higher up and it's like, oh my God. ADLC09-14

> You know like if it's really overcrowded tenant's got to look after everyone that's in the house and it's hard for them like because they're paying for the rent, cleaning the house, cooking for them, feeding them. APYA10-15

Particular issues regarding financial strain and burden were raised in relation to visitors coming to stay with Indigenous households. Having additional visitors in the home led to an associated increase in food and utility bills. However, respondents stated large households did not necessarily have enough income to meet these increased costs. Visitors were sometimes said to be cut off their Centrelink payments due to not meeting certain requirements. This led to them not having any money to contribute towards household expenses or being able to move on and travel back home.

> So, you've got heaps of people in the house and you might think, oh well, that's great 'cause there's heaps of payments coming in but actually usually there's not. There's maybe only two or three people that are getting a regular Centrelink payment … There's so many people breached at any one time on Centrelink. SH07

> Having two extra kids in your care with no income is enormous. ADLA01

At times, while visitors may have access to money, respondents reported that they may be unwilling to contribute adequately towards the household finances or be unable to contribute due to the rent model for the tenancy. This often left the head tenant being responsible for all rent and living expenses within the household.

> In our model, tenancy model, the woman would sign up as the head tenant, so she's responsible for paying rent, and so it might be when she signs up herself and a partner and they might have a couple of kids, and let's just say two weeks later there's 15 people living there that are close relatives who've come through, that household can't say no to those people under cultural obligations staying with them, but they won't contribute to the rent of that household. So that one person is still paying the full rent model, but all the other people are living there. SH05

> No, I've got to pay, I've got to buy. That's why they left, all left, and I've got nothing. I got paid today, but I'm going shopping later for me and the boys because I only buy enough food to last for me and the boys till next week, week after. But since they've been there for about three or four weeks I've had nothing now. Got nothing. ADLA05

Incidences of humbugging and the financial abuse of elders were also described as increasing in occurrence when some visitors came to stay.

> When the houses are really overcrowded, some of those younger ones take advantage of the older people too and that's another consequence of overcrowding. It's not only financially, but it's kind of almost a bit of elder abuse in a way. SH04

> The financial abuse of elders is awful like it's just so full-on and now with internet banking, they don't even have control of it 'cause the kids set up the internet banking for them and … they set the password up. So, the money just disappears and people, elderly people, are really struggling kind of financially. It's terrible. SH07

Due to cultural norms, some head tenants from Indigenous and CALD backgrounds were reluctant to request that other residents contribute financially to the household. In some instances, the provision of care (along with help with household duties) was described as being given in lieu of financial assistance with rental payments and other living costs.

> But the electricity … it was about $5,000 before … They come here and then they consume … very rare to buy them food … they don't have to pay … In my culture it is very hard, you cannot ask somebody that. ASC02

> When you ask them oh, can you ask them to contribute, no they contribute helping with the children, they contribute with the cooking. So in some cultural communities, this helping is as paying the rent or one thing they cannot ask, they say no no I cannot ask my friends for help. On the other hand, it's also seen, you can ask about the kids or making the food or just being the company, as some kind of contribution. SH19

Strained relationship with housing provider

A further potential negative impact of housing overcrowding that was highlighted by stakeholders were strained relationships with landlords and housing providers. Crowded households were described as technically often breaking tenancy rules around permissible numbers within the household or length of stays for visitors. These issues were compounded when complaints were received from neighbours regarding disturbances and antisocial behaviour.

> They live in a complex, a two-bedroom complex, and then they bring more friends in there. And of course there's no space inside for the kids to hang around … And so the kids just run amok and the neighbours complain to the real estate agent. And this agent normally come and have a look and then somebody get evicted. SH08

As a consequence, these tenancy breaches could lead to warnings/notices and, in worst case scenarios, tenants facing being evicted and—due to their now blemished housing record—being unable to secure a new property.

> Major consequences, unfortunately some of our families that are in overcrowding … So once it's been identified and housing have notified look there's more people in this house than there is on the tenancy. Not only is there pressure on those who are not on the tenancy to get out, there's also pressure on those who are actually recorded on the tenancy, they're at risk of being evicted if they don't get the other family out. So it's a bit of a double whammy. SH19

Damage to property

Respondents (and especially stakeholders and Indigenous householders) reported that damage to hardware and the property in general frequently occurred within overcrowded households. Commonly damaged items included bathroom fittings, kitchen cupboards and screen doors. It was acknowledged that this damage was not usually intentional but due to properties not being robust enough or designed for large families.

> And I think the functionality of the hardware just suffers so much. And our repairs and maintenance can't keep up and it's not that people are doing the wrong thing, it's fair wear and tear on those households and just keeping up with that hardware is really tricky. SH04

> When you're talking to households that identify 12 people that are staying there when there's only three bedrooms, even if the conduct of the people is fine and not causing any issues to your neighbours, the fact is that the houses just don't—the infrastructure doesn't really cope with that number of people … We've got commercial numbers of people using kitchens … but they're not commercial kitchens. SH01

As a consequence, respondents reported that hardware often wore out or broke down quicker than expected due to overuse. Unless the damage was intentional and reported to the police, the head tenant was said to be responsible for the payment of damage to their property. In practice within the private rental sector, the tenant could often not afford to pay for the damage and had to forfeit their bond payment upon leaving the property.

> From that perspective of the level of wear and tear on a house, if you have a single bathroom, let's say, and it's servicing eight people in a house, that's going to take its toll. Everything about the house is being used possibly three to four times quicker or more. Toilets wear out, door hinges wear out, locks—all those things. SH02

> Yeah, it's your house and you've got to pay, you're responsible for the house, and that's what it's all about. It's like we don't get much money anyway to, the doors that we, they breakdown is about $6–700. You got to pay for that. If you don't pay for it, you don't get it fixed. The windows the same. Whatever's inside the house, like the kitchen benches and things like that, the taps they break, you've got to pay for it yourself, and it's really hard to pay for broken things like that. ASA12

Some Indigenous householders, however, did report the intentional damage that occurred to properties as a result of alcohol fuelled violence and aggression.

> Some fight and they smash stuff, like doors and windows and all of that, they smash the cups, plates, and everything. ASA07

> Yeah, we get damages to the house like get holes on the walls. APYA08-09

Several householders from CALD backgrounds also described accidental damage that had occurred to shared household items or their personal belongings when sharing accommodation with other families.

> We used to have a big TV here because when I come from Victoria I buy it, it was $1,500. A very huge one. And one of the kids broke it … Their kids, from the other family. Broke it. And then we have to take it outside and then bring another one who's $500 and then broke it. ASC02

> That clothes line was a communal clothes line. It's a big one. They break the whole thing … They [the children] were hanging on it, they break it. It's on the side now. They broke a washing machine that belongs to one of those people who are staying with us. ASC04

Precarious housing

A final impact for people living in overcrowded households related to the precariousness of their housing situation. This was particularly the case for those living in house share arrangements as typically these were based on informal agreements rather than being recognised formally on the lease. These living situations led to residents being reluctant to speak out against the conditions they were living in or were at continual threat of eviction.

> One of the difficulties is in making any real stabilising change, because when people are sharing, when families are sharing, very rarely do people have agreements in these situations. So even if you give them money they can't really secure themselves in any real way and I think that's hard because tenancy laws don't really recognise these forms of living … They've got very informal arrangements around the housing so they're not kind of formally listed on any agreement. SH14

> I don't say things if I am resentful of something or if something is distasteful, where I am staying, I am not a person who is vocal to say things that 'Look, I don't like this thing', to the landlord. I don't want those things like animosity. ASC04

Composite case studies

The following composite case studies illustrate some of the negative effects of overcrowding: the first, provides an example of a CALD householder living in Alice Springs and, the second, an Indigenous householder in a remote community in the APY Lands.

CALD: Negative Case Study

Michael

Michael is a 49 year old man who moved to Australia from Sudan in the late 1990s. He moved to Alice Springs from Melbourne 18 months ago for work, leaving his wife and three children living in the city. Despite being employed, Michael has struggled to find secure and affordable accommodation since arriving in Alice Springs. At first he was homeless and forced to live in his car, but then moved into a workmate's one-bedroom apartment along with two other Sudanese workers who were also struggling to find accommodation. This living arrangement was stressful because they were constantly scared of being discovered by the landlord and being kicked out, but at least Michael had somewhere to stay. After six months, Michael moved into his current accommodation in a shared house. He found out about the property from other members of the local Sudanese community.

LIVING ARRANGEMENTS

Michael currently rents a room in a shared house in Alice Springs. Although he lives alone in his room, the house is also occupied by a single mum and her six children who live in one of the other rooms, while a single mother with a baby occupies a third bedroom in the house. All the occupants share the communal areas of the property, such as the kitchen, bathroom and laundry. Michael tries to keep to himself and does his best to use the shared areas at times when they are not being used by others in the household.

As a shift worker, Michael often gets up early or needs to sleep during the day. Because he is conscious of disturbing others in the house, when he gets up early Michael feels that he has to be quiet and can't use the shared spaces like he would if he lived alone. He also struggles to sleep during the day when needed, because of the noise that the children make.

The house is old and in disrepair. The plumbing is often broken, as are fixtures such as the cupboard doors in the kitchen and the screens on the front and back doors. Although Michael has contacted the housing provider about these repairs, they are slow to get anyone in to fix them. Instead, Michael often tries to make some of the smaller repairs himself as he is worried that one of the children will hurt themselves.

Michael is deeply unhappy with his current living situation and sharing a house with others that are not his family. He misses his wife and children but needs to stay where he has work. He would love to find a small apartment where he can live on his own.

FACTORS LEADING TO OVERCROWDING

Housing in Alice Springs is difficult to find, especially for those on lower incomes. There are few houses available to rent, and those that are available are very expensive. Although Michael is living and working in Alice Springs, he also continues to financially support his family in Melbourne. This limits the money that he has available to spend on his own accommodation and prevents him from being able to afford a place of his own.

"As soon as they see you're African they will give you the application but they know that they'll throw that in the bin...They will not even consider you. They will tell you that oh...someone else got the house, but then you go to their website the house is still there."

Michael has also experienced discrimination from real estate agents in the area. Thus far, Michael has applied for more than 20 houses, but has yet to be successful. On numerous occasions he has applied for a private rental and been told by the real estate agent that the house had already been leased, only to look online and find that the house is still listed. This is frustrating, but Michael continues to search for somewhere affordable where he can live on his own.

IMPACTS OF OVERCROWDING

Michael is grateful that he has somewhere secure to stay while he is living and working in Alice Springs. He is happy that he no longer has to live in his car, or pack up all his belongings and hide his presence so that he is not discovered by the landlord, as he did in his first shared house. However, he also experiences high levels of stress as a result of his current living situation. This had led to Michael withdrawing from non-work activities and he has recently been diagnosed with anxiety and depression. He is worried about speaking out about his concerns for fear of being evicted from the property.

Michael tries to be tolerant of the children in the house but finds that they are noisy much of the time. The constant noise in the house contributes to the stress that Michael feels because he is unable to relax, even when he is not at work. In addition, because of the noise within the house during the day, Michael is unable to sleep properly before he works a nightshift. This has begun to affect his performance on the job.

Given the large numbers of people living in the home, it can be challenging for Michael to access communal rooms such as the kitchen and bathroom when he wants. This can make it problematic for him to cook meals or get ready for work.

Michael also finds it difficult to keep food items in the kitchen, instead having to store them in his room, because the children eat them while he is at work. While he understands that they are children and don't know any better, Michael finds this frustrating and it contributes to his stress of living in the house.

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ATSI: Negative Case Study

Kyah

Kyah is a 23-year-old Anangu woman who lives with her partner Nicky and their 3-month-old baby in a small, remote community in the APY Lands. They live together in one bedroom of the house in which Kyah grew up, and where several generations of Kyah's family live due to a lack of housing options in the community. Because there are few employment opportunities in the region, Kyah and her family rely on welfare payments as their primary source of income. This makes it difficult to afford the rent and utilities, especially as only a few of the members of the household contribute to these payments. Kyah spends her time caring for their baby daughter and helping her mother to care for her elderly grandmother who has dementia.

LIVING ARRANGEMENTS

Kyah, her partner Nicky and their baby daughter share one bedroom of a three-bedroom house in which they live with other members of Kyah's family. Her parents share one of the other bedrooms, and Kyah's single cousin Shelley and her three young children share the other bedroom. Meanwhile, Kyah's grandmother sleeps in the living room.

In addition, the family often have family visitors that stay on the verandah or in the yard. While they feel culturally obligated to offer these visitors a place to stay, the family do their best to keep these visitors from staying inside the house to keep the children and Kyah's grandmother safe - especially when the visitors start drinking and get "noisy".

In order to keep the rent costs down and to avoid possibly being evicted, the family underreport the number of people living in the house to the housing department.

The house is in disrepair. Kyah and her mother find it difficult to keep the house clean and tidy because the surfaces are difficult to clean, and there are so many people in the house. There is no air-conditioning and, because of this, it is uncomfortable inside the house when the weather is hot.

Furthermore, because of the number of people living in the house, fixtures such as the toilet and oven get used a lot. As a result, they are often broken and unable to be used.

FACTORS LEADING TO OVERCROWDING

Kyah dreams of having a small house of her own that is easy to clean, and where she can live alone with Nicky and their baby. However, there are no available houses within the community. Leaving her family and the community to seek housing elsewhere is not an option for Kyah or Nicky, because of their deep connection with the land and their family. As a result, the only option for Kyah and her family is to continue living with her parents. Kyah admits that she has not even bothered to fill in the paperwork to get a house of her own, because she can see that there are no houses left and has also heard that filling in the forms is very difficult.

> "Other families from other communities come. Sports or funerals. Sometimes they stay four to six months. Nightmares every night. 15 or 20 people. Yeah. It gets crowded."

The family often also hosts a number of other family members who sleep in the yard outside the house. They come to the community for the football or for "sorry business" and may stay for several months at a time, remaining either because they cannot afford to get themselves home or for the lifestyle that they enjoy while they are visiting. For some visitors, this involves partying and not having to pay rent or do the chores.

IMPACTS OF OVERCROWDING

There are some aspects of living with family that Kyah enjoys. She likes having people to talk with and spending time with her mother and grandmother. It is also nice having her mother around to help her with the baby and so that they can do the household chores together.

However, there are also elements of sharing with others that she does not enjoy. Kyah acknowledges that she finds it hard to sleep, especially when the visitors in the yard are noisy at night. This means that during the day she is exhausted and does not feel like cleaning. The extra people staying at the house also means that there is more work required to keep the property clean and ensure that they do not get in trouble with the housing manager.

In addition, Kyah's partner Nicky likes to spend time with these visitors drinking, and as a result, he often has no money left to support the family. This leaves Kyah solely responsible for their contribution to the household expenses and is a source of friction between the couple.

Kyah also worries about the safety of her family, particularly her daughter and grandmother, given the number of visitors they have and the risk of COVID-19 transmission. She has observed that a lot of people have been coming back to the community since the start of the pandemic and, because there are limited places for them to stay, there are more people staying together in very overcrowded homes.

5.1.3 Organisational impacts

Some of the stakeholders interviewed also described the impacts that overcrowding had for their own organisation. It was acknowledged, however, that their organisation tended to only be exposed to the negative impacts of overcrowding as there was less of a need to be involved with crowded households that were functioning well and when the property remained in good condition.

> I don't have a lot to provide in terms of a positive reflection around overcrowding that I've experienced … Typically we go to the houses that have got problems … So we're looking at the worst scenarios and the worst cases and that's what we're being exposed to is the real issues, the really overcrowded stuff, the damage and stuff that's occurring because of that. So we are typically exposed to quite a negative experience … Why would we be looking at a house that's clean and tidy and has no problems? It's pointless. SH05

Property repairs and maintenance

One of the main issues that housing providers faced when dealing with overcrowding related to property repairs and maintenance. As discussed above, respondents expressed an awareness that property damage was often not malicious but merely a result of overcrowding and large numbers of people sharing the same facilities. It was recognised that homes could not sustain the wear-and-tear caused by the use of many occupants. Thus crowded homes were reported to often experience blocked toilets due to frequent flushing, and doors and cupboards that were broken because of repeated opening and closing.

> If you have 16 people living in a house and they've got one toilet it's not going to last a very long time, or one screen door that bangs 1,000 times a day as people go in and out of the house is going to fall off its hinges pretty quickly … because of overcrowding our houses are very hard lived in and even though they're quite robust houses on the whole no house can sustain that kind of wear and tear and still remain functional and looking good … We put a lot of money into fixing things but just given the nature of the way that the houses are used, there's only ever a quick fix. SH03

Stakeholders located in Alice Springs and the APY Lands stated that this damage tended to be worse during months when the influx of visitors or levels of overcrowding peaked.

> Definitely in February we just see the maintenance reports coming in. This is broken, that's broken and stuff so we see it because of that. February, March are quite high spend months for us because everyone coming back, then it peters off. SH05

Damage to overcrowded properties led to considerable financial and resourcing implications for housing providers. Stakeholders reported that due to budget and staffing constraints, however, they were unable to keep up with needed repairs and maintenance. This led to houses needing repair being unable to be re-let and sitting empty, further reducing the available housing stock and adding to levels of overcrowding.

> As a housing provider and asset manager, the obvious challenges are around maintenance and the cost of running a housing program and so that's a really big challenge here. It's … just simply caused because it is overcrowded … And so that's why the things wearing out in three years instead of ten, that's why the painting on the walls need to be repainted in three years instead of seven. There's just more traffic, more people are coming in and out, that's why you can pretty much go into any Town Camp house and find a door that's pretty loose off its hinges. It's been opened and closed 50 times more than normal. SH02

> When you're dealing with maintenance you always see things breaking down and houses performing poorly and you're trying to fix it so it's not, and you're trying to bring down costs so you can do more, that's what we struggle with. SH05

Tenancy management and support

Respondents also reported that housing overcrowding led to their organisations having to spend additional time managing tenancies. In particular, this involved having to deal with issues caused by crowded households which were disruptive and considered to not be functioning well. The additional support provided by housing providers in these instances included undertaking more regular visits to the home, educating tenants about their rights and responsibilities, adding long-term residents onto the lease agreement, and moving on problematic visitors. Support also involved addressing broader non-housing related issues for the tenant or their family, including liaising with other services.

> As a homelessness service often you're not just managing their homelessness situation, you know trying to keep them with their home, you're managing that and you're trying to make sure that the kids are still going to school. So if you're there doing a home visit and the 6-year-old hasn't made it to school today we're the ones that actually have to try and deal with that. SH18

> As a practitioner in an NGO … it can be really, really frustrating at times … where we're going to have to go back to the drawing board of okay, so how can we further assist this particular client or family that are living in overcrowding. And it's going back to a whole range, a massive range of issues, like … previous trauma background, lack of employment, lack of understanding particular services and processes and applications, you know to get to where they need to get to type of thing. SH19

In extreme cases when all other measures had failed, stakeholders described having to consider ending the tenancy and evicting the residents. However, respondents recognised that this option was very rarely pursued as it was not seen as being a real solution and the overcrowding (and resultant issues) that had occurred would merely be moved on elsewhere.

> The biggest risk I guess from just a tenancy or a housing perspective is that the person will lose—the person whose home it is—might actually lose the right to that through failing their tenancy. It's really difficult to manage, because we know, in a Town Camp … if we had 17 houses in one Town Camp and one was really kicking off and being a big problem, we almost know if we go down the path of eviction and we end that tenancy, where are those 30 people going to go? They're now going to possibly spread out and create problems in these other homes. So, you haven't really ended the issue. SH02

Support to find alternative accommodation

A final organisational impact of overcrowding reported by stakeholders related to the support offered to people living in crowded households. For those seeking alternative accommodation, assistance was provided as best as possible to find them a new home or temporary crisis accommodation. This included the provision of advice and advocacy, assistance with forms, writing letters of support, and attending meetings with real estate agents or housing providers.

> When they [CALD families] arrive in town … they always expect us to be an advocate for them and to assist them to look for house. And then we help filling the forms and … I used to talk personally to the real estate and go myself with them and how they get them the house … But it's not really our job to really assist them like one-to-one physically or with them to look for house. SH08

Sometimes, this support included working directly with the head tenant to find them somewhere else to live if they could no longer cope with the pressure and responsibility of living in an overcrowded property.

> We've had, more or less, seem to have one home fail fairly tremendously every year, and it's typically because of severe overcrowding and pressure from not the immediate family but from external family members or community members and what is, in some circumstances, the actual resident has been, 'I'm getting out of here' and just left because they don't want the pressure of that. Other times we've been able to work with them and find another housing solution just for the resident. SH02

However, challenges were noted in the ability of provider organisations to find alternative accommodation for those living in overcrowded housing situations. Given limited housing options (including a lack of crisis accommodation) and the amount of time needed to source accommodation, several stakeholders reported that their organisations were reluctant to engage with those living in crowded households about their housing needs.

> It's very stressful for us to know that people are not in good accommodation … From a caseworker's perspective, like sometimes we don't delve into how bad is this housing because we are just like yes, someone's got somewhere to stay and we don't have an alternative for them. Sometimes I think even for us it can be hard to fully assess that, to fully go into like how does a person feel and what do they want because we know we're not going to be able to find a better alternative most of the time. SH14

Several stakeholders from CALD community organisations also reported that assisting people to find accommodation was not really within their remit. As a consequence, these respondents stated unfortunately they did not have adequate funding or time to help with these issues. However, due to language and cultural barriers it was challenging for their clients to receive this support from mainstream organisations.

> Sometimes, like some of the parents they come in, they say, oh can [CALD ORGANISATION] help them to get a house for them … Advocacy, even the case as well like because we got volunteer, we got social student here, and then they can do a little bit, spend a little bit more time too, like to get along with them, to go to attend a face-to-face interview in the Housing SA … help them because their English is not good enough. So that kind of thing we will do, the service here … [but] we don't have enough time and enough funding to do it. SH13

5.2 Management of overcrowding

In the qualitative interviews respondents described the ways in which overcrowded living situations were managed. They discussed the organisational guidelines and policies that were presently in place to address overcrowding, and how these were enforced in practice. The strategies that households themselves employed to manage their crowded living environment were also identified.

5.2.1 Organisational management of overcrowding

Organisational guidelines and policies

Within all forms of housing (public, social and private) rules were described in regard to the identification and management of overcrowding. For example, policies were outlined (especially by stakeholders working in the public housing space with Indigenous households) about the permissible number of tenants per property, and who could be listed on the tenancy agreement or contribute towards the rent. Further policies described defined tenant responsibilities, such as prompt rental payments, the satisfactory upkeep of the property, responsibility for covering the financial costs of any damage within the home and permissible noise levels.

> The rental rules and regulations do not allow people to stay more than the number of the rooms in that particular accommodation. ASC09

In addition, respondents spoke of rules regarding visitor numbers per house and their approved length of stay. Some tenants described having to seek the permission of their landlord when wanting visitors to stay in their home. Particularly strict rules about visitors were described by respondents living in shared living situations with non-family members; these rules tended to be imposed informally by the landlord or head tenant of the property.

> They can have visitors between certain times, usually there's no overnight stays although we have in cases of emergency … So, that sort of helps the client to understand that they can have their visitors in, but they can't stay. This way they're not causing trouble for us, so it sort of sets that in motion that this is how we're meant to deal with them. SH17

> We're allowed, but it's got to be through her or it's got to be one hour. That's it. They have to be out of there. If not, she'll stop them right in front of the yard and tell them. So I don't want to live in a house like this or place like this. Better off somewhere else where we have freedom rights, you know. This is like we are under some microscope sort of thing. ASC06

Some stakeholders also described the guidelines that prescribed decision-making processes around the allocation of public and social housing properties. Under these processes, larger homes tended to be safeguarded for, and allocated to, extended or multi-generational family groupings. Also within the Alice Springs town camps and the APY Lands, respondents reported that housing allocation processes took into account family groupings to ensure the right mix and cultural appropriateness. Where this had not occurred and properties had been allocated instead to the family at the top of the waiting list, difficulties were reported to have been experienced. This included disagreements that had led to people having to move out of their property and resulted in overcrowding elsewhere.

> [LOCATION] is a really traditional community. So, cultural law is really important there. So, we'd have to be really careful about who we give houses to … So, there's that cultural element to it. I mean, we have policies and procedures in housing for that in metro, but we wouldn't be able to do that in the APY Lands. SH09

Enforcement of guidelines and policies

According to stakeholders, considerable flexibility in the enforcement of guidelines and policies addressing overcrowding occurs in practice. This was due in part to the recognition that there were limited alternative and affordable accommodation options that were open to many people from Indigenous and CALD backgrounds in each of the research sites. Flexibility was also shown to recognise the individual circumstances of households, e.g. when considering whether residents should be officially added to the lease.

> Our policies will say a plus b equals c … [But] people bend backwards, people have a chat with the client … and find out what are the circumstances, what's their situation like … It really helps because there's always a case-by-case with each family … Because for some family … she's got her niece and the niece can't even afford to be on a lease anyway with her. So it's a matter of we are aware, we're not going to make her an additional tenant, but we'll document that we are aware of the situation. SH19

Some stakeholders reported using flexibility when allocating public and social housing properties, for example, allowing a large family to rent a property that was smaller than their needs (and technically therefore overcrowded) due to a lack of more appropriately-sized homes.

> There's a bit more flexibility around the way houses are allocated in town camps and remote communities. So, for example, you might be two people living in a three-bedroom house or in some cases you might be two people living in a four-bedroom house which might suit you in terms of family coming to stay and all this sort of stuff: whereas in urban Public Housing you're two people. You're eligible for a two-bedroom house. SH01

Stakeholders also described a reluctance to evict tenants from a crowded property as this was not felt to address the overcrowding, but to merely shift the issue elsewhere and increase the risk of homelessness.

> Every now and again we see the housing officers go in and like, effectively clear out properties and that's sometimes because there's been complaints or noise or whatever. But really, that just leads to people being pushed out and even moved into other properties or they're moving into the riverbed. So it's not really effective management … And it's sort of just moved to another place. So, yeah, I wouldn't say that that's really being managed, it's more just like spot fire management. SH11

> I guess with the rules you've got, if you enforce them every time and were really strict about them and no, you can't have people, I guess you're not really solving overcrowding are you, you're just kind of then pushing it onto probably another household. SH19

In practice, flexibility was also shown around visitor stays. Rather than enforcing rules around the length of visitor stays, respondents reported that their focus was more on problematic visitors and moving them on from the property.

> Hard and fast rules around visitors is really difficult as well because you don't want to say, okay well that's it. I mean actually that is something that people pushed for saying—because there was a time where visitors could stay for six weeks and town campers were saying well, we only want people to stay for a week, then you have to be careful that these things don't backfire on you because if aged residents staying for six weeks isn't necessarily an issue, whereas someone else might be an issue after a week. SH01

> We would have a more flexible approach than say—Public housing would have—they have a visitor management system when people have to sign for how long they're going to be there. It's quite administratively—quite burdensome; whereas the way that we look at overcrowding and visitors staying and stuff like that is really—is this affecting the tenancy, as in is it causing there to be a breach, like noise and nuisance or—and/or is it affecting the other residents that we house as well? SH02

Several stakeholders also described the lack of consistency in the enforcement of organisational rules around overcrowding. These respondents felt that overcrowding policies were more likely to be enforced in urban areas compared to non-urban locations (e.g. in Alice Springs itself rather than in the town camps). Within urban locations, Indigenous people were living alongside non-Indigenous neighbours, and housing providers were considered to address any complaints associated with overcrowding (e.g. over unregistered residents or noise levels) more readily. Respondents were mixed in their opinions, however, as to whether this was fair or not. While this was seen to allow a greater degree of flexibility in the housing situations of tenants in the town camps, it also led to problematic issues of overcrowding sometimes not being adequately addressed.

> If you're talking about urban Public Housing, which is surrounded by non-Indigenous households, it does seem a little bit more like there'll be more of a reaction to overcrowding or antisocial behaviour or visitor issues in those dwellings. There'll be more of a response, whether it be from the Department of Housing, whether it be from police, whatever, to respond to that issue because the non-Indigenous neighbours presumably are more likely to complain. Whereas on the town camps it's sort of sometimes feels like the issue of right there'll be houses that are causing issues for the neighbours. The response to those houses won't be prioritised in the same way … I feel like there has been a double standard at times. SH01

Housing organisations also reported that at times they responded to tenant requests to support them to address difficulties associated with overcrowding. This included providing support to ask visitors to leave when the head tenant (or house boss) did not feel able to, or comfortable, doing this themselves.

> Our staff will often play the bad cop role where someone might contact us and go, 'Look I can't tell these people to leave because of cultural reasons or whatever it is, but I really need them to leave'. And our guys will go and be like: 'You shouldn't be here, you'll have to leave or otherwise Mary's going to lose her house if you stay here and this trouble keeps going'. That's a fairly large portion of time which our tenancy managers have to do. SH02

Several stakeholders, however, reported feeling conflicted about their organisation taking on this enforcement role. In particular, they were concerned that this did not facilitate the self-determination of their tenants and also potentially jeopardised ongoing relationships between housing providers and those Indigenous people who were being moved on.

> It's really difficult because sometimes people like having housing involved so that we can go off and tell people off and say you can't live there because they're fearful of saying to their family, 'you need to go' … I always feel a bit compromised by that because there's part of me that really believes that people should be able to develop the courage and the self-determination on those sort of things to be able to speak very clearly and articulate what it is that they want … I don't want people to have the perception that every time they got a problem the white fella's going to come in and sort it out. I think that that's a really negative way to go, and I think it doesn't work for us as a housing agency, and I'm not so sure that it works for the tenants either, but we do resort to it on occasions to help people out. SH03

In regard to the appropriate allocation of properties to Indigenous family groups, stakeholders described liaising with community members to obtain their input into decision-making processes. Stakeholder opinions regarding the experience and outcomes of these allocation processes were mixed. Some stakeholders based in Alice Springs advocated for a return to the community-led allocation of housing that had previously occurred in the town camps. This was perceived to better enable residents to take control of the overcrowding that was occurring within their town camp.

> Each town camp has a Housing Reference Group … They have meetings about houses that become vacant and they make recommendations around allocations. However, they're advisory, so they don't have the final say. SH01

In contrast, other stakeholders within the APY Lands expressed concerns that community decisions that informed the allocation of housing in that region at times meant that those most in need did not receive an appropriately sized home or a property at all.

> In the APY Lands there's almost no point in having a waiting list because people will often, when somebody leaves or the tenant leaves, it's not often the whole household that leaves. So, we often just have to pass it to the next adult, person willing to pay rent in the house, or if the whole house does leave, it's often again, like I said, the families with the most influence who get the house …. It's sad because it should be based on need. SH09

It was also noted by respondents that at times house swaps occurred between family groups so that they could each have housing that better met their needs (e.g. moving into a larger property to reduce crowding). This was reported as occurring in an informal way within more remote communities where housing providers had less of an on-the-ground presence and families enacted the house swaps between themselves. Examples were also provided, however, of more formalised house swap arrangements taking place within the Alice Springs town camps with camp bosses negotiating house swaps between families to enable them to live in more appropriately-sized housing. These examples were provided to support the return to community-led allocation of housing.

> We often get a lot of house swaps in remote communities … And we don't know until we go out there and we go to see someone and, oh no, they're not here, they're over there … We try and formalise it when we find out. SH04

> I was in a two-bedroom house before and I moved to another house, to three-bedroom. I swap with a cousin brother 'cause I had my brother too. He was there with me with two-bedroom and I moved to the other house … To a three-bedroom house. 'Cause before I had two rooms and my cousin and my son were sleeping in the kitchen, TV room. APYA19-21

Householder respondents were mixed as to whether they adhered to the rules set by their housing provider regarding the number of people who could live in their home. Several reported that they had not informed their landlord of the true number of residents living there in order to secure the property in the first place and subsequently out of fear of eviction. Other respondents expressed a willingness to adhere to property rules as it helped them to refuse unwanted visitors.

> There is a lot of people living in that house … I don't tell them. I tell my wife don't tell them, because you don't have to tell them, because if they know the truth they can kick you out next week. ASC02

> If someone come and want to sleep with me. For example, if someone come and say, 'Can you accommodate me for some three days or some week?' Then I can't accept while the landlord doesn't know … If someone can come, then I let them know, because the house not enough, not enough space. ASC12

5.2.2 Household management of overcrowding

Household members living in crowded homes also often implemented their own rules and strategies in order to manage the functioning of their households and visitors.

House rules and strategies

Respondents described various instances where householders imposed (or attempted to impose) rules and strategies to better manage the ability of residents to live well together. A common strategy related to the management of sleeping arrangements within the home. Due to a lack of sufficient bedrooms, both CALD and ATSI household respondents frequently spoke of siblings having to share bedrooms or parents sharing a room with their child(ren). Others reported using communal areas in their home as sleeping spaces, e.g. the living room.

> Two boys in bedroom and four girls in bedroom and I and the little one in my room … It's not enough space, but it's better than nothing … The only way I can do for the house to have space, I bought the bunk bed for them. Boys have a bunk bed and girls have a bunk bed and there is space in the middle. ASC12

> In the one bedroom all the kids sleeping, the three of them sleeping in the one bedroom … Also we use the living room as a bedroom too … Two of them are sleeping with the father in the living room on the floor … This is the hard part of my life because it's too crowded and I have to manage it. SYDC06

Within the Alice Springs town camps and the APY Lands, both stakeholders and householders reported the adoption of prescribed sleeping arrangements that separated women and children from male residents. This included male visitors only being permitted the use of outdoor spaces for sleeping and the locking of rooms or the home from the inside at night to ensure the safety of women and children while they slept.

> Trying to keep women and children separate from men, bedrooms having like, people buying padlocks and screwing them onto the doors to make sure that they can be locked from the inside so when there's visitors or just men in the night, that they can't kind of get in … They will have visitors in the yard a lot more than in the house probably camping around in cars and in tents. SH07

> When it's overcrowded sometimes we like to sleep outside, yeah, and let the children, women and children sleep inside. ASA08

More generally, in both Alice Springs and the APY Lands, visitors were often permitted to stay, but were required to sleep outside.

> When my family comes. They'll all have to camp outside. In sometimes tents or like bunk beds outside. APYA10-15

> Visitors sometimes stay with me, you know. You can sleep outside, I want to sleep inside. Yes. You sleep outside. You're a visitor. ASA02

Respondents also frequently described adapting their living patterns to make sharing a home with lots of other people easier. This included having allocated times to use shared facilities such as kitchens or bathrooms. Prescribed times were also adopted within communal areas for children to do their homework in peace or relax and watch the TV.

> We had only one bathroom … With my friend … she works two jobs so she wake up like around 5:00 in the morning, she will do her things in the morning and then she will leave … With the kids, I told them you have to have a shower before you sleep. ASC01

> So my partner gets up at 6 in the morning, 5:30, 6, so he has a shower and he's gone, so he's out of the way. A lot of the time my son is out of the house before the young boys get up anyway …. But yeah, so my son has gone pretty much before the kids so then it's just the two boys and my daughter, so there is two showers. So my daughter uses mine the majority of the time and the boys will just, yeah, use the main one. ADLA01

Household respondents also sought to manage their crowded living situations via obtaining space and privacy in their home for themselves or other residents. This included staying in their bedroom while other residents use the communal living areas. Respondents also frequently described getting away from the house as much as possible to go for walks, sit in their car or spend time in the local park.

> It's not easy. I think we manage because we're out of the house most of the time. My son has never missed a day of school in the last three years. He's at school everyday, I'm at work everyday … We both come back home at four. As soon as we get back home, just finding something to eat and having a shower and we're back in our room. ASC07

> But yeah, when they started drinking and stuff, I would try and either remove myself from the house or yeah, just stay away until I know everyone's gone and just go home and go straight to bed. Otherwise, yeah just go and sit in a room with the kids and draw or something. ADLA10

A final set of strategies described by respondents, particularly CALD respondents in Alice Springs and Sydney, related to the management of stress associated with living in a crowded household. These strategies included having time alone (either within or outside the home), having religious faith, and getting emotional support from family members and friends.

> Sometimes I might get too tired and I think to myself how long I should continue this kind of life. It makes me stressed, upset and sad. I'm going to my bed for a few minutes. I sleep there. And then I think to myself: How I can do this? This is my life, this is my kids. They need me. I'm the mother of these kids. I try to relax myself. SYDC06

> I go to my sister. I feel myself is better over there. When I want to, I go to my sister … she's lovely. SYDC13

> My faith. I've got a really strong faith in God. ADLA01

Some of these respondents also spoke of trying to keep a positive mindset and of reassuring themselves that their crowded living situation was only temporary. Many of the respondents living in Sydney and Alice Springs spoke of actively trying to make changes to their circumstances (e.g. by studying, finding a new job or moving location) that would enable them to secure more suitable accommodation.

> My daughter complains to me that they don't have space … I said, 'That's life. Sometimes we have to put up with things like this until we get to the greener pastures. That's where we get there'. Because otherwise we have to put up with this. It's really hard. ASC06

> Every human has their own desires. For me … I want a bigger house. I want my children to study well and I'm sure there is hope for me and my children … My husband tries to find a job. If he finds a job … and we get better income and we can afford to go to another house, a better house. SYDC06

Stakeholder respondents also described several further strategies to manage overcrowding that they observed being used by their clients. For example, head tenants restricting the consumption of alcohol in their home in order to avoid heightened noise and violence.

> Some of those urban households have made themselves alcohol restricted premises and that is actually helping them quite a bit with managing their visitors. SH05

Residents were also said to employ strategies to protect their possessions and food from other residents and community members. This included locking away medication, valuable items and documents, and making use of the lockers that were sometimes installed in the property by the housing providers.

> We put metal wardrobes into the homes that have little lugs on them so people can put padlocks on them, so when you see high levels of overcrowding and just really day-to-day use, people use those as a security wardrobes. So personal items like a PlayStation or their iPod or whatever will be locked in those if they can access a padlock, but they are lockable so people can secure those. They're also used for food storage as well, food security. SH05

As described above, food security was reported to be particularly problematic within remote Indigenous communities, such as the APY Lands. In order to have access to food, household members were said to use several strategies. These included storing food at younger (and more assertive) family members' houses or hiding food around the home, e.g. under the mattress. However, this latter strategy was considered potentially unsafe due to the lack of refrigeration. Other strategies used to ensure ongoing access to food included not purchasing or cooking food for other household members. Some residents were also described as purchasing only takeaway food or buying small amounts of food and eating this immediately after purchase.

> I've been with people in houses, old people, and they're storing their chops under their mattress 'cause they hide them, like the food theft is huge. So, you've got to hide your food but, yeah, so they're storing raw meat … like it's really full-on how people have to live. SH07

> I don't buy food … .The youngest one, the baby son, I leave it with him. ASA05

Managing visitors

Respondents also described specific strategies employed by some Indigenous tenants in order to manage the number of visitors staying in their home. Some families were said to be strong and able to refuse to accommodate unwanted visitors or to ask them to move on if they had outstayed their welcome. At times this included households sharing responsibility for accommodating family members with challenging needs for a certain period of time.

> Yeah, sometimes I tell them to go away when they haven't been behaving good. ASA10

> Families will often skip them from household to household until they literally I can't deal with them anymore, you're going to have to take them for a bit of time. SH18

However, it was recognised that more commonly the head tenants of Indigenous households felt unable to say no to visitor requests to stay or to ask them to leave the property. Stakeholders commonly reported that Indigenous tenants often asked for help from organisations (and especially housing providers) to enforce tenancy rules around visitor numbers and length of stay. This outside assistance was particularly sought if visitors had outstayed their welcome or were causing issues in the home.

> Some of the issues around the overcrowding is I think, family. They have family obligations and that's really, really hard for someone to say no … and I think this is where they get like a service to say, 'Well you can't stay here because of this, this and this reason,' and that way it's not coming from them, and that way they don't have to suffer any consequences or their family, they don't have to suffer any consequences either. SH17

> We often see particularly the older generation move out of houses and living underneath the veranda, or in the main living area on a single bed … and those older people not knowing what to do about that. And when we come along as the housing provider, pleading with us to do something about moving this mob on, because they cannot do it … They won't track you down in community for it, they'll just put up with it, but if you come into the house they might pull you aside very quietly and get in your ear about 'I need help with this mob'. Very shy mob Anangu, so it will be quietly, softly spoken frustration in their voice, almost to the point of tears. SH05

Stakeholders also identified the need for housing providers to discuss with their tenants whether they were satisfied with their current living arrangements or needed assistance to help move on visitors.

> There's a whole bunch of cultural authority parts that are not spoken about and aren't respected, I suppose, by the sector itself or even any system. So I think we need to think about, are we even asking the tenants what is too much for you and where should we start stepping in, and, you know, do you need help to say no or do you … like we're not even asking that question. SH21

Indigenous householders themselves frequently reported that they often asked for assistance from housing providers or the police to effectively manage visitors.

> If they don't listen, they're out of the house. Get the phone, call the police. And the police come around. I tell them, please kick this bloke, this woman there making a noise. ASA02

> The security, they come to check and if we've got people we can't get rid of they, the housing get involved and the security. We just give them a call. ASA08

Indigenous householders had clear expectations of, and rules around, visitor behaviour. Most commonly, householders expected visitors to share household expenses while staying. If they did not have the financial resources, visitors were expected to contribute in other ways such as doing household chores, tidying up the yard or cooking.

> That's what the law is. Anybody staying, she or he has to got to help pay rent, that and power to help us, but she's using the power. She has to help clean up the yard. ASA01

> If they don't pay our rent, they're going to get kicked out. But if you stay there, help and pay your rent, well it's alright. Help and clean the yard. Help and buy power card. Not just sitting around doing nothing, cleaning up the house, buy the feed and buy the power. ASA03

Other rules related to visitors not drinking alcohol and keeping their voice to an acceptable level. Indigenous householders were likely to ask visitors to leave (or obtain assistance from others to do this) if they did not abide by the rules they set.

> Because that's part of my rules, and that's what I want to do, you know, I'll keep doing that because if they don't want to listen to me, they either move out or I get the security or someone to come and remove them, the police, police have the authority to remove these people, elsewhere, wherever they want to go. ASA12

Rules and expectations around visitor behaviour were much more apparent and applied in the town camps of Alice Springs than in other locations. Indeed, in the APY Lands, there were limited expectations of visitors in terms of contributing financially or to housework.

Several further strategies were described by respondents as being utilised by tenants to manage visitor numbers. This included Indigenous people actively choosing not to have a larger home (e.g. with more bedrooms or outdoor areas) in order to have less space in which to accommodate visitors.

> So we have had through the program, we've said this family probably requires a bigger house and they've said no, for the very reasons you've outlined—they don't want a larger house because then they don't have the ability to turn people away, so they've actually elected to stay in smaller properties deliberately to prevent visitors. SH04

> When I get older, me and my partner get older, we might get single house, like one-bedroom house … There'll be only one room for only us, me and my partner … and our food will last for about two, a week. Instead of going buying groceries every day for … feeding family. APYA10-15

Some families were reported to make use of outdoor and indoor spaces in order to accommodate family visitors outside the home. This included the use of outdoor buildings such as sheds or erecting tents in the backyard. Indoor rooms—such as lounge rooms—were also converted into sleeping spaces if there was insufficient space in the bedrooms for visitors.

> Tents in backyards, particularly for young people. That was one thing that was spoken about … In a lot of my region they will convert sheds so that people can live in the back sheds … A bed in your lounge room … that's just how it is and that's absolutely not uncommon in a lot of the households for clients that we work with … My mum and dad will never ever let any of their grandchildren be left out on the street and … they rearranged their lounge room so that they could actually have a single bed in their lounge room for one of their grandsons to sleep on so that he felt as though he had somewhere to sleep. SH18

> That's why we need, like when they're building houses, they should put shed there for extra space, you know, so. Yeah, I know it's for like cars and tools or whatever things, but like people sometimes it gets overcrowded and you have that other space. Sometimes people block their veranda right around. Just for families to sleep there outside, you know, and it's, it's really hard. APYA10-15

Indigenous tenants in Adelaide were also said to employ strategies to prevent visitors with drug and alcohol issues from staying at their home. These tenants were described as going to the parklands to spend time with family members who may be sleeping rough there. This may include actually camping out themselves with family for several days.

> In regard to the parklands, you need to look at sort of the whole AD [alcohol/drug] issue that's there and the fact that it's, they can sit there and just yarn and drink and not have any care in the world. You also get those that are housed in Adelaide, they'll go and sit in the parklands for two or three days at a time just to be with family because they don't want family going back to their house … It's a good strategy. SH17

Finally, having a dog (and especially having a 'cheeky dog') was noted by stakeholders as a method employed to deter visitors and also to protect the safety of those within the household.

> My neighbour … he's often away working … and he's got a pack of extremely aggressive dogs and they protect the women and his family while he's away. SH07

> He's a cheeky dog. We call him two face—two face dog. Sometimes nice, sometimes [makes a growling sound]. A lot of people in the night, when they go around and knock on the door when we sleep, you know? People got bitten by a dog there, from that dog. My dog, my son-in-law's dog. ASA06

5.3 Summary

Our research found that overcrowding has considerable impacts (both positive and negative) for households. While living in larger households can, at times, provide positive impacts for household members, the negative impacts of housing overcrowding were more commonly raised.

Four primary benefits to living in a large household were reported. Being able to readily care for family members —and especially children and older people—was perceived to be an advantage of communal living. Family ties could likewise be strengthened through the fostering of active family connections, and the ability to spend time and do activities together. For people from Indigenous and CALD backgrounds, living in a well-functioning large household can also promote cultural identify and the passing on of cultural traditions and language. Sharing a home with others can also have financial benefits related to shared living expenses. Companionship and better health and wellbeing were two further (but less frequently) perceived positive impacts of living in large households.

Despite these potential benefits, our research also found negative consequences of overcrowding with 12 primary impacts identified. Limited access to adequate space and privacy created challenges for residents in crowded homes, including difficulties finding safe or private places to sleep and keeping their personal belongings safe. Noise was a further common challenge of living in a crowded home making it difficult to obtain sufficient peace and quiet. Incidents of antisocial behaviour also occurred in some overcrowded households and was particularly experienced by Indigenous householders.

The pressures of living in, and managing, an overcrowded housing situation, could also lead to poorer health and wellbeing. Concerns were raised around child safety and wellbeing including the detrimental impact of overcrowding on development and education, potential exposure to conflict and trauma, and heightened risk of sexual abuse and neglect. Living in a large household could also lead to increased housework, placing additional strain on some householders. Food theft and security were common issues for crowded Indigenous households leading to friction and issues with accessing food.

Family strain was seen to be heightened by overcrowding that could lead to irrevocable relationship breakdowns and family violence. Financial strain, particularly in relation to visitors coming to stay in Indigenous households who did not contribute to household expenses, was also noted. Strained relationships with housing providers and the damage caused to property were further negative impacts of overcrowding. Finally, the precariousness of some overcrowded housing situations was noted, especially for those living in informal house share arrangements.

Our research also identified the impacts of overcrowding for service providers (and especially housing providers). These included having to undertake additional property repairs and maintenance, as well as the provision of intensive support to overcrowded households (including tenancy management and support, and assistance to find alternative accommodation).

Finally our research highlighted the ways in which overcrowded living situations were managed by both housing providers and the householders themselves. Within all forms of housing (public, social and private) rules were described with regard to the identification, and management, of overcrowding. These included policies and guidelines relating to tenancy numbers, tenant responsibilities, and visitors. In practice, however, considerable flexibility in the enforcement of guidelines and policies addressing overcrowding was reported. This was due in part to the recognition that there were limited alternative and affordable accommodation options open to many people from Indigenous and CALD backgrounds.

Household members living in crowded homes also often implemented their own rules and strategies in order to manage their households and visitors. These included the management of sleeping arrangements within the home, adapting living patterns to make shared living easier, and trying to keep a positive mindset. Further household strategies included restricting alcohol consumption, and protecting possessions and food from theft. Finally, specific strategies were employed to manage visitor numbers including refusing to accommodate unwanted visitors, using the support of housing providers or the police, making use of outdoor spaces and having a small house and/or a dog (especially a 'cheeky dog') to deter visitors.

6. Addressing overcrowding

- **To effectively address overcrowding, substantial changes are needed at both a systems and service-level.**

- **At a systems-level, there is a need to expand the current stock of public housing; this will necessitate greater Commonwealth investment.**

- **An increased diversity of housing stock, homes designed in more culturally appropriate ways, and timely repair and maintenance can also help address current levels of crowding.**

- **Further systems-level approaches to reduce overcrowding include the development of flexible housing policy, appropriate housing allocation, and addressing issues in the private rental market such as affordability and discrimination.**

- **Service-level approaches can also be adopted to address overcrowding. Housing providers play a key role in ensuring that the supply of housing is at full capacity, sourcing alternative accommodation, and providing effective tenancy and brokerage support.**

- **To support a joined-up approach to overcrowding, there is also a need for greater wraparound service provision and effective liaison between housing providers and government services. The capacity of services working with crowded households should be enhanced through greater funding and staffing levels.**

The interviews with stakeholders and householders identified ways in which housing overcrowding could be more effectively addressed. These recommendations can be considered to operate at a systems and service-level and are outlined below.

6.1 System-level approaches

Respondents were in agreement that in order to properly address overcrowding, major changes needed to occur at a systems-level that related to the supply of housing and the ability to access this housing.

6.1.1 Increasing housing stock

The most important factor recommended by respondents to impact current levels of overcrowding was the need to increase the stock of public housing.

> How do you fix overcrowding? You build houses, and without putting too fine a point on it, that's the only solution … So, providing homes, decent homes, I think that would solve the problem essentially. SH03

> It's more like a systemic issue … [for] those newly-arrived refugee and migrants … then government has to increase the supply of housing so you're not settling people there but not increasing the number of housing … housing has to be increased, the suburb has to be increased. SH15

However, state and territory governments were reported to be constrained in their financial ability to build more housing. Thus, the stakeholders interviewed for this project strongly advocated that greater Commonwealth investment was needed. The expansion of the current housing stock was seen as being an investment approach that governments could contribute to. Not only was this considered to be the most effective way to address current overcrowding, but it was also seen by respondents as leading to broader outcomes, e.g. improved health and educational attainment.

> At the moment … is there money to build remote housing? Probably not. Is there enough money to build additional housing here? No, there's not. Commonwealth withdrew option a little while ago … It's going to be a struggle to find that capital. SH21

> We absolutely have to get the Commonwealth invested in the Territory to build all those extra houses because we haven't got the money … So for us, the most important thing is to keep showing outside the Territory what appalling housing people are living in and the need for accelerated investment and trying to get people to understand that it's not just a grab for money, it's that investment approach. You invest in housing in the long term and save in health and the fosters and the education and all of those symptoms. Plus the benefits for people. You just can't measure how much a decent house will impact on all of those things. SH04

Increased housing stock was particularly emphasised as being required in the APY Lands. The lack of housing in the APY Lands was said to be so entrenched that expectations of living with extended family were normalised and intergenerational. Therefore, as well as reducing current levels of overcrowding, the building of more housing in the region was also felt to provide an avenue for progress for residents and something to aspire to.

> Cause we do have like single people, like married couples, and some they work and they don't have a house, they live in, live with their parents or family or friends. And it's really hard, you know. It's … I think they do need a house for themselves. You know, for change, you know. If it's been a long time people living with family, it's … no one's … once we grow up, get job, and, you know, that sort of thing, I'd probably want to live on my own with my own house. Something like that. Yeah, it's not happening here because we got a lot of young people that hasn't got a house, or single people or married couples. APYA05-07

> It's been years that we're trying to get houses. Every meeting we go to we've been asking for houses for a long time. We need more houses here. APYA01-04

Stakeholders recognised that even if additional funding was available to build more properties, challenges in increasing the housing stock (especially in remote areas) would also need to be addressed. These included a lack of available land, water stress, and lengthy processes involved even prior to the actual building of new properties (i.e. identification of available land, community consultation phase, clearances obtained, infrastructure developed). Thus a long-term approach to public housing planning and development going beyond the election-cycle was seen as being necessary.

> Governments great at that point in time, oh, we need 20 houses and bang we can build 20 houses … Government's great at that three or four year cycles stuff … based on election cycles usually. But it's that five, 10, 15, 20-year planning where we're going, what's the demographic showing us, where should we be? … By the time you go through consultation to get that land, the land to become available, go through clearances and stuff like that, it's probably a two-year process, and then you have to put all the infrastructure in place and that might take it 12, 18, two years. So the earliest you could build a house is in five years' time. SH05

Stakeholders also spoke of the need for more understanding of the actual extent of overcrowding and the real level of demand for public housing. The collection of more accurate data on overcrowding was seen as playing an important role in informing the demand for housing and the extent of new stock required within the sector.

> I think if housing, like if the Department or other representatives are going to be moving people on, I think they should try and capture that data. I don't know how hard they're trying to do that at the moment. SH11

A need for the development and construction of additional short-term accommodation (e.g. visitor parks) within Alice Springs was also identified by some stakeholders. Current options for short-term stays were said to be at full capacity or being used as a stop-gap when longer term accommodation (e.g. for women escaping domestic violence) was unavailable. Thus the provision of additional visitor accommodation was seen as a way to avoid some of the overcrowding that was currently occurring.

> In a perfect world there should be … transitional accommodation or somewhere where people can camp that's safe, secure, you've got all your facilities and stuff. So instead of going to the houses, they could go to more of a communal space … A transitory camp for people to come and reside safely, and securely, and healthily too. SH05

Stakeholders also identified a similar need for temporary accommodation in Adelaide where a current lack of transitional accommodation resulted in visitors either staying with family (and thereby causing overcrowding) or sleeping rough in the Parklands.[5]

> We've got the transitional accommodation centre in Port Augusta, so people when they are going down, they don't necessarily have to be with families … We need a transitional accommodation centre in Adelaide. They're the sorts of things, when people are mobile, as I said, APY Lands housing is a genuine, it's overcrowded, but there are also options that we have got to invest in, that we could invest in if we wanted, in alleviating overcrowding when Anangu are on the move. SH09

> It's just a pity that Adelaide doesn't have a town camp somewhere. This has been talked about for the past 20 years I think, about the town camp … I think that would be ideal because that way the services could be there, work with them, and then know that they're safe. That you know there's at least some sort of shelter there and some sort of support. SH17

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[5]   Since the interviews were conducted, a new temporary initiative has been announced by the SA Government that will support people from the APY Lands who are sleeping rough in the Parklands. It will be important to assess the outcomes of this initiative.

The need for greater volumes of affordable housing was also highlighted, especially for people on low incomes living in Alice Springs and Sydney where the cost of housing was particularly high.

> But affordable housing need also to be extended as well here in Alice Springs. Here in Alice Springs you need to extend affordable housing, you need to extend government housing. The rental housing is there, but it is very crazy, lot of money. Yeah, we pay a heap of money here. A lot of people on lower income. ASC02

6.1.2 More appropriate housing

As well as increasing the supply of housing, respondents saw the need for greater diversity of housing stock. This included having a range of properties (from one-bedroom units to large houses with multiple bedrooms) that could better address the needs and requirements of households and assist in reducing crowding.

> I mean what's really clear is that more diversity of housing stock is required as well. There's not enough one-bedroom houses. There's not enough two-bedroom houses. It's weighted towards three and four-bedroom houses which then means that you end up with an old couple in a four-bedroom house. SH01

> In this community we want single houses, two-bedroom houses for the couple with two kids. So sometimes one kid. We need them houses and we got three bedrooms and four-bedroom houses and five. APYA01-04

Stakeholders reported that many families were seeking larger homes (with at least four bedrooms) but these were currently hard to come by. Many of the CALD householders living in Alice Springs and Sydney concurred with this viewpoint and spoke of the personal difficulties they had experienced in finding (and affording) a larger property for their family. The need for more homes that could meet the occupancy needs of large families was therefore commonly suggested. This included properties with a sufficient number of bedrooms and bathrooms.

> Most of the properties that are with New South Wales Housing came about in 1950s, 1960s, they're quite old properties and most of them are just three-bedders … There weren't that many … people here back then with large families, as you see that's quite a commonplace in some countries of the world, which is becoming a reality now in Australia, and these large families are here to stay. So I think any social policy, social housing policy, and direction in the future should take account of that … It need not be fancy and huge and big and expensive, I'm sure there could be cheaper solutions. Even homes side-by-side, renting two homes side-by-side or actually manufacturing homes that are larger, giving some concession to investors to perhaps build an extra bedroom in their home and maybe get some tax discount. SH16

> It's just there is a lot of houses for single people, but not so many houses for families … So partly the problem was then just that there's not, not enough houses kind of for the size that you need. ASC01

Some respondents reported that a potential way of increasing the size of properties was to add additional rooms onto existing dwellings. The 'Room to Breathe' program that operated in communities across the Northern Territory was described as an example of how increased diversity in housing stock in the absence of new builds could be achieved.

> My recommendation is if the house is three-bedroom … or this family goes to seven or eight people, we are supposed to put more rooms. If the house have space for backyard, it is better to put more room than be in a big house is a way to extend another room. Add on more rooms. ASC12

> We're also a big part of the 'Room to Breathe' program where we're adding extra rooms onto existing houses. I think the Northern Territory's really interested in it because the combination of land tenures here is so complicated. SH03

However, other stakeholders argued that a more organised approach to addressing the range of housing required by those living in overcrowded households was preferable.

> So some properties could benefit from additional spaces. But it'd have to be done really carefully and not just this ad hoc 'Room to Breathe' stuff which has been a disaster, but it'd actually have to be properly—it'd have to be a proper consultation and design process and decide what it actually looks like and then how do you then manage. SH01

Stakeholders in Adelaide and Sydney also suggested the potential for the construction of modular structures or granny flats could be undertaken in the backyard of current social housing properties.

> Maybe even just looking outside of the box on what we already have. And … it may not be that we need to build all these new properties. Is it that we just need to have some modular sort of buildings that we can place within the current backyards of the properties that social housing providers have … Modular housing where you might be able to sort of add and take away … And as the family grew you could just add another little module to it or as the family moved out you could take a module and give that to another property where the family's getting bigger. SH18

Stakeholders recommended that public and social housing needed to be more culturally appropriate in order to better match how Indigenous and CALD families wished to live. For example, some stakeholders suggested that Indigenous housing design principles should be followed when constructing new properties. The need for the construction of homes that better addressed the ways in which Indigenous peoples lived—with improved outdoor living areas, outside cooking spaces, and additional bathrooms—was also highlighted.

> So whilst you might have got some more houses on the ground and that's really important for people, there is longer term consequences of not having the right design to those houses because it can get very stressful for people to live in those houses if they're not right and there's not sufficient outdoor area as well. Because that's another thing—it's not only the internal layout of the house, it's actually making sure you've got a covered shade and outdoor area because that's where a lot of people prefer to live and that takes a lot of pressure off what happens in the house. SH04

> Things are done, it seems like, in complete contrast to what seems logical for community … Like, you know, the fact they keep building Anangu houses with one bathroom when they know … you just only make three bedrooms, there's only be three bedrooms of people living there? Are you for real? There's not enough housing full stop. So, and how is one house cope with one bathroom, one toilet, you know. What were you thinking? And that's just going to create enormous kind of issues. SH06

In addition, several respondents welcomed the idea of new ways of approaching the building of homes for family groups within Indigenous communities. This included the potential development of family 'compounds' or groups of housing where families had their own home but lived close by to extended family members. An example was provided of a housing project in the Groote Eylandt region of East Arnhem Land where traditional owners were working in collaboration with architects to deliver culturally appropriate housing. Several stakeholders advocated for the adoption of similar innovative approaches to Indigenous housing design to address overcrowding in the Northern Territory and South Australia.

> It's that multi-house development that is for a family group that might have a two-bed, a three-bed or a four-bed … Then you could incorporate visitor accommodation and it becomes, not a compound, but a group of houses with the sharing of responsibility of kids, you can fence it all so they've got a nice play area that's secure, that's safe … It's being tested elsewhere … Architects have worked with communities about doing that and they've done a test I think already. Groote Eylandt's the one. SH06

> I think we need to be thinking about different designs … A bit like, you go to Bali and there's a family compound where many generations of that family live within that compound … You lay out the housing … in such a way that everyone's facing in to a central area that they socialise in but also meets the various cultural needs of groups. SH04

Furthermore, stakeholders recognised that homes needed to be fit-for-purpose and (until issues with the supply of housing were addressed) to ensure that they could cope with large numbers of householders. This included the installation of robust fittings and hardware, as well as homes that were suitable for the often harsh climates found in remote areas such as the APY Lands, and were also secure. Timely repair and maintenance was also perceived as being a way to prevent homes from sitting empty and reduce levels of overcrowding.

> Yes, we need to build more homes but we also really need to look after the homes that we have and, yeah, it's just not being done in an efficient way. Really, it's a big shame. SH11

> Like, why are you continually putting these taps that, obviously the cheapest, shittiest taps you can buy from Bunnings or wherever when within five minutes, they're so blocked up you can't even get water out of them. You know that this doesn't work out here so why are we, you know, why are we not putting something more industrial in if there is genuine reasons why them taps don't work … Why do we keep doing the same shit, you know? Why aren't we thinking about the way the houses are actually built. We just keep building mainstream houses and expecting people to live in them in a mainstream way and you go, they're not going to. So it's like, for five seconds it looks good. SH06

However, issues were recognised in the building of properties with large yards or additional rooms (bedrooms and bathrooms) as respondents felt that this could inadvertently encourage unwanted visitors to stay and cause further overcrowding. It was therefore seen as being important that a range of properties be provided to ensure that the specific housing needs of individuals and families from Indigenous and CALD backgrounds could be met.

> We need to build bigger houses so that families can be all together … There is also quite a lot of demand for smaller units. So older singles or older couples are saying, hey, we don't want to actually manage this big three, four-bedroom house anymore. We just want to be alone in a smaller unit, we want to have less garden space around our property, we want to be more contained so that we don't have space that is enticing to visitors. SH11

6.1.3 Improved housing allocation

Appropriate public housing allocation was also considered by some stakeholders to be a contributing factor in addressing overcrowding. These respondents recommended that housing allocation should be mindful of cultural family groups. This would ensure that the right families lived close together and would reduce the risk for conflict and potential overcrowding if families needed to relocate. The re-adoption of community-controlled models of housing allocation in the Alice Springs town camps was advocated by some stakeholders. This approach was felt to encourage improved and more trusting relationships between community members and housing providers. It was also hoped that community-controlled housing allocation would encourage residents to feel and take on greater responsibility for their community, including managing incidences of overcrowding.

> All the housing in the Town Camps has effectively been under the public housing system; we're trying to get it back to a community-controlled model … In the current system there's no conversation of overcrowding or what it means or housing design or anything like that at all … it's very government dependent, oh government will fix this, government will do that. SH02

> Sometimes what would happen is that if it was no longer culturally appropriate to stay in this house there might be an opportunity to swap houses. Under an Indigenous Community Housing model that sort of thing can happen in a straightforward way. Under our Public Housing model that doesn't happen in such a straightforward way unfortunately. SH01

Relatedly, householders in the APY reported a lack of involvement in housing allocation at the community level. For these respondents, a key driver of increased involvement was the establishment of a local housing committee that was able to communicate the local housing demand directly to authorities and participate in housing allocation decisions.

6.1.4 More flexible housing policy

Stakeholders identified the need for a reimagined, more responsive and culturally appropriate housing policy that could better understand and address Indigenous overcrowding. Existing housing models were not felt to be working and a new and more effective model of working with Indigenous people living in crowded households was needed. Recognised as a challenging policy issue, this would necessitate joint working and co-design between federal and state governments, the housing sector and Indigenous leaders and organisations.

> It's responsible on government and the sector to go, well, this ain't going to work, it's just going to be continual cycle of dysfunction until we actually get a model that suits individuals and they can have an opportunity to explore different areas, and we know once we get housing right other things fall into place for people … So we know that as soon as someone is safe and settled in their home, other parts of their world start to come together, but we're yet to define what we mean by the best home for an individual, what that actually means or what it could mean. So it's going to be a long time before we get there. SH21

More understanding was also felt to be needed regarding the housing needs of remote communities, for example, around intentions to return to live on country. By better understanding both current and future demand for remote housing, this would enable housing responses to better match actual need.

> Everyone talks about wanting to go home to country, but there is some real life practicalities that sit behind that … It's not easy as going, oh these people want to go back. They want to go back, but they know they can't stay. So I think that's part of the end question is somehow, you want to come home, that's great, but how long will that be for? And then does that mean our housing responses need to cater for that? Does it mean that, for instance, one family, one house allocation, is it a bit different? Are there one house, two family allocations, but they're at different times and they swap? There's thinking that needs to be done, but we just don't understand what that thinking is yet because we're not asking those right questions. SH21

> Addressing issues in the private rental market

Our research highlighted issues of affordability and discrimination within the private rental sector. Currently, in Australia private rental prices are largely determined by the market (Ong, Pawson et al. 2020). While each state and territory jurisdiction has their own residential tenancies legislation limiting the ability of landlords to increase the rent of existing tenants excessively, there are no regulations regarding the setting of rental prices for new private tenancies (Ong, Pawson et al. 2020; Productivity Commission 2019). Although the effectiveness of rent control has been debated, this approach has been used historically at times within Australia as a way of improving rental affordability (Ong, Pawson et al. 2020; Productivity Commission 2019).

Discrimination within the private rental sector is unlawful (Attorney General's Department N.D.) but previous research has indicated that discrimination commonly occurs on the basis of race, disability, family composition and socio-economic status (Maalsen, Wolifson et al. 2021). Decision-making around tenancy applications rests with the landlord or real estate agent with little transparency over how the 'best' applicant for a property is selected (Bate 2020). It has been argued that policy reform is needed to prevent such discrimination including further regulation around rental application/selection processes and the removal of rental agreement clauses that may lead to indirect discrimination (Bate 2020; Maalsen, Wolifson et al. 2021).

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In the interviews, measures were recommended to address issues within the private rental market. This included addressing the perceived racial discrimination present within the market. While stakeholders acknowledged that within current tight rental markets it would be difficult to prevent discrimination from occurring, they advocated that greater support be provided to individuals and families who were perceived to be the targets of discriminatory behaviour. This included supporting those who were entering the rental market for the first time (such as new migrants and young Indigenous Australians), e.g. by providing advice, assisting with forms and references, attending viewings, and advocating on their behalf to real estate agents. It also involved providers establishing positive working relationships with agents who could then assist clients to find suitable accommodation.

> Maybe there needs to be, and I don't know how this would work exactly, but … a framework for real estate agents … to be educated on or become more comfortable with some levels of overcrowding … Like, say you have a mum with seven kids … how can we educate the real estate agent that like, it's okay for them to be in a smaller house for a little bit of time. SH11

> Wouldn't it just be great if we had real estate agents who were sympathetic or understanding about people seeking asylum and getting them into appropriate housing because our clients rely on just having to go through these backdoor options that ends up being really shady … But if we had people we could talk to. SH14

Stakeholders also suggested that intervention was needed in order to prevent private landlords from exploiting their tenants, e.g. with regard to the provision of poor quality accommodation or the charging of exorbitant rents to those living in crowded properties.

> [We need] a fair rental price. Someone to say this is not acceptable trading for landlords or maybe blacklists … think Melbourne is thinking about it but it's not called a blacklist, it's called a red list or something. Because it actually did sound like a lot of people were just deliberately exploiting these people. It wasn't just the market, it was people looking to make money, like ten people in one place. SH14

> Having more affordable housing, our rental market is just really disgusting. The expectation of what people want to put in for, to pay for rent, you wouldn't put animals in half of them, it's just ridiculous. SH19

6.1.5 Support for asylum seekers

Finally, stakeholders working with CALD communities (especially those located in Sydney—the gateway for many new migrants to Australia) recommended that more needed to be done to help asylum seekers with their housing needs. People seeking asylum were said to be ineligible for public housing or financial support from Centrelink and, as a result, often ended up living in crowded households. Stakeholders suggested that more needed to be done to assist this particular cohort including the provision of housing, rental support and employment pathways.

> I guess having help in the private rental, but also having housing options through crisis accommodation or community housing. People seeking asylum aren't eligible for that … People might not stay in situations where they're unsafe if they actually had an alternative, both when they could afford it and when they can't … So providing people seeking asylum and temporary visa holders some form of rental support when they need it. Improving the pathways for people seeking asylum to get good paid employment. SH14

This issue was also raised by respondents from CALD communities living in Alice Springs and Sydney. In their opinion, more housing support was required for asylum seekers and new migrants who were not able to work and who were reliant on Government assistance.

> There's people from Africa like me … some of them … they don't work. So they rely on the government and then the government is doing as much as they can. But it need more when it come to the housing. Okay, so it need to provide housing to those in need for the housing … because there are some people who can't afford to pay rent and then some of them cannot afford to pay rent because they rely on Centrelink. But they still need housing to be affordable and then to be available. ASC02

6.2 Service-level approaches

Service-level approaches—which incorporated the actions of both housing and non-housing organisations—were identified as aiding some aspects of overcrowding.

6.2.1 Housing providers

Stakeholders perceived housing provider organisations as playing a particularly key role in helping to address the housing issues arising from overcrowding. This included ensuring that properties were in a good state of maintenance and any damages were repaired in a timely manner to ensure that the supply of housing was at full capacity.

As discussed above, respondents also perceived housing providers as helping to manage visitors, including moving people on when their stay had become problematic. Housing providers were also identified as having further roles in addressing overcrowding. This included sourcing alternative accommodation for those living within the property who were seeking their own residence. As previously mentioned, overcrowding could at times lead to financial strain for the head tenant. Thus some stakeholders saw the provision of brokerage support (e.g. to assist with utility costs) as being another important role for housing providers.

> [We] seem to have one home fail fairly tremendously every year, and it's typically because of severe overcrowding and pressure from not the immediate family, but from external family members or community members and what is, in some circumstances, the actual resident has been, 'I'm getting out of here' and just left because they don't want the pressure of that. Other times, we've been able to work with them and find another housing solution just for the resident. SH02

Stakeholders also identified the need for housing providers to build relationships and work in partnership with Indigenous communities and households. This would enable more open discussion around any issues a household may be facing and the co-design of, and joint responsibility for, potential solutions.

> I also think that there is a lack of, I call it Napagi-Napagi, two-way understanding between the sector and the community themselves. So we have created a world that's very comfortable, which is a welfare deficit model … rather than if we have a conversation that truly activates this partnership thing that we should be having or relationship around, you know let's get this living situation sorted, what we will do is this and what you need to do is this … I think that there needs to be a trust in a relationship that enables that to happen … I think there absolutely has to be a re-establishing of the relationship or a resetting of the relationship. SH21

Likewise, in order to better understand and manage Indigenous overcrowding, stakeholders recommended that housing provider organisations adopt more culturally appropriate policy and practice principles. This included recognising Indigenous ways of living such as understanding that Indigenous tenants had cultural obligations to house other family members which, at times, could result in crowding.

> If I was in a work car and saw an aunty or uncle struggling with groceries, but that's in breach of policy because no one is allowed in the car, I'd rather get a rap over the knuckles rather than leave them to struggle. That is how Aboriginal tenants would also be feeling when they have to tell people to go. They would rather lose their house rather than tell people to go. We need to change the policy of social housing providers and to make special circumstances for mob. SH20

> [There is a] lack of fluent conversation between the provider and the tenant … [and] there's a lack of value or recognition that Aboriginal ways of life are important. So I think in general … the average Joe Bloke brings to a job that they don't value the way an Aboriginal person chooses to live their life because there are underlying issues of racism that exists and I don't think we can ever get away from that until we truly call it out and people actively work to rectify that … We ask for a genuine relationship … If we did do that, it would show a lot more empathy, compassion, and respect for people. SH21

For recent migrants to Australia, more support and education around tenant rights and responsibilities was also said to be needed. In addition, the provision of tenancy support programs to assist people living in crowded households to deal with issues relating to overcrowding and maintain their tenancy was also highlighted.

> For the newly arrived migrants we are working with, the local Housing and local services to bring awareness about their rental rights or … as a tenant your rights and responsibilities. SH15

> We have a living skills program which we run. And part of the living skills program is how to maintain your tenancy—what you need to do in order to make sure that you get your lease extended. And that incorporates cleaning, overcrowding and neighbourhood disruptions and everything else. So we work on that with the client. SH17

6.2.2 Non-housing services

The need for a wraparound service approach in order to better address the negative impacts of crowded households was recognised by stakeholders. Thus, the broader non-housing service sector was seen as playing a key role in addressing the impacts of overcrowding. This included household members being referred on to services that provided programs to develop life skills and financial management. Respondents also acknowledged the challenges of implementing the strategies learned from these programs when tenants were dealing with the reality of overcrowded living situations.

> All these programs that have been trying to run out like the living skills, the budgeting … They can't really practise those skills when you've got 10 people living in the house anyway and everything's getting smashed up all the time or everyone's eating your food regardless of what you do. So, I mean, I know that's not really doable but, yeah, that seems like a major issue. SH07

It was recognised that limited English language skills could act as a barrier for some people from CALD backgrounds from being able to find suitable accommodation. Multicultural community organisations were therefore reported to play an important role in assisting this cohort with their housing needs. This included providing support to apply for, and obtain, a property. The provision of education to tenants living in private rental accommodation was also considered to be another potential service that could be offered by community organisations. Tenant education was thought to be especially pertinent for new migrants who may have a lack of understanding of tenant responsibilities or how to appropriately use the facilities within the property.

> I think private rental market is one of the areas where people start living when they first come from overseas and started learning things what are the new rules that they have to follow. And due to lack of education and understanding, people sometimes don't understand … We do the orientation program to those people … We conduct workshops, information session … We even assist them how to use that cooktop, how to access the toilet facilities, the showers and all these things. SH10

Stakeholders also recognised the importance of effective liaison between housing providers and government services such as Centrelink, Child Protection and the Justice System. Better access to services that could support household members with their mental and physical health needs was also seen as being necessary.

> I keep going back to the way that we would approach overcrowding. I don't think there's much we could change how we work with tenants … other than offering more support or getting people to be more engaged with other services and things like that … But that still doesn't change the underlying factor that there still isn't enough houses. SH02

Finally, respondents acknowledged that the involvement of the police was sometimes necessary to address serious issues caused by disruptive tenancies (e.g. noise complaints, violence and other antisocial behaviour).

> What happens down in urban houses, mainstream public housing down here is overcrowding occurs here because people from the lands are coming down and residing with people they know down here and living in their backyards, and then we get disruptive tenancies occur, and police become involved. SH05

6.2.3 Funding of services

Despite this perceived need for effective service-level approaches to deal with the negative impacts of overcrowding, respondents recognised that the resources of housing providers and the broader service sector were limited. Hence, stakeholders strongly advocated for the additional funding of services in order to offer more effective wraparound support to those living in crowded households.

> You can't really solve everyone, then what we can do is like just provide a support and also, we cannot really provide counselling because we don't have enough time and enough funding to do it. SH13

> I think we need more housing stock in the region and then being able to provide that wrap around support for people when they do go into their home … Really giving families from young people to families to individuals that really good wrap around support about being able to keep and maintain their housing in those homes, that would be perfect. SH18

The need for the resourcing of additional housing officers who could work proactively with crowded households was seen as being particularly pertinent.

> I would like us to have more housing officers too because I think it's the only way for us to work intensively with people is to have the additional staffing. SH09

Finally, stakeholders suggested that there was a need for services to identify more creative ways of working with people living in crowded households, including the implementation of community development activities within Indigenous communities.

> I guess what we're left to do as social housing providers and people working in the community services space is to work out creative, relational ways of working with people under those sort of circumstances and really, it would be, but then again we don't have those resources either … That would require practitioners, it would require case managers who could sort of become more involved with family groups and alleviate some of those stresses by doing community development or placemaking in areas where there is a high degree of overcrowding and social tension. That's the only thing I can suggest in the absence of more homes. SH03

6.3 Summary

To effectively address overcrowding, our research identified that substantial changes are needed at both a systems-level and service-level.

At a systems-level, there is a need to expand the current stock of public housing, with the APY Lands in particular identified as having a severe lack of available housing. If the stock of housing is to be increased, this will necessitate greater Commonwealth investment alongside state and territory funding. In addition, there is a need for more short-term accommodation options within urban areas to address the overcrowding caused by Indigenous visitors.

Our research also indicates a need for greater diversity of housing stock, including a range of differently-sized properties that could meet household needs and assist in reducing crowding. Going forward, public and social housing should be designed in more culturally appropriate ways to better suit how households wish to live. Homes also need to be fit-for-purpose—with robust fittings and hardware—to cope with the demands of larger households. Furthermore, timely repair and maintenance is essential to ensure that properties can be re-let quickly and reduce overcrowding.

Further systems-level approaches to address overcrowding include the development of more flexible housing policy that better understands and addresses Indigenous and CALD overcrowding. Appropriate housing allocation that is mindful of cultural family groups and includes the adoption of community-controlled models was also considered a means to address current crowding. Addressing issues present within the private rental market—including instances of discrimination and exploitation—was also felt to be required, along with better support for asylum seekers in need of housing.

Service-level approaches can also help to address some aspects of overcrowding. Housing providers play a key role in ensuring that the supply of housing is in good repair and at full capacity. They can also assist in sourcing alternative accommodation for those living in overcrowded households, and the provision of effective tenancy and brokerage support. It is important, however, that culturally-appropriate policy and practice principles support this work.

The broader non-housing service sector also plays a central role in addressing overcrowding. The need for a wraparound service approach to better manage the negative impacts of crowded households was highlighted. Effective liaison between housing providers and government services was also considered to support a joined-up approach to overcrowding. Finally, our research recognised that the capacity of current services (both housing and non-housing) needs to be enhanced through greater funding and staffing levels.

7. Conclusions and policy implications

Overcrowding is widely seen to be a major problem in Australia. However, it is clear from data from the Census and the HILDA survey that the incidence of people living in houses that would be considered overcrowded, by any reasonable standard, is actually quite rare. Around three-quarters of households have at least one spare bedroom, and at most 5 per cent of the population live in households that require extra bedrooms as determined by the CNOS. Over 90 per cent of Australians live in a home with at least one bedroom for every couple and individual occupant. At the same time, there is ample qualitative evidence of pockets within our society that are prone to experiencing overcrowding, leading to a range of substantial adverse consequences. These include lack of privacy, exposure to antisocial behaviours, property damage and reduced control over factors such as food security and household finances, among others.

For the development of housing policy and housing services models that minimise harm associated with overcrowding, there is a strong need for robust indicators that effectively identify households at risk of negative effects of excessive density. Through extensive primary qualitative interviews and quantitative analyses of secondary data, the research undertaken for this report has sought to provide an evidence base for improving measurement of crowding. The qualitative interviews with stakeholders, housing services providers, and householders from CALD and Indigenous backgrounds sought insights into current practices toward measuring crowding; the causes and consequences of crowding; and strategies adopted to manage crowding. The quantitative analysis presented evidence on occupant density levels for the population of Australian households and extensive modelling of the nature of the relationship between Australian adults' wellbeing and their household occupancy and density levels. This included thorough analyses of the voracity of the main current measure of overcrowding, the CNOS, in identifying households where density levels are associated with lower occupant wellbeing. This chapter brings together the key findings from those lines of investigation and draws out the implications for policy.

7.1 What is the nature of the relationship between occupant density, crowding and wellbeing?

Following previous contributors, we have stressed the conceptual misalignment inherent in basing the measurement of crowding on parameters associated with household density. One is a subjective, personal sense of excessive density, the other draws only upon objective metrics. To bridge this gap, we have extensively modelled the relationship between household density and occupants' wellbeing, in order to identify the levels of density that negatively impact upon occupants, and the associated circumstances, with a focus on psychological wellbeing.

We had little success in identifying particular breakpoints or ranges at which density levels became detrimental to occupant wellbeing: there seems no simple rule of thumb, based on the number of occupants and number of bedrooms that robustly translates to 'overcrowding'. While the HILDA survey was not designed specifically to capture crowding effects, it offers an excellent dataset for that purpose, with a very large sample and long panel dimension (up to 19 annual observations for some individuals); validated measures of mental health, psychological distress and numerous other outcome measures; information on household demographic composition and number of bedrooms; and a very rich set of controls for potential confounding factors. In addition to testing a range of specifications of density measures across numerous sub-groups, we applied an advanced 'optimal breaks' methodology well suited to the task of identifying ranges over which density might be deemed as 'overcrowding'.

Given all this, the absence of findings of clear empirical relationships highlights the highly nuanced and complex nature of the effects of household density. The quantitative analysis does uncover some important findings with regard to understanding that relationship, and why it is so difficult to empirically model, aside from the low incidence of overcrowding within population representative samples. An important challenge is the conflation of occupancy and density. We find a direct relationship between occupancy—the simple count of the number of household occupants—and worse outcomes for mental and physical health, psychological stress, and satisfaction with one's home. This generally applied for partnered males and females, and for lone parents. The effect appears to hold even when there are ample bedrooms per occupant, consistent with models of sensory overload that suggest the number of people in a household, and not just density, can have negative impacts. Since density measures invariably correlate positively with occupant levels, it is difficult to isolate crowding effects.

Further, effects of occupancy and density differ conditional upon people's relationship status within the household. Evidence of detrimental associations between occupancy or density and wellbeing apply primarily for members of couples and sole parents. For 'others' in the household, there is minimal evidence of negative associations from greater density: when estimates are statistically significant they tend to indicate positive associations with density. In couple and sole-parent households, these 'other' responding persons in the HILDA sample are adolescent or adult children of those parents (aged 15 and over). The quantitative modelling undertaken for this report has not looked at the impact on children aged under 15, though presumably parental reports of their own mental health and psychological wellbeing are partly influenced by their children's wellbeing. Our modelling provided mixed results regarding gender differences: women appear to have stronger preferences for larger houses, but measures of mental health, physical health and psychological distress were more sensitive to density levels for men than women.

Numerous models, particularly those based on quadratic specifications of density variables, show density having an initial negative marginal effect (at low levels of density), with that effect declining or reversing at greater levels of density. Precisely the opposite pattern was anticipated: an initial positive effect turning negative at higher levels of density. Perhaps the strongest evidence of 'crowding' effects comes from looking at the density-wellbeing gradient across households with a given number of bedrooms. Here we find lower wellbeing, notably higher psychological stress, associated with larger households living in one-bedroom or two-bedroom housing.

The quantitative modelling also reveals strong preferences for housing with more bedrooms. People's satisfaction with the home in which they live is highest if they live in five-bedroom or larger houses. It is difficult to infer this to be a crowding effect, since it also applies to households with just two or three occupants. However, the increase in satisfaction with additional bedrooms is stronger for households with a large number of occupants. Possibly, the estimated association between housing satisfaction and the number of bedrooms actually reflects omitted variables relating to the quality of the housing, although the models do control for the socio-economic status of the neighbourhood and household income, which may be expected to provide robust controls for unobserved housing quality.

The qualitative interviews focussed on a sample of stakeholders specifically selected for their first-hand experiences with crowding, and with householders selected on the basis of their lived experiences. Accordingly, overcrowding was reported in the interviews to be highly prevalent, particularly in the APY lands. Stakeholders, including a number of housing service providers, welfare organisations and peak bodies, identified Indigenous Australians, people of CALD background, women escaping domestic violence, people of lower socio-economic resources, younger people and international students as groups who were highly susceptible to experiencing overcrowding. Census data presented in Table 8 confirm higher household density among migrants of African and Asian origin, while the fact that Indigenous Australians live in higher density households, notably in more remote areas, has been well documented (see, for example, AIHW 2014).

Many stakeholders and householders could readily recount examples of extreme overcrowding, and drew particular attention to issues associated with multi-family households, such as those with multiple generations or different families sharing housing. Although the incidence is low, relating to around 3 per cent of the population aged 15 and over, the quantitative analyses consistently found multi-family households to be associated with lower occupant

wellbeing, and this is over and above any effect the presence of multiple family units has on occupancy or density levels. With regard to mental health, physical health and psychological distress, this adverse effect of multiple family units living in the one house was generally greater than variation associated with occupancy levels or additional bedrooms required.

Many of the reported consequences of crowding are consistent with theoretical models that see the effects of crowding operating through loss of control over personal spaces, sensory overload, and the intensification of existing life stresses and relationship challenges. Many of those cases highlighted can also be attributed to cases of multi-family or extended family living arrangements, such as problems with antisocial behaviour, personal safety (particularly for women) and the challenges posed for managing household cleaning and maintenance, food security and budgeting. They apply particularly to the wellbeing and safety of children and impacts on their schooling, and the associated stress put on the parents caring for those children. In turn, these negative consequences attributed to overcrowding contribute to strained relationships between tenants and housing providers, potentially resulting in the termination of tenancies.

On the other hand, respondents also spoke of positive effects associated with levels of occupant density that they considered 'overcrowding'. These included companionship, greater capacity to support and care for family members (including for children), strengthened cultural and family ties and financial benefits of housing and other costs being spread more widely. Such benefits were acknowledged by stakeholders and, importantly, also raised by householders when sharing their own lived experiences with crowding. Most of the benefits described relate to the number of occupants rather than to occupant density per se, with the exception of cost sharing, since some economies of scale will relate to density. Understandably, with the size of properties and number of bedrooms seen as fixed for most intents and purposes, people will generally think of high occupancy and crowding as one and the same.

There was recognition in stakeholder interviews of the importance of cultural differences in shaping how density may relate to overcrowding in reference to Indigenous Australians and for a number of CALD groups, including those from Asian backgrounds. Against expectations, however, the empirical modelling does not support the hypothesis that people of Asian migrant background have cultural norms that leave them more accepting of high density living, and thus less susceptible to negative effects for given levels of household density. While the quantitative analysis did not explore the relationship between household density and wellbeing specifically for Indigenous Australians due to limited sample sizes, existing literature strongly supports the presence of substantial cultural differences, particularly relating to accommodating extended kinship groups and visitors, as highlighted in the qualitative interviews.

7.2 Managing overcrowding

To understand when occupant density levels become problematic, and translate to what is considered overcrowding, it is instructive to gain an appreciation of what factors are seen to cause overcrowding and how negative consequences of high occupant density may be mitigated. These topics were explored in detail in the qualitative interviews. Ultimately, the primary causes of overcrowding are seen to be a limited supply of affordable and appropriate housing, the limited financial or social capital of vulnerable families to secure more suitable housing alternatives, and discrimination or other deficiencies of private rental markets. A compounding factor for Aboriginal and Torres Strait Islander Australians is the availability of services in remote communities, which shapes temporary mobility patterns and the incidence of visitors in regional hubs such as Adelaide and the Alice Springs town camps (Dockery and Rottemberg 2021a,b). Issues of availability and affordability of appropriate housing have geographical dimensions, which are often exacerbated for Indigenous people due to their strong (and legitimate) sense of connection to country.

A range of other factors were seen to contribute to overcrowding, including multigenerational or extended family groups living together, house sharing arrangements, cultural norms and obligations and, for some CALD families, the comfort of living with others of similar ethnic origin in an unfamiliar environment. It could be argued that these

factors largely represent choices. Living with higher household density associated with multiple generations co-residing, for example, may result in overcrowding but also be the best alternative of the options available. Those families may prefer to live separately if suitable housing were available and affordable to them, but in their current situation benefits of 'overcrowding' outweigh the negatives. In such a scenario, multigenerational living and associated overcrowding should be seen as the symptom, not the cause. An important caveat to that line of argument is the possibility that family choices, such as those in line with cultural norms or obligations, have differential within-family impacts. The most common example of this was raised with regard to the threat of overcrowding to the safety and privacy of women and girls.

Housing providers use rather ad hoc rules over what level of occupancy is permitted within properties, but most reported being flexible around those rules with termination of leases if those rules were not adhered to generally used as a last resort. Within households, people reported adopting a number of strategies and rules to make sharing easier, including separating sleeping areas for women and children; setting limits around alcohol consumption and behaviour; setting rules around where visitors were able to sleep; setting aside times and space for children to do homework; allocating times for use of shared facilities such as kitchens and bathrooms and spending more time outdoors. Effectively exercising such strategies requires a degree of control over other residents by a primary occupant or lead tenant, or a high level of cooperation among occupants. However, a loss of such a sense of control is one of the dangers of overcrowding. Consequently, housing providers are sometimes enlisted to assist in (re) establishing that control by moving on visitors or otherwise imposing rules.

Highlighting the importance of such a locus of control, householders and stakeholders spoke of the distinction between households considered to be well-functioning and others. Well-functioning households are able to both extract more of the benefits of higher occupant density, such as shared caring roles, economies of scale and promoting cultural and kinship identity, while simultaneously limiting negative effects. This insight was reinforced in the empirical modelling. Using only a rough proxy for family functioning within couple households, we found evidence that family functioning is a significant moderator of the impacts of higher household density. Stronger evidence of detrimental effects of higher density on mental health and psychological wellbeing is observed among the sample of adults in families that are not considered to be well-functioning. In addition, there is a substantial direct association between wellbeing and family functioning.

7.3 Implications for measuring crowding

The contrasting pictures of the prevalence and impact of crowding that are painted by the quantitative and the qualitative components of this research make clear the need to distinguish between effects within the broader Australian population and those within targeted, vulnerable groups. The approach to the measurement of overcrowding will differ substantially depending upon the interest of the analyst and the intended use of the measure.

Practitioners, policy makers and the data providers that support them face a number of constraints and trade-offs in measuring crowding. A key dimension along which those trade-offs can be considered ranges from, at one end, large-scale surveys collecting readily observable measures of density that can be generalised to the population and key demographic groups; through to detailed qualitative studies collecting subjective information on crowding from household occupants, at the other end. The essence of the problem lies in the fact that ease of measurement makes household density a preferred proxy for crowding; but density has a very tenuous link to crowding.

The specific purpose for which any measure of crowding is to be used will be tantamount in assessing options, as can be seen by considering the challenges associated with the following three broad measurement approaches and uses:

- **Large-scale surveys:** cost pressures will require that large-scale surveys collect readily observable metrics. For example, Census data on the number of bedrooms and number of household occupants, their gender, age and relationship status is sufficient to apply the CNOS. However, the link between such density measures and crowding is unclear. In Australia, a further issue is that generally low household density levels mean that, even in large surveys, the number of observations for which density levels cause negative effects on occupants' wellbeing will be small.

- **Qualitative studies:** direct measurement of crowding requires collecting subjective information from household occupants on their feelings of crowdedness, or observations on behavioural responses to crowding. Such data collection is resource intensive, precluding generalisation of results due to small samples or the need for purposive (unrepresentative) sampling frames. Qualitative studies need to take account of both positive and negative effects of density and of potential moderating factors.

- **Targeted collections for vulnerable groups:** policy makers and service providers will often be interested in measuring crowding for groups known to be vulnerable. This may be to gain estimates of the incidence and severity of crowding for that group, or to identify households in need of assistance. In the former case, they face similar considerations in choosing between larger scale surveys and qualitative studies. For the latter, recognition of cultural or other differences for groups will necessitate appropriately tailored measurement approaches.

The research findings have implications that cut across these potential uses and approaches for measuring crowding. For larger scale data collections, the results indicate the CNOS is not a robust measure of crowding and, in fact, simpler household density measures are equally effective in capturing variation in mental wellbeing. Rather than a focus on the number of bedrooms as the denominator, a range of other measures could be incorporated into data collections to capture the adequacy of living spaces, such as floor space, number of rooms, or the number of bathrooms and toilets. However, we are sceptical of the scope for such large-scale collections to provide the basis for robust measures of overcrowding for a number of reasons. One is the inevitable conflation between the effects of occupancy and density. The effects of density are also highly contextual. It varies for different people within households and varies across households. Higher density can have both positive and negative effects on wellbeing and for non-parent occupants even appears to have net positive effects. A major moderating factor determining the extent of positive and negative effects is family functioning, which is inherently difficult to measure.

Two key channels through which density impacts upon psychological wellbeing are through occupants' sense of a locus of control and of lack of privacy, and family functioning is a key moderator. Development and incorporation of instruments to measure these effects is important for identifying crowding effects in qualitative studies, and potentially shortened versions could then be validated and incorporated into larger scale survey instruments.

Qualitative, rather than quantitative, approaches are likely to be most fruitful in development of bespoke measures of crowding for individual target groups. Our finding here is consistent with existing literature in the context of Canadian First Nations peoples noting the importance of subjective measures of crowding in place of, or to complement, objective density measures in order to capture cultural differences in experiences of crowding (Lauster and Tester 2010; Perreault, Riva et al. 2020). In this regard, the stakeholder and householder interviews provided insights into crowding for Aboriginal and Torres Strait Islander households. Understanding or exploring potential moderating factors and coping strategies is essential in understanding how density translates to crowding, making it important that Indigenous researchers be involved in such field work. For this group, it is essential that data on the number and regularity of visitors to households are collected for assessing crowding. This is a factor that is invisible to nearly all major data collections, but would appear to be something that could be collected relatively easily in both qualitative and broader scale studies.

A potential approach to measuring crowding that combines benefits of larger scale surveys and qualitative studies, and could possibly incorporate administrative data, is to develop a dashboard of indicators or 'flags' relating to vulnerability to crowding in addition to high levels of household density. The presence of multiple family units is a critical one. Other potential indicators include a single bathroom and/or toilet, presence of young children, low income, accommodation choice and frequency of visitors. For Indigenous households, this may also include a location-based indicator of the extent to which a town acts as a service hub to outer-lying populations. The composition or weightings across indicators would need to be subject to further empirical validation and refinement.

References

ABS (2018) *Census of population and housing: estimating homelessness, 2016,* cat. no. 2049.0.

ABS (2019) *Data by region 2011–2018: family and community,* cat. no.1410.0.

Altman, I. and Chemers, M.M. (1980) 'Cultural aspects of environment-behavior relationships', *Handbook of cross-cultural psychology*, vol. 5: 355–395.

Attorney-General's Department (n.d.) *Australia's anti-discrimination law*, https://www.ag.gov.au/RightsAndProtections/HumanRights/Pages/Australias-Anti-Discrimination-Law.aspx (accessed 18 March 2022)

Australian Institute of Health and Welfare (2014) *Housing circumstances of Indigenous households: tenure and overcrowding,* cat. no. IHW 132, Canberra.

Baker, M., McNicholas, A., Garrett, N., Jones, N., Stewart, J., Koberstein, V. and Lennon, D. (2000) 'Household crowding a major risk factor for epidemic meningococcal disease in Auckland children', *The Pediatric Infectious Disease Journal*, vol. 19, no. 10: 983–990.

Bate, B. (2020) 'Unlawful and lawful discrimination: How the selection process disadvantages some private renters', *Parity*, vol. 33, no. 5: 30–32.

Booth, A.L. and Carroll, N. (2005) *Overcrowding and Indigenous health in Australia*, CEPR Discussion Papers 498, Centre for Economic Policy Research, Research School of Economics, Australian National University.

Bourassa, S.C., Haurin, D.R. and Hoesli, M. (2016) 'What affects children's outcomes: house characteristics or homeownership?', *Housing Studies*, vol. 31, no. 4: 427–444.

Boyko, C.T. and Cooper, R. (2011) 'Clarifying and re-conceptualising density', *Progress in Planning*, vol. 76, no. 1: 1–61.

Brackertz, N., Davison, J., Borrowman L. and Roggenbuck, C. (2019) *Overcrowding and severe overcrowding: an analysis of literature, data, policies and programs*, report prepared by AHURI Professional Services for NSW Department of Communities and Justice, Australian Housing and Urban Research Institute Limited, Melbourne.

Chan, Y-K. (1999) 'Density, crowding, and factors intervening in their relationship: evidence from a hyper-dense metropolis', *Social Indicators Research*, vol. 48, no. 1: 103–124.

Churchman, A. (1999) 'Disentangling the concept of density', *Journal of planning literature*, vol. 13, no. 4: 389–411.

Coggon, D., Barker, D., Inskip H. and Wield, G. (1993) 'Housing in early life and later mortality', *Journal of Epidemiology & Community Health,* vol. 47, no. 5: 345–348.

Council to Homeless Persons (2018) *No room to breathe; why severe overcrowding is a form of homelessnesss*, https://chp.org.au/no-room-to-breathe-why-severe-overcrowding-is-a-form-of-homelessness/.

Department of Social Security, et al. (2019), *Building a New Life in Australia: the Longitudinal Study of Humanitarian Migrants, Data Users Guide Release 5.0*, DSS, June.

Dockery, A.M. (2022) 'Housing quality, remoteness and Indigenous children's outcomes in Australia', *Economic Analysis and Policy*, vol. 73: 228–241.

Dockery, A., Kendall, G., Li, J., Mahendran, A., Ong, R. and Strazdins, L. (2010) *Housing and children's development and wellbeing: A scoping study*, Australian Housing and Urban Research Institute, Melbourne.

Dockery, A.M., Ong, R., Colquhoun, S., Li, J. and Kendall, G. (2013) *Housing and children's development and wellbeing: evidence from Australian data*, Australian Housing and Urban Research Institute, Melbourne.

Dockery, A.M. and Rottemberg, M.J. (2021a) *Aboriginal and Torres Strait Islander mobility in central Australia: Survey reference guide*, vol. 1: Baseline Survey, Bankwest Curtin Economics Centre.

Dockery, A.M. and Rottemberg, M.J. (2021b) *Aboriginal and Torres Strait Islander mobility in central Australia: Survey reference guide*, vol. 2: Follow-up Surveys, Bankwest Curtin Economics Centre.

Dockery, M. (2020) *Household density and children's wellbeing in Australia: are children's homes too empty?*, Working Paper 20/02, Bankwest Curtin Economics Centre.

Duffy, M. (2010) 'Writing about clients: Developing composite case material and its rationale', *Counseling and Values*, vol. *54,* iss. 2: 135-153.

Evans, G.W., Lercher, P. and Kofler, W.W. (2002) 'Crowding and children's mental health: the role of house type', *Journal of environmental psychology*, vol. 22, no. 3: 221–231.

Evans, G.W., Saegert, S. and Harris, R. (2001) 'Residential density and psychological health among children in low-income families', *Environment and behavior*, vol. 33, no. 2: 165–180.

Gannon, B., Harris, D. and Harris, M. (2014) 'Threshold effects in nonlinear models with an application to the social capital-retirement-health relationship', *Health Economics*, vol. 23, no. 9: 1072–1083.

Gifford, R. (2007) *Environmental Psychology: Principles and Practice*, Optimal books Colville, W.A.

Gormley, F.P. and Aiello, J.R. (1982) 'Social density, interpersonal relationships, and residential crowding stress 1', *Journal of Applied Social Psychology,* vol. 12, no. 3: 222–236.

Habibis, D. (2013) *Housing conditionality, Indigenous lifeworlds and policy outcomes: towards a model for culturally responsive housing provision*, AHURI Final Report No. 212, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/212.

Habibis, D., Birdsall-Jones, C., Dunbar, T., Scrimgeour, M., Taylor, E. and Nethercote, M. (2011) *Improving housing responses to Indigenous patterns of mobility*, AHURI Final Report 162, Australian Housing and Urban Research Institute: 1–198.

Hansen, C.B., Larsen, C.V.L., Bjerregaardm P. and Riva, M. (2021) 'The effect of household crowding and composition on health in an Inuit cohort in Greenland', *Scandanavian Journal of Public health,* vol. 49, no. 8: 921–930.

Jain, U. (1987) 'Effects of population density and resources on the feeling of crowding and personal space', *The Journal of social psychology,* vol. 127, no. 3: 331–338.

Krupat, E. (1985) *People in Cities: The Urban Environment and its Effects*, Cambridge University Press.

Lauster N. and Tester, F. (2010) 'Culture as a problem in linking material inequality to health: On residential crowding in the Arctic', *Health Place*, vol. 16, no. 3:523–30.

Maalsen, S., Wolifson, P., Rogers, D., Nelson J. and Buckle, C. (2021) *Understanding discrimination effects in private rental housing*, AHURI Final Report no. 363, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/363.

Mallett, S., Bentley, R., Baker, E., Mason, K., Keys, D., Kolar V. and Krnjacki, L. (2011) *Precarious housing and health inequalities: What are the links?*, summary report, VicHealth.

Mann, S., Wadsworth, M. and Colley, J. (1992) 'Accumulation of factors influencing respiratory illness in members of a national birth cohort and their offspring', *Journal of Epidemiology & Community Health*, vol. 46, no. 3: 286–292.

Memmott, P., Birdsall-Jones, C., Go-Sam, C., Greenop K. and Corunna, V. (2011) *Modelling crowding in Aboriginal Australia*, AHURI Positioning Paper no. 141, Australian Housing and Urban Research Institute Limited, Melbourne.

Memmott, P., Birdsall-Jones, C. and Greenop, K. (2012) *Australian Indigenous house crowding*, AHURI Final Report no. 194, Australian Housing and Urban Research Institute Limited, Melbourne.

Memmott, P., Greenop, K., Clarke, A., Go-Sam, C., Birdsall-Jones, C., Harvey-Jones, W., Corunna V. and Western, M. (2012) 'NATSISS crowding data: What does it assume and how can we challenge the orthodoxy?', in B. Hunter and N. Biddle (eds.), *Survey Analysis for Indigenous Policy in Australia: Social Science Perspectives*, ANU Epress, Canberra: 241–280.

Ong, R., Pawson, H., Singh, R. and Martin, C. (2020) *Demand-side assistance in Australia's rental housing market: exploring reform options*, AHURI Final Report no. 342, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/342.

Pepin, C., Muckle, G., Moisan, C., Forget-Dubois N. and Riva, M. (2018) 'Household overcrowding and psychological distress among Nunavik Inuit adolescents: a longitudinal study', *International Journal of Circumpolar Health*, vol. 77, no. 1: DOI: 10.1080/22423982.2018.1541395.

Perreault, K., Riva, M., Dufresne P. and Fletcher, C. (2020) 'Overcrowding and sense of home in the Canadian Arctic', *Housing Studies*, vol. 35, no. 2: 353–375.

Productivity Commission (2019) *Vulnerable private renters: evidence and options*, Productivity Commission Research Paper, Canberra.

Rapoport, A. (1976) 'Toward a redifinition of density', in S. Saegert (ed.), *Crowding in Real Environments*, Sage Publications, California.

Ritchie, J. and Spencer, L. (1994) 'Qualitative data analysis for applied policy research', in A. Bryman and B. Burgess (eds.), *Analyzing Qualitative Data*, Routledge, London. http://dx.doi.org/10.4324/9780203413081_chapter_9.

Riva, M., Plusquellec, P., Robert-Paul, L., Laouan-Sidi, E.A., Abdous, B, Lucas, M., Dery, S. and Dewailly, E. (2014) 'Household crowding is associated with higher allostatic load among the Inuit', *Journal of Epidemiology & Community Health*, vol. 68, no. 4: 363–369.

Solari, C.D. and Mare, R.D. (2012) 'Housing crowding effects on children's wellbeing', *Social Science Research,* vol. 41, no. 2: 464–476.

Steering Committee for the Review of Government Service Provision (2016a) *Report on Government Services 2016, vol. G, Housing and homelessness*, Productivity Commission, Canberra.

Steering Committee for the Review of Government Service Provision (2016b) *Overcoming Indigenous Disadvantage: Key Indicators 2016*, Productivity Commission, Canberra.

Steering Committee for the Review of Government Service Provision (2019) *Report on Government Services 2016, vol. G, Housing and homelessness*, Productivity Commission, Canberra.

Stokols, D. (1972) 'A social-psychological model of human crowding phenomena', *Journal of the American Institute of Planners*, vol. 38, no. 2: 72–83.

Verbrugge, L.M. and Taylor, R.B. (1980) 'Consequences of population density and size', *Urban Affairs Quarterly,* vol. 16, no. 2: 135–160.

Wanyeki, I., Olson, S., Brassard, P., Menzies, D., Ross, N., Behr M. and Schwartzman, K. (2006) 'Dwellings, crowding, and tuberculosis in Montreal', *Social science & Medicine*, vol. 63, no. 2: 501–511.

Waters, A-M. (2001a) Do housing conditions impact on health inequalities between Australia's rich and poor?, AHURI Final Report No. 4, Australian Housing and Urban Research Institute Limited, Melbourne.

Waters, A-M. (2001b) *Do housing conditions impact on health inequalities between Australia's rich and poor?*, AHURI Positioning Paper No. 2, Australian Housing and Urban Research Institute Limited, Melbourne.

Willis, R. (2019) 'The use of composite narratives to present interview findings', *Qualitative Research*, vol. 19, iss. 4: 471-480.

Ziersch, A. and Due, C. (2018) 'A mixed methods systematic review of studies examining the relationship between housing and health for people from refugee and asylum seeking backgrounds', *Social Science & Medicine*, vol. 213: 199–219.

Appendix 1: Model specifications and the 'optimal breaks' approach

Consider an outcome variable for individual i at time t, which we label generically y_{it} and some measure of crowding, C_{it}, for the dwelling in which they live. To assess C_{it} as a measure of overcrowding, we need to determine over what ranges it has a negative effect on y_{it}. A common approach is to estimate a regression model with y_{it} as the dependent variable and C_{it} a linear independent variable. This forces the estimated effect of changes in density to be constant, irrespective of the range. This problem was highlighted by Dockery (2020), who noted that most variation in such measures occurs over ranges which would not be considered overcrowding. Consider:

$$y_{it} = \beta X_{it} + \delta_1 C_{it} + u_{it} \qquad (1)$$

Where X_{it} is a vector of control variables and associated vector of coefficients to be estimated, β. The coefficient $\delta 1$ represents the estimated effect of density on y, but under this specification is constrained to be a constant linear relationship. Where a non-linear relationship between the proxy for overcrowding (C_{it}) and y_{it} is hypothesised, a common specification is a quadratic model:

$$y_{it} = X_{it}\beta + \delta_1 C_{it} + \delta_2 C_{it}^2 + u_{it} \qquad (2)$$

along with the more flexible approach of capturing ranges of C_{it} using a series of dummy variables corresponding to mutually exclusive intervals of C. In (2) The shape of the relationship between y_{it} and C_{it} is determined by the signs of δ_1 and δ_2, and the turning point of any hill-shaped relationship by:

$$\frac{\partial y}{\partial C} = \delta_1 + 2\delta_2 C \qquad (3)$$

However, this approach still forces a particular shape on this relationship, and cannot allow for ranges of C to have no effect. The approach of modelling C as a series of mutually exclusive dummies is more flexible again, but requires imposing arbitrary assumptions regarding the intervals of C over which differential impacts upon y can be estimated.

A more flexible and preferable approach is to apply techniques developed by Gannon, Harris et al. (2014). Consider the model:

$$y_{it} = X_{it}\beta + \sum_{m=1}^{M} \delta_m (C_{it} \times D_m) + u_{it} \qquad (4)$$

where m defines a given range of C and D_m a dummy variable equal to 1 if C is in that particular range, with M possible such ranges. This 'optimal breaks' approach splits the variable C into an arbitrarily large number of segments and estimates a separate coefficient for each. In its simplest form, the approach splits C into two segments (say "low" and "high"), and estimates a separate parameter for both. However, how many breakpoints there should be and where they occur in relation to the observed values of C is unknown. Gannon, Harris et al. (2014) show how to simultaneously: uncover the optimal number of breakpoints; where they lie; and estimate all parameters of the model. Here we are specifically interested in the threshold at which the relationship becomes negative (ie. adverse) and thus could be considered to constitute overcrowding. In essence, estimating (4) allows a fully flexible modelling approach which lets the data speak as to whether, and at what point, a measure represents 'overcrowding'.

The interested reader is referred to Gannon, Harris et al. (2014) for more technical details, but in essence, in its simplest form, the technique involves consideration - that is, estimation - of 'every' possible 1-break model in the relationship between the particular measure of overcrowding, C, and the outcome variable, y. That is, C is split into two mutually exclusive variables based on all observed realisations of C, and M separate models estimated for all of these candidate models. In practice, the precise number of the M models considered, is also dictated by the distribution of C, such that it is necessary to ensure a minimum number of observations in each partition. At the extreme, say that there was only 1 observation in a variable ranging from 0-5 in the 0 category, a candidate 1-break model of $C_1 \times 1(C = 0)$ and $C_2 \times 1(C > 0)$, where the terminology 1(.) is equal to 1 if the argument in parenthesis is true, and 0 otherwise, is not possible as we would be attempting to estimate a single parameter on a variable that contains only one observation. Note, that by definition, $C_1 \times 1(C = 0) + C_2 \times 1(C > 0) \equiv C$, and that this is true for all possible splits of C.

Maintaining the C=0, … ,5 example for simplicity, the technique would involve 6 candidate models of:

1. $C_1 \times 1(C = 0), C_2 \times 1(C > 0)$;

2. $C_1 \times 1(C \leq 1), C_2 \times 1(C > 1)$;

3. $C_1 \times 1(C \leq 2), C_2 \times 1(C > 2)$;

4. $C_1 \times 1(C \leq 3), C_2 \times 1(C > 3)$;

5. $C_1 \times 1(C \leq 4), C_2 \times 1(C > 4)$; and

6. $C_1 \times 1(C \leq 5), C_2 \times 1(C > 5)$

The choice of which of these candidate models is `best', is simply determined by the one that yields the best (smallest) information criteria (BIC) value. The technique is easily extended to possible multiple break models, by considering *every possible* 1-, 2-, 3-, 4- … break models and to simply choose across all of these, potentially thousands of models (dependent on the distribution of C), by that which gives the best BIC value.