

Precarious housing and health inequalities: what are the links?



FULL REPORT

Shelley Mallett
Rebecca Bentley
Emma Baker
Kate Mason

Deborah Keys
Violet Kolar
Lauren Krnjacki


Hanover
HOUSING - SUPPORT - RESEARCH


Melbourne Citymission
Building Inclusive Communities


THE UNIVERSITY OF
MELBOURNE


AHURI
Australian Housing
and Urban Research Institute


THE UNIVERSITY
of ADELAIDE


VicHealth

Acknowledgements

The Victorian Health Promotion Foundation (VicHealth) generously funded and supported this study. At VicHealth, we particularly thank Kellie Horton, Monica Kelly, Kerryn O'Rourke and Lyn Walker for their patience and support during the preparation of the report. Andrew Hollows, formerly at Hanover Welfare Services and now at the Australian Housing and Urban Research Unit (AHURI), was centrally involved in the grant application phase of this study and some of the early meetings about the research. We thank him for his practical and intellectual contribution to the development of the research. During the early stages of the study, Hellene Gronda and Georgie Foster of the AHURI Research Synthesis Unit made significant contributions to the conceptual discussions about the relationship between housing and health. They also prepared the Research Synthesis which is the first part of this study. We thank them for their generous and thoughtful contribution to the research. Thanks also to Claire Nyblom of the Victorian Department of Human Services who provided some helpful commentary on the Executive Summary of the main report.

This study was conducted by multiple research partners at Hanover Welfare Services, the University of Melbourne, University of Adelaide and Melbourne Citymission, each of whom made a significant contribution to the development of the original grant as well as the thinking, analysis and report writing.

This report uses unit record data from the *Household, Income and Labour Dynamics in Australia* (HILDA) Survey. The HILDA Project was initiated and is funded by the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views reported in this report, however, are those of the authors and should not be attributed to either FaHCSIA or the Melbourne Institute.

© Copyright 2011 Hanover Welfare Services, University of Melbourne, University of Adelaide, Melbourne Citymission

Published in August 2011 (research completed December 2010)
by Hanover Welfare Services, University of Melbourne, University of Adelaide, Melbourne Citymission
ISBN 097-571773-1

Suggested citation:

S Mallett, R Bentley, E Baker, K Mason, D Keys, V Kolar & L Krnjacki 2011, *Precarious housing and health inequalities: What are the links?*, Hanover Welfare Services, University of Melbourne, University of Adelaide, Melbourne Citymission, Australia.

Cover photo: ©Newspix/Sarah Rhodes

Contents

| | |
|--|-----|
| Nine key findings of this report | 3 |
| Executive summary | 5 |
| 1. Findings of the quantitative analysis..... | 7 |
| 2. Qualitative findings – young single parents | 13 |
| 3. Conclusion..... | 16 |
| 4. Key recommendations..... | 19 |
| Introduction: Framing the report – health inequalities and social inclusion..... | 20 |
| Precarious housing in Australia | 26 |
| What is the relationship between housing and health? | 42 |
| Young people and precarious housing..... | 56 |
| The experiences of young women with children | 62 |
| Discussion | 87 |
| Conclusion | 90 |
| References | 92 |
| Appendix 1..... | 97 |
| Appendix 2..... | 100 |
| Appendix 3..... | 109 |

Nine key findings of this report

- 1 Housing and health are clustered.** People in precarious housing had, on average, worse health than people who were not precariously housed. This relationship existed regardless of their income, employment, education, occupation and other demographic factors.
- 2 The poorer people's housing, the poorer their mental health.** The more elements of precarious housing people experienced simultaneously, the more likely they were to experience poor mental health.
- 3 The relationship between health and precarious housing is graded.** As health (mental or physical) worsens, the likelihood of living in precarious housing increases.
- 4 Poor health can lead to precarious housing.** Those with the worst mental or physical health were the most likely to be in precarious housing. People with the worst mental health were the most likely to be in unaffordable housing, the most likely to live in poor-condition dwellings and the most likely to have experienced a forced move. Those with the worst physical health were the most likely to live in poor-condition dwellings and the most likely to experience overcrowding.
- 5 Multiple aspects of precarious housing affect health.** No one measured component of precarious housing (unaffordability, dwelling condition, overcrowding, forced moves, private rental) was clearly more important in its relationship with health.
- 6 Particular groups were more susceptible to precarious housing.**
 - *Lone parents and singles* were much more likely than other household types to experience precarious housing.
 - *Young people* were more likely to be in precarious housing than other age cohorts – more likely to be in unaffordable housing, private rental, overcrowded households, and to have experienced a forced move recently.
 - *Older private renters* (that is, people older than 65 years) were particularly vulnerable to unaffordable housing: half were in housing affordability stress.
 - *Children living with a lone parent* were much more vulnerable to precarious housing than those living with two parents – being nine times more likely to live in unaffordable housing, three times more likely to be in poor-condition dwellings, three times more likely to have experienced a forced move, 11 times more likely to be living in a rented house, and also to have poorer access to services and transport.
 - *Employment and education* were strong predictors of precarious housing.

- 7 People living in public rental can experience precarious housing.** While public rental provides security and stability for some, it still contributed to precariousness, with roughly a third of public tenants housed in poor-condition dwellings, many of which were overcrowded.
- 8 As lone parents, young women and their children are particularly vulnerable to precarious housing.** Many reported ongoing health and wellbeing, economic and social effects of precarious housing on themselves and their children.
- 9 For lone young mothers, precarious housing created or contributed to poor health.** In particular, it caused anxiety and depression, limiting their capacity to parent effectively and engage in paid work and study.

Executive summary

This exploratory study asks two broad questions:

- Does poor health lead to precarious housing?
- Does precarious housing (including affordability, suitability and security of tenure) affect people's health?

Why are these questions important?

- Together and separately, housing and health are key areas of government expenditure and service delivery, but comparatively little is known of their relationship and interaction, especially in Australia.
- It is important to determine *priorities and accountabilities for intervention*. For example, if poor health leads to precarious housing then preventative health care strategies are crucial to addressing poor housing outcomes. If precarious housing leads to poor health then it is critical to formulate a housing response that promotes health and wellbeing.

What is precarious housing?

Following a synthesis of the literature examining the relationship between housing and health (Part 1 of this study) we have defined precarious housing as:

- unaffordable (high housing costs relative to income); and/or
- unsuitable (overcrowded and/or poor dwelling condition and/or unsafe and/or poorly located); and/or
- insecure (insecure tenure type and subject to forced moves).

Within this study an individual's housing is classified as being precarious if they have experienced more than one of these aspects concurrently.

How do we define health?

Following the World Health Organization definition we understand health in broad terms as "a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity" (WHO 1946).

Two measures of health were used in this exploratory study: self-assessed mental and physical health. These were measured using two subscales derived from the Short Form (36) Health Survey: the Mental Health Component Score and the Physical Health Component Score.

About the study

This report is one component of the VicHealth-funded project, originally entitled *Mitigating negative health outcomes of precarious housing*, which explored the relationship between precarious housing and health. Led by Hanover Welfare Services and the University of Melbourne, the project was conducted in partnership with Flinders University, Melbourne Citymission and the AHURI Research Synthesis Unit in 2009–10.

The three-part project includes:

- A comprehensive research synthesis of existing studies that examine the relationship between housing and health. The synthesis establishes the breadth of the international evidence base and interrogates current ideas and assumptions underlying housing-related health interventions.
- New quantitative analysis of the ABS *General Social Survey* and the HILDA surveys to determine who was living in precarious housing in Australia. It addresses two broad questions:
 - Does poor health lead to precarious housing?
 - Does precarious housing (including unaffordability, unsuitability and insecurity of tenure) affect people's health?
- As part of this investigation, identification of who was most likely to be in precarious housing.
- New qualitative research with lone mothers (aged 25 years and under), to provide an in-depth understanding of the experience of living in precarious housing. This research focuses on how precarious housing affects the health of these young women.

1. Findings of the quantitative analysis

Precarious housing and health

In terms of our overall measure of precarious housing and its relationship with health, we found:

- **Housing and health are clustered.** People in precarious housing had, on average, worse health than people who were not precariously housed. This relationship existed regardless of their income, employment, education, occupation and other demographic factors.
- **The worse people's housing, the worse their mental health.** The more elements of precarious housing people experienced simultaneously, the more likely they were to experience poor mental health.
- **The relationship between health and precarious housing is graded.** As health (mental or physical) worsens, the likelihood of living in precarious housing increases.
- **Poor health can lead to precarious housing.** Those with the worst mental or physical health were the most likely to be in precarious housing. People with the worst mental health were the most likely to be in unaffordable housing, the most likely to live in poor-condition dwellings and the most likely to have experienced a forced move. Those with the worst physical health were the most likely to live in poor-condition dwellings and the most likely to experience overcrowding.
- **Multiple aspects of precarious housing affect health.** No one measured component of precarious housing (unaffordability, dwelling condition, overcrowding, forced moves, private rental) was clearly more important in its relationship with health.

Dimensions of precarious housing

In examining the relationships between the individual dimensions of precarious housing and health, we ask: How many, who and what is the relationship of each of these dimensions with health?

Unaffordable housing

How many people were living in unaffordable housing?

- **Approximately 10% of Australian households were living in unaffordable housing.**
 - In 2006, between 5.8%¹ and 9.2%² of Australian households resided in unaffordable housing.³
 - Around 12% of people reported difficulties paying their rent/mortgage or bills.

Who was living in unaffordable housing?

- **While age was strongly associated with housing affordability, there was a concentration of younger and older people living in private rental and in housing affordability stress.**
 - Overall, the likelihood of being in affordable housing increased with age; however, this was largely due to higher homeownership rates among the older population. Importantly though, older private renters were at very high risk of affordability problems.
 - Nearly 25% of people 18–24 years of age and 50%⁴ of people older than 64 years who were in private rental were in housing affordability stress.
- **Singles and lone parent households were more likely to be in housing affordability stress than other household types.**
 - Compared to couples with children, lone parents were nine times more likely to be in housing affordability stress and people living alone were seven times more likely to be in housing affordability stress.
- **Unlike suitability and security of tenure, the likelihood of experiencing housing affordability stress was different for men and women.**
 - Women were nearly 40% more likely to be in unaffordable housing than men.
- **People born in non-English speaking countries were more likely than Australians, including Indigenous Australians, to be in unaffordable housing.**

¹ This figure was estimated from the HILDA survey (2006).

² This figure was estimated from the Survey of Income and Housing (2006).

³ This is defined as low-income households in which rent or mortgage payments were more than, or equal to, 30% of the household gross income (income before tax).

⁴ Noting that only around 7% of people older than 64 years of age are privately renting compared with nearly 40% of people aged less than 25 years.

- People born in a non-English speaking country were more than twice as likely as people born in Australia to experience housing affordability stress.
- **People with low levels of education or who were unemployed were more likely to be in unaffordable housing.**
 - Compared to full-time employees, unemployed people were around 15 times more likely to be in unaffordable housing.
 - Individuals with a low level of education (i.e. their highest qualification was Year 11 or below) were five times more likely than highly educated individuals to be living in unaffordable housing.

The relationship between affordability and health

- **People with the worst mental health in preceding years were more likely to be in unaffordable housing.**
 - Compared to those reporting the best (top 20%) mental health across the previous three years, those reporting the worst (bottom 20%) mental health were almost twice as likely to be in unaffordable housing.

Unsuitable housing

How many people were living in unsuitable housing?

- Across Australia, 22% of people reported difficulty accessing services.
- Around 4% of the Australian population reported difficulty accessing transport services.
- Around 4% of the Australian population resided in overcrowded dwellings.
- Around 4% of the Australian population resided in poor-condition dwellings.
- Public rental was by far the dominant tenure type when considering poor dwelling condition. Importantly, 34% of older public renters and 28% of young public renters dwelt in housing rated as being in poor condition.
- **Public renters had the highest likelihood of living in poor-quality dwellings.**
 - Around 34% of older public renters and 28% of young public renters dwelt in housing rated as being in poor condition.

Who was living in unsuitable housing?

- Lone parents and singles were more likely to be living in unsuitable housing than most other household types.
 - Compared to couples with children, lone parents were just over three times more likely to be in poor-condition dwellings; singles were nearly four times more likely to be in poor-condition dwellings.
 - Lone parents and singles were also more likely to report difficulties accessing services and transport.
- **Over one-third of young people and over one-third of older people who lived in public rental were in poor-condition dwellings.**
- **Indigenous people and those born overseas were more likely than other people born in Australia to be in unsuitable housing.**
 - Individuals identifying as Aboriginal and Torres Strait Islander were eight times more likely than non-ATSI individuals to experience overcrowding and 18 times more likely to be in poor-condition dwellings.
 - People born in a non-English speaking country were more than five times more likely to experience overcrowding.
- **People with low levels of education or who were unemployed are more likely to be living in unsuitable housing.**
 - Unemployed people were around three times more likely to live in an overcrowded dwelling.
 - Education was a significant predictor of precariousness. Compared to those with high levels of education (i.e. people who had obtained a bachelor degree or higher), an individual with low levels of education (i.e. whose highest level of education was Year 11 or below) was three times more likely to live in an overcrowded dwelling and seven times more likely to live in a poor-condition dwelling.

The relationship between suitability and health

- **People with the worst health (mental or physical) were more likely to be living in unsuitable housing.**
 - Compared to those reporting the highest (top 20%) mental health scores across the previous three years, those reporting the lowest (bottom 20%) were twice as likely to live in a poor-condition dwelling.
 - Compared to those reporting the highest (top 20%) physical health scores across the previous three years, those reporting the lowest (bottom 20%) were more than twice

as likely to live in a poor-condition dwelling, and more likely to live in an overcrowded dwelling.

Insecure tenure

How many people were living in insecure tenure?

- Around 20% of the population lived in private rental; of this proportion, 33% were low income⁵. This equates to nearly 7% of the population being low income and living in private rental⁶.
- Nearly 16% of the population had moved three or more times in the last five years.
- Nearly 7% of people 18–64 and 4% of people 65 years or older who were in private rental experienced a forced move (in the past 12 months). Importantly, those in the public rental sector had similar access to security of tenure to those in home ownership.

Who was living in insecure tenure?

- **Lone parents and single people were more likely to be in insecure tenure (private rental and to have undergone forced moves) than other household types.**
 - People younger than 65 years of age were more likely to have experienced a forced move than people who were aged 65 years or older.
 - Compared to couples with children:
 - Lone parents were three times more likely to have experienced a forced move and 11 times more likely to be privately renting.
 - Single people were three times more likely to have experienced a forced move and more than 20 times more likely to be privately renting.
- **Indigenous people and those born in a non-English speaking country were more likely to be in private rental.**
 - Indigenous people were eight times more likely than others to be living in private rental.
 - People born in a non-English-speaking country were around 1.7 times more likely to be living in private rental.

⁵ This was defined as being in the lowest 40% of the income distribution.

⁶ Other sources have reported figures that allow calculation of equivalent proportions of the population who are in low income *and* private rental, producing similar estimates to the 7% reported here. For example, the National Housing Supply Council (2009) reports that 20% of households are in private rental and 24% of these are low income (this equates to 5% of all households). Randolph & Holloway (2007) reported that 21% of the households in the lowest approximately 40% of income were in private rental (equating to approximately 8% of all households).

- **People who were unemployed or with low levels of education were more likely to be living in insecure tenure (specifically private rental and forced moves).**
 - Unemployed people were just under three times more likely to be in private rental and nearly twice as likely to have experienced a forced move.
 - People with the lowest level of education (Year 11 or below) were twice as likely to be privately renting and to have experienced forced moves as people with the highest level of education (Bachelor degree or above).

What is the relationship between security of tenure and health?

- **People with the worst health (mental or physical) were more likely to experience forced moves.**
 - Compared to those reporting the highest (top 20%) mental health scores across the preceding three years, those reporting the lowest (bottom 20%) mental health were 1.9 times more likely to have experienced a forced move.
- **Type of tenure was associated with health, and this is likely to be a consequence of who is in particular tenure types.** For example, people in public rental had worse physical and mental health than people in other tenure types. This, to a large extent, reflects the welfare role of public housing, where individuals with poor physical health are favoured in the allocation system.

2. Qualitative findings – young single parents

Precarious housing and health

- **Results from the qualitative study find found precarious housing impacted negatively on mental health.**
 - Young lone mothers reported that precarious housing led to generalised stress; in particular, they reported heightened levels of anxiety and depression.
 - Young lone mothers indicated that lack of affordability, insecurity and unsuitability impacted, singly and in combination, on their health and wellbeing and to a lesser extent on the health and wellbeing of their children.
 - Young women reported that it was their mental health and wellbeing rather than their physical health that was affected by precarious housing. They reported that precarious housing was more likely to affect their children’s physical health and overall sense of wellbeing.
 - Parental stress and declines in mental health associated with precarious housing had a flow-on effect to children in the short, and possibly the long, term.
 - Precarious housing had a greater effect on the mental health of those young women who had a predisposition to poor mental health.
 - Only three young women thought that their health had impacted on their capacity to access and sustain housing.
- **Problems of unsuitability outweighed the benefits of security of tenure.**

Unaffordability

- **Affordability had been the major obstacle to obtaining and maintaining housing in the past for the young women.**
 - Three had experienced eviction and several others had left housing due to lack of adequate income to pay the rent.
- **The young women struggled to enter the private rental market.**
 - Most had made numerous unsuccessful applications for private rental properties that they could barely afford – their main sources of income were Parenting Payment and Family Tax benefit.
 - Only two were living in private rental and they were both in tenuous positions: one was paying 48% of her income on rent; the other was receiving the baby bonus, which was used to help cover the rent, but that was due to end soon.

- **Current rent was only manageable for the young women in subsidised housing.**
 - Twelve young women were living in public, transitional or community housing where they were paying a maximum of 25% of their income on rent.

Unsuitability

- **All the young women aspired to a reasonable community standard of housing.**
 - In addition to affordability and security of tenure, the following aspects of housing were highlighted as most important to the young women:
 - proximity to friends and family
 - proximity to public transport and shops
 - indoor and outdoor space for children to play
 - location in a safe, quiet neighbourhood
 - effective heating
 - good dwelling condition and prompt maintenance.
 - However, many of the young women were struggling to achieve this goal. No matter what their housing circumstances they often battled with landlords and housing providers to get much-needed maintenance carried out on their accommodation. This impacted on their capacity to provide basic care, such as being able to cook for their children and keep them safe and warm.

Insecurity of tenure

- **The young women in our study had rarely experienced secure housing since leaving home in their mid-teens.**
 - Most had experienced homelessness – the extreme of housing insecurity. One young woman spent an extended period of time living on the street, several others had ‘couch surfed’ among friends and family.
 - All but one had turned to the homelessness service sector for accommodation assistance. For many this had meant short refuge stays and/or more extended periods in transitional accommodation.

- **Security of tenure enabled participation in the broader community.**
 - Without security of tenure, the young women struggled to establish or maintain basic connections to family, community, education, employment and consistent healthcare.
 - All the young women stressed the importance of providing a secure, safe home for their children so they could thrive.
 - Secure housing reduced children’s stress, enabling them to feel like they had a home and allowed them to engage in education.
 - For the young women in transitional accommodation who were yet to secure more long-term housing, the situation was far less certain and their engagement with community weaker. They found it difficult to make any sort of plans for themselves and their children, particularly when it came to planning where children would go to school.
- **Security of tenure was just one aspect facilitating stability.**
 - The security of long-term tenure did not always equate with the young women wanting to stay in their current housing; only two of the six young women with secure tenure saw their current housing as long-term.
 - Though public housing was seen to offer secure tenure, fear of being breached and evicted made some feel less secure in this form of housing.

Future aspirations

- **The young women’s housing aspirations matched aspirations common to the Australian community.**
 - They reported a strong preference to own their own home over the long term; most would prefer to live in houses rather than units.
 - In the short term, the young women preferred to live in affordable private rental as they believed this provided maximum flexibility and choice about the size, type and quality of their housing and its location.

3. Conclusion

Housing is health's business, health is housing's business

Evidence presented in the report underlines the fundamental bi-directional relationship between housing and health. It is not simply that good housing and good health are merely associated or go together. For people to attain and maintain sustainable housing they need adequate, coordinated and timely support for their health. Equally, to maintain good health people need to be in affordable, adequate, secure dwellings.

This is especially the case for highly disadvantaged people – those with the poorest health and/or living in the worst housing. Housing and health policies and programs targeted at disadvantaged populations that selectively rather than routinely or systematically acknowledge this important relationship are highly likely to jeopardise good housing and health outcomes.

The clear interaction of health and housing on individual lives underlines a need for integrated rather than parallel housing and health policy and services. A radical re-think of housing and health policy and programs is required, especially for disadvantaged populations who have been shown in this analysis to be especially vulnerable to the health effects of precarious housing. An obvious example of this is the public rental sector, which provides housing-based welfare to many of our most vulnerable. In the context of this analysis this group should receive additional focus. Though provided with (limited) security of tenure and more affordable housing, many in this population live in housing that is likely to exacerbate their already low health, such as poor condition and overcrowded dwellings. Moving beyond the current parallel structure of health and housing policy, the integration of health and housing services would maximise both health and housing outcomes for disadvantaged groups, and potentially minimise the overall cost burden.

Precarious housing affects mental health which in turn impacts on people's participation in work, education and the community and also affects their parenting and social and familial relationships

This study demonstrates that precarious housing (particularly unaffordability, poor dwelling condition and insecure tenure) leads to poor mental health. The young single mothers in this study clearly identified a causal link between precarious housing and generalised stress, which they reported often resulted in heightened levels of anxiety and depression. This in turn affected their parenting capacity as well as their ability to participate in employment, education and training, and the general community. The young women also reported that lack of affordability, insecurity and unsuitability impacted, singly and in combination, on the health and wellbeing of their children.

Any policy integration requires an acknowledgement of the wider social and economic burden of the housing and health relationship. There is a cost burden of poor housing on health care that is currently not fully acknowledged in either housing or mental health policy. This not only leads to a cost burden for the health system, but also has important cost and social implications for other areas of government service provision (such as income support, employment, education and training). Further, there are substantial costs of precarious housing and interrelated health outcomes which are borne by individuals and families. Our study points to the recommendation that when families (especially those with multiple health issues) are supported to find housing in the private sector we must ensure that they will be provided with ongoing, coordinated health care through mainstream (GPs, hospitals, maternal and child health community health centres) and specialist providers (mental health, drug and alcohol) to support their health and their tenancy.

Location is a vital component of the housing and health relationship

There was some evidence that access to services, connection to social networks and proximity to education and work were more important than other aspects of housing, including suitability and even affordability. This was particularly clear from the interviews with young lone mothers. Many reported that proximity to family and friends, known services, public transport, and being located in a safe and secure setting outweighed affordability, size and quality of dwelling in their aspirations and decisions about housing for themselves and their families. Housing is more complex than mere dwelling: The locational access and security it provides is key to maximising physical and mental health outcomes for individuals and their families.

Affordability alone should not be seen as the definitive measure of precarious housing

Housing policy should consider multiple aspects of precarious housing, such as its quality, security and location.

Many groups experience precarious housing, but singles and lone parent households are particularly likely to be in precarious housing

Of all the household types, lone parent households are arguably the most vulnerable to precarious housing. Not only are they, along with single households, more likely to be in precarious housing but this experience of precariousness also impacts directly and indirectly on their children. Many of these children live in poor-condition dwellings and experience forced moves. As this and other qualitative studies of homeless children (Kirkman et al. 2009) suggest, the children who experience precarious housing are highly likely to have limited or disrupted participation with the community including playgroups, childcare, kindergarten and school.

4. Key recommendations

This analysis reinforces the well-accepted view that social determinants like housing and health are linked. Therefore an obvious recommendation of this report is that responses to housing and health problems should also be linked. To reduce the cost burden to the Australian government as well as the State and Territory governments and improve the life chances of disadvantaged populations, we recommend two strategies for more efficiently linking housing and health policy and responses:

- 1 State-level ministerial round table(s) with those responsible for health, mental health, drug & alcohol and housing & homelessness policy, to discuss and interpret the findings of this research and identify policy intersections between health, especially mental health and housing.
- 2 An audit of Victorian and national housing-related policy to identify policy and service delivery overlaps, and to make recommendations on more cost-effective, linked solutions.

This study has also highlighted a number of key groups for whom housing and health problems are more closely linked. These groups are obvious targets for programs to address or prevent poor health outcomes. We therefore recommend that:

- 3 Key demographic and socio-economic groups be targeted for intervention which addresses the affordability, suitability and tenure security of their housing. These should include:
 - i lone parents and especially young (mainly female) lone parents
 - ii low income single person households
 - iii young people
 - iv older private renters.

Introduction: Framing the report – health inequalities and social inclusion

Housing is fundamental to our daily lives. A source of shelter, it also locates and underpins our social and familial relationships, our individual and collective identity and our sense of security, safety and physical wellbeing. For many, housing also represents a major lifetime investment, and a marker of status that can be passed across generations. This multilayered view of housing is internationally acknowledged in academic and policy literatures. For example, the World Health Organization recommends a ‘four-layered’ view of housing that encompasses housing as a dwelling, home and a residence located in both place and community (Bonney 2007). Not only is housing ‘multilayered’, but each of these layers is necessarily dynamic, changing over time and over the life course, as our households, incomes and housing requirements evolve.

While housing can be a source of status and wealth, as well as financial and emotional security, this is not the experience of some individuals. For these people, housing may be difficult to secure and maintain or it may even be unsafe, overcrowded or unsuitable for their needs. Poverty, lack of available and suitable housing stock, personal and familial life crises and poor health may shape people’s housing experiences and pathways. This in turn impacts on their broader lives and, critically, their ability to secure employment or education, access basic services and maintain their connections to family and friends. It may even result in homelessness.

In many ways, health is conceptually similar to housing: it can be understood as multidimensional, acting on, resulting from and reinforcing biological mechanisms, socio-economic factors, income and location over the life course. Like housing, our health is also fundamental to our daily lives, affecting our quality of life and our capacity to engage with family, friends and the community, and our ability to participate in work and study.

While housing and health can be understood as quite separate dimensions of our daily life they are clearly interrelated. There is substantial Australian and international evidence of a relationship between housing and health (Bonney et al. 2003; Shaw 2004; Howden-Chapman & Wilson 2000; Jacobs 2004; Taylor et al. 2007; Shaw et al. 1999; Ford & Burrows 1999; Acevedo-Garcia et al. 2004), but though we know the relationship exists, comparatively little is known of the interactions, mechanisms, and intervention points on which to base housing or health policy.

For example:

- Does poor housing cause poor health, or is it just that poor housing and poor health are generally experienced by the same people?

- Are there particular ways in which housing impacts on people’s health and health on people’s housing?
- Are housing and health merely associated or can we identify distinct direct or mediated relationships between these two crucial dimensions of our lives?
- How can we usefully understand this relationship for policy and practice purposes?

In addition, in Australia we know comparatively little about which populations are most vulnerable to unaffordable, inadequate and unstable housing; and, importantly for the purposes of this report, what the health consequences of these forms of precarious housing are for particular vulnerable populations.

This report emerges from this final question; it describes the findings of an initial study to explore the effects of vulnerable and precarious housing on health. Over three research stages, we have surveyed and synthesised the existing evidence base (contained in the part 1 report); interrogated new quantitative datasets to inform on the prevalence, components and health outcomes related to inadequate, insecure, or unaffordable housing; and, finally, conducted qualitative investigation of the processes and outcomes for a particular group of people (young single mothers) who are who are vulnerable to poor housing (both contained in this second report). It should also be highlighted that this work represents an initial study, a testing of available data and a progressing of a research area that has been underexplored, both in Australia and from the perspective of health. This work is intended to investigate the housing and health relationship in Victoria, but also to reveal areas ripe for further investigation and worthy of more detailed work.

Unaffordable, unsuitable, insecure or precarious housing

The right to housing is not merely “having a roof over one’s head” ...rather it should be seen as the right to live somewhere in security, peace and dignity...[with] legal security of tenure including legal protection against forced evictions; availability of services, materials, facilities and infrastructure; affordability; habitability; accessibility for disadvantaged groups; location, and; cultural adequacy (UNCHS 2001, p. 4).

This United Nations definition of a basic level of housing highlights the importance of access to secure, affordable and appropriate housing. Australian governments have enshrined that right to housing over time, variously highlighting the right to “affordable, adequate and appropriate housing” (*National Action Plan on Human Rights*, Government of Australia 1994, p. 25), “appropriate, affordable, and secure housing assistance” (Government of Australia, 1999, p. 3), and in Victoria, “safe, secure and affordable housing” for “Victorians most in need” (Victorian Office of Housing 2011, pp. 1–3). This research is based upon the premise that because housing is a key

determinant of health, therefore individuals who do not have access to a basic level of housing that is affordable, suitable, or secure will be especially vulnerable to worse health outcomes. Inequality of access to this basic level of housing has been well documented in Australia, as well as in Victoria. For example, a chronic undersupply of affordable housing stock in Victoria across all tenures has resulted in historically high numbers of Victorians experiencing homelessness or residing in accommodation that is overcrowded, insecure or unaffordable.

Many individuals and their families experience deficit in more than one area of their housing, impairing their ability to secure better housing. For example, they don't have the material or social resources to improve their housing conditions. These individuals and families can be described as 'precariously housed'. Precarious housing is a condition which can readily lead to primary (street-based) homelessness. In this report, housing that is, in combination, unaffordable, unsuitable and/or insecure is defined as 'precarious'. We also examine the prevalence and health outcomes of housing by the level of housing deficit, or precariousness.

The health effects of unaffordable, unsuitable, or insecure housing

The literature synthesis undertaken as part of this project (Report 1) found "a significant body of research evidence on the topic of housing and health outcomes" (p. 3), but importantly the evidence was found to be uneven, incomplete and constrained by methodological limitations especially around causality. It also highlighted the breadth of mechanisms by which "different aspects of housing either support good health, or in their absence, lead to negative health consequences" (p. 8). This section will briefly discuss the housing and health evidence base around affordable, suitable and secure housing.

Health and housing affordability

Housing affordability is an ongoing issue of significant interest in Australia, and especially in this era of 'housing affordability crisis'. A number of studies have considered the relationship between affordability and health outcomes. Some studies found a clear relationship between affordability and health (for example, Shaw et al. 1999; Taylor et al. 2007; Ford & Burrows 1999). Affordability affects health via various pathways, which work both separately and in combination. Important among recent work, Taylor et al. (2007) found a relationship between mental health and the *pressures of meeting housing costs*, especially for heads of households (2007). Their work follows earlier relevant research by Nettleton and Burrows (1998) which found an association between mental health and mortgage indebtedness. These findings have also been seen in Australian work: for example, in the qualitative study by Hulse and Saugeres (2008) they found that housing affordability impacts on mental health through stress and anxiety. Also a recent quantitative study

by Bentley et al. (2011 in press) found that for individuals in lower income households, entering unaffordable housing was associated with a small decrease in their mental health.

Unsurprisingly, housing affordability has also been found to affect the health of individuals through the quality, location and tenure of housing that can be afforded by a household. These will be discussed in the following section.

Health and housing suitability

Suitability encompasses a residence's ability to meet the needs of its inhabitants – most commonly in terms of geographical and social location, quality, tenure, size and layout, and availability. In previous literature and policy it has also been referred to as 'adequacy' (Foard et al. 1994), 'appropriateness' (Commonwealth of Australia 1991b), or 'quality', which is used by King (1994, p. 42) to "cover all aspects of housing other than cost".

A literature on the health effects of dwelling features such as quality, design, location and tenure is relatively well developed. For example, heating has been shown to affect physical health (Howden-Chapman et al. 2007; Gemmel 2001; Naughton et al. 2002) and warmer houses were shown by Howden-Chapman et al. (2007) to be associated with improved self-assessed health and fewer GP visits. Similarly, damp has been shown to be associated with respiratory illness (Bonney et al. 2003; Shaw, 2004; Bornehag et al. 2001; Shenassa et al. 2007). Considering the features and layout of dwellings, noise exposure was found to be related to overcrowding (Evans et al. 2003) and was statistically linked to worse mental and physical health (Howden-Chapman & Wilson 2000, pp. 140–4). Location has been shown by many authors (such as Acevedo-Garcia et al. 2004; Macintyre et al. 2003) to influence health by the access it provides (to social connections, or green spaces), as well as distance from perceived crime (Ross & Mirowsky 1999; Stafford et al. 2007).

Security of tenure and health

Security of tenure is an important, but indirect means by which housing can influence health. Independently, tenure is well established as a significant upstream determinant of health (for example, Hiscock et al. 2003; Macintyre et al. 2001; Windle et al. 2006). A number of studies examining the health outcomes of tenure find owner-occupation to be the 'healthiest' tenure type (for example, Smith et al. 2004, p. 579; Macintyre et al. 2001, p. 29; Macintyre et al. 2003), associated with "a variety of health benefits" (Cairney & Boyle 2004, p. 161), from higher psychosocial wellbeing (Kearns et al. 2000) to lower risk ratios for mortality (Breeze et al. 1999). While on average the good physical condition of many privately owned houses provides part of the explanation, homeowners are importantly also documented as perceiving greater "protection, autonomy, and prestige" (Hiscock et al. 2003, p. 536). Correspondingly, rental tenure is most often

associated with various negative health measures, such as poorer self-reported health (Windle et al. 2006), coronary heart disease (Woodward et al. 1992) and risky health behaviours such as smoking (Kendig et al. 1998). Over and above the effects of tenure, the residential security that each tenure intrinsically provides has been shown in numerous studies to impact on health and wellbeing. There is a clear gradient across these studies with homeownership being the most secure tenure, followed by public rental, and followed lastly by private rental, which is well established in Australia as the most insecure tenure (for example, Morris 2009). For this reason, private rental is included in this analysis as an indicator of precariousness. These findings are mirrored in the Part 1 report of this research, where the synthesis found evidence of benefits to mental wellbeing through the stability and empowerment provided in public rental housing (Mee 2007).

What is precarious housing?

There is no consensus in the literature on the use of the term 'precarious' as it relates to housing. 'Housing affordability', 'housing stress', 'housing affordability stress' (Wood & Ong 2009) and 'housing insecurity' (Hulse & Saugeres 2008) have all been used to describe people in vulnerable housing circumstances. 'Housing affordability' and 'housing stress' measure housing costs relative to income and are more likely to be used in quantitative analyses. Alternative approaches, largely derived from qualitative studies focused on people's housing experience, have identified and described a broader range of key dimensions or elements of housing vulnerability. In addition to housing affordability, these studies pick up on the extent to which accommodation provides a critical sense of 'home' for people. Between four to six key elements including safety, privacy, ontological security, belonging, control over space (Hulse & Saugeres 2008; Mallett 2004) are consistently identified by participants as fundamentally important to their wellbeing. The absence of these key elements of home can create a generalised sense of instability or insecurity.

In this study we explore the utility of the term 'precariousness' as it relates to housing. We have developed the term 'precarious housing' with reference to: measures and findings from both quantitative and qualitative housing studies; research in other fields such as employment; and the broader housing and homelessness literatures. The term delineates the elements of housing that have been identified as critical for people to be settled, stable and secure in their housing. To this end, we have defined 'precarious housing' as housing that is:

- unaffordable (high housing costs relative to income)
- insecure of tenure (insecure tenure type and subject to forced moves)

- unsuitable (overcrowded, poor dwelling condition, unsafe, poorly located).

The relative importance of each of these aspects of housing is of interest, therefore, in this exploratory study, and so we needed to measure them separately and consider them in relation to one another.

The following section reports on the quantitative analysis, first examining the prevalence of precarious housing characteristics across the Australian population, and the related health characteristics. We then examine the direct and indirect relationship between health and precarious housing, and the cumulative effect of precarious housing over time. In the second part of this report, we focus on a population which is both highlighted in the quantitative sections as being especially prone to precarious housing, and of particular interest to welfare service providers – young mothers. The qualitative examination of the health and precarious housing relationship for young mothers is based on a series of in-depth interviews and serves to reinforce many of the findings in the quantitative section. The final section of the report presents a series of major findings and implications from this research.

Precarious housing in Australia

This section reports the findings from quantitative analyses of two large surveys which measure aspects of housing and health in the Australian population. These surveys, *The General Social Survey* (GSS) (ABS 2006) and the *Household, Income and Labour Dynamics in Australia* (HILDA) (Wooden & Watson 2007) survey, provide information which allows us to estimate the prevalence of precarious housing across various subgroups of the population. These surveys also allow us to explore what demographic and socio-economic factors predict whether an individual is likely to be precariously housed, and to examine the relationships between precarious housing and health.

Precarious housing has typically been conceptualised and analysed using a limited number and type of measures, most notably housing affordability or housing affordability stress. In contrast, we describe precarious housing in Australia using a range of measures across the domains of affordability, suitability and security of tenure. We examined these measures separately and together as an overall measure of precarious housing. The overall measure combines information from each domain.

Because many of the dimensions of precarious housing used in this report have not been previously reported on for Australia we initially consider the prevalence of each issue (affordability, suitability, security of tenure) in the Australian population. As such, we first examine the prevalence and characteristics of people in precarious housing in Australia. This provides contextual information for our subsequent analysis of the relationship between precarious housing and health.

A range of datasets can be used to measure either precarious housing (or its components) or health across the Australian population, but few reliable large-scale datasets allow the measurement of both housing precariousness and health. For this reason we used the GSS and HILDA datasets, rather than other datasets (such as the five-yearly *Census of Population and Housing*) to examine how many people are in precarious housing. Specific characteristics of the design and content of the GSS and HILDA datasets allowed us to examine different parts of the research questions.

The GSS is a large-scale Australian Bureau of Statistics dataset specifically designed to provide reliable estimates at the national level and for each state and territory. HILDA is a large Australian dataset that follows households, and the individuals within them, across a number of annual data collection waves. HILDA is also the only survey in Australia containing detailed information on both housing and health.

The GSS was used to measure prevalence across a number of precarious housing characteristics. While the GSS contained many of the indicators of housing we required, it was limited in the following ways:

- (a) In the case of housing affordability stress, the GSS did not have appropriate income information to generate the measure (having only equivalised gross income available on the data file we obtained access to via the Remote Access Data Library).
- (b) In the case of overcrowding, the GSS did not have enough detailed information on household composition in relation to the size of dwellings.
- (c) In the case of dwelling condition and forced moves there was no information on the GSS so we were reliant on HILDA to capture these dimensions of suitability of housing and security of tenure.

HILDA was used to generate population estimates for some measures which were unavailable on the GSS: housing affordability stress, overcrowding, dwelling condition and forced moves. The *Survey of Income and Housing* was used to generate a comparative measure of housing affordability stress to assess the range of possible estimates in the Australian population.

The HILDA dataset was also used to examine our primary research questions on the relationships between housing and health. Because it is a longitudinal survey, the HILDA dataset also provided us with the ability to examine precedence, and the effect of time on the relationship between housing and health. We measured how precarious housing impacted on physical or mental health over time and if poor health preceded precarious housing.

Housing unaffordability

Measuring housing unaffordability

Two measures of housing affordability were used:

- 1 *Unaffordability/housing affordability stress* was measured in terms of the amount of rent or mortgage paid as a proportion of income for low income households. The HILDA survey (2006) was used to derive this measure and to estimate the prevalence in the Australian population. Given the likely underestimate of housing stress in HILDA we also analysed the *Survey of Income and Housing* (ABS 2006) to provide a point of comparison for the overall measure of housing affordability stress⁷.

⁷ Our estimate of the prevalence of housing stress is consistent with estimates using a similar measure (5.8%) reported in the Australian Bureau of Statistics report, *Measures of Australia's Progress* (2004, Catalogue No. 1370.0).

2 *Housing stress* was measured as self-reported difficulty in paying rent or mortgage and utilities (electricity, gas, telephone bills) in the past 12 months. The prevalence of housing stress for 2006 was estimated from the GSS.

How many people live in unaffordable housing in Australia?

- In 2006, around 5.8% of Australians aged between 18 and 64 years and around 4.7% of Australians older than 64 years were living in unaffordable housing (that is, they were subject to housing affordability stress), according to results from the HILDA survey (see Table 1). This is lower than the estimate of 9.2% of people in unaffordable housing obtained from the ABS *Survey of Income and Housing*⁸.
- While there was a slightly higher prevalence of women than men who were in unaffordable housing, the difference was not significant (see Table 1).
- Around 12% of Australians reported difficulties paying their rent/mortgage or bills (GSS 2006; see Table 1).
- Of the Victorian population, 5.4% were estimated to be in unaffordable housing (HILDA 2006; see Table A3.1 in Appendix 3).

Housing unsuitability

Measuring housing unsuitability

Based on a housing and health research synthesis undertaken as part of this study, we understand housing suitability to comprise three broad elements: dwelling space; place or location of dwelling; and quality of dwelling or housing hardware. While we sought to measure all three elements of housing suitability, only three limited measures, each relating to place, were available to us on the GSS:

- difficulty accessing services (based on the definition outlined in Appendix 1)
- difficulty accessing transport services (based on the definition outlined in Appendix 1)
- feeling unsafe walking in your local area after dark (based on the definition outlined in Appendix 1).

To broaden our perspective on suitability we also report here on two additional measures that we

⁸ The difference between the number of people estimated to be in unaffordable housing between the HILDA survey and the Income and Housing survey is likely to be due to the under-sampling of disadvantaged groups in the HILDA survey. The housing stress measures in both surveys were the same.

created from the HILDA survey to capture the two other elements of housing suitability that we could not measure on the GSS – dwelling space and quality of dwelling. These measures were:

- Overcrowding (based on the definition outlined in Appendix 1).
- Poor dwelling condition (based on the definition outlined in Appendix 1)⁹.

How many people live in unsuitable housing in Australia?

Across Australia (as demonstrated in Table 1):

- around 22% of people reported experiencing difficulty accessing services
- around 18% of people reported feeling unsafe walking in their area after dark
- around 4% of people reported difficulties accessing transport services
- more women than men reported difficulty accessing services (25% compared with 20%) and accessing transport services specifically (5% compared with 3.6%).

Additionally:

- around 4% of people resided in overcrowded households
- around 6% of people resided in dwellings that were of poor condition.

At the state and territory level (see Table A3.2 in Appendix 3):

- the highest prevalence of the population reporting difficulty accessing services was in the NT (38%) and in rural parts of Australia (39%)
- people were most likely to report feeling unsafe walking after dark in the NT (30%)
- the highest rates of overcrowding and difficulty accessing transport services were observed in NSW (5% and 4.6% respectively) and rural parts of Australia (5% and 6% respectively).
- Of the Victorian population:
 - around 20% reported difficulty accessing services
 - just over 3% reported difficulty accessing transport
 - nearly 3% lived in overcrowded households
 - around 4% of people lived in poor condition dwellings.

⁹ Dwelling condition was not reported in HILDA after 2005, therefore we report here on 2005 figures for this measure only.

Security of tenure

Measuring insecure tenure?

Two measures of insecure tenure were available to us on the GSS:

- An indicator of whether a person had made three or more moves in the previous five years.
- An indicator of whether a household was privately renting.

An additional measure of insecure tenure was available in the HILDA survey:

- An indicator of whether a person had been forced to move out of their home in the past year, either through eviction, the property becoming unavailable, or being required to move between public housing properties.

How many people live in insecure tenure in Australia?

Across Australia (as demonstrated in Table 1):

- nearly 16% of the population had moved three or more times in the last five years
- around 20% of the population were in private rental; of this proportion 33% were low income¹⁰. This equates to nearly 7% of the population being low income and in private rental¹¹
- around 1% of the population was forced to move residence in the previous year
- Victorians and people residing in NSW reported the lowest prevalence of making three or more moves (around 13%) and NT the highest (at around 30%) (see Table A3.3 in Appendix 3).

¹⁰ This estimate roughly accords with around 24% of households in the private rental market having an income of less than \$514 per week as reported on page 17 of Wulff et al. (2009).

¹¹ A recent report by the National Housing Supply Council (2010) estimated a shortfall of 493,000 private rental dwellings that were affordable and available to households in the lowest 40% of the income distribution in 2007–08. See page 94 of National Housing Supply Council (2010).

Table 1 Summary of national prevalence of people in housing affordability, suitability and security (2006)

| | Overall prevalence | Prevalence for men | Prevalence for women | Estimated number of people |
|---|--------------------|--------------------|----------------------|----------------------------|
| Affordability | | | | |
| Unaffordability (30/40 rule) (a) | | | | |
| - 18-64 years | 5.8 | 5.3 | 6.4 | 667,619 |
| - 65+ years | 4.7 | 4.2 | 5.1 | 112,145 |
| Housing stress (b) | 12.1 | 12.5 | 11.8 | 1,853,900 |
| Suitability | | | | |
| Difficulty accessing services (b) | 22.4 | 20.1 | 24.7 | 3,433,823 |
| Difficulty accessing transport services (b) | 4.4 | 3.6 | 5.2 | 674,107 |
| Feel unsafe walking in area after dark (b) | 18.0 | 9.1 | 26.5 | 2,747,355 |
| Overcrowding (a) | 3.4 | 3.3 | 3.5 | 474,452 |
| Poor condition (c) | 5.8 | 5.9 | 5.8 | 601,455 |
| Security | | | | |
| Privately renting (b) | 20.1 | 20.9 | 19.3 | 3,070,325 |
| Moved 3+ times in last 5 years (b) | 15.6 | 15.7 | 15.4 | 2,380,881 |
| Forced moves (a) | 1.4 | 1.4 | 1.4 | 201,560 |

a) Estimated from HILDA (2006) using population weights where the total population was estimated to be 13,995,659 people.

b) Estimated from GSS (2006) using population weights where the total population was estimated to be 15,307,066 people.

c) Estimated from HILDA (2005) using population weights where the total population was estimated to be 13,660,015 people.

Who is in precarious housing in Australia?

We considered the relative likelihood of particular socio-demographic groups experiencing some form of precarious housing in the HILDA survey across the dimensions of precarious housing outlined above. Unlike the previous section, we examined each dimension of precarious housing (unaffordability, unsuitability, insecure tenure) alongside each other as well as an overall measure of precarious housing.

Subsets of measures of each dimension of precarious housing differed from the GSS and were created in HILDA as follows:

- unaffordability was measured by housing affordability stress
- unsuitability was measured by overcrowding and poor dwelling condition
- insecurity of tenure was measured by being in a private rental or undergoing a forced move.

Additionally, we constructed an overall measure of precariousness whereby individuals who had

experienced more than one of the measures listed above were considered to be in precarious housing.

To answer the questions about who is in precarious housing, first we considered which socio-demographic (household type, sex, Indigenous status, born overseas, age and age by tenure type) and socio-economic characteristics (employment, highest level of education, occupation) predicted precariousness. We then summarised these findings to report on who was more likely to be in precarious housing in Australia.

A note on the estimates from HILDA

The following sections use two measures to indicate who is in precarious housing:

- Prevalence – that is the proportion of people in the population currently experiencing the particular dimension of precarious housing in question¹².
- The *relative* likelihood (odds) of individuals being in precarious housing, according to socio-demographic, socio-economic and health characteristics.

It is important to note that the likelihood of being in precarious housing is reported for subgroups of the population compared against reference groups (e.g. females compared with males, less educated compared with more educated, etc.).

Reading the graphs

Blue bars: measure the overall measure of precariousness only

Red bars: measure the separate dimensions of precariousness
(e.g. affordability)

Black lines (—): see box on page 31

(Tables A3.9 and A3.11 to A3.16 (see Appendix Three) detail all results from HILDA for both the separate dimensions of precarious housing, and overall precariousness).

It should also be noted that the graphs only give an overall visual representation of the strength, direction and significance of relationships. They do not, however, demonstrate the absolute or relative likelihood of, for example, living in an overcrowded dwelling. This information is reported in the text that follows and the appendices¹³ (see text box on next page for more detailed explanation).

¹² This is estimated from a single wave of the data.

¹³ The scale used in the graphs is the logarithm of the relative odds. The actual relative odds are reported in the text.

More technical information about interpreting the graphs

Interpreting tables compared to graphs in this report:

In this report we have used some statistical models where the outcome is binary, e.g. precariously housed or not. The estimates obtained from these models are reported as odds ratios (i.e. measures of relative likelihood of one group experiencing the outcome of interest compared to another group). We present the full findings in tables found in the appendices of this report. Select findings are reported in the text.

In addition to the odds ratios presented in tables and text, the graphs in this report show the logarithm of these same odds ratios, plotted on a linear scale. This is done to enhance the interpretability of the graphs, as graphing odds ratios requires the use of a natural log scale, which may be unfamiliar to some readers and may lead to misinterpretation of the magnitude of effects. It does, however, mean that the numbers on the y-axis represent the log of the odds ratio, so should not be read off directly. Instead, the odds ratios are reported in tables in the appendix.

For example, if single parent families compared to couples with children had an odds ratio of 9 in terms of their likelihood of being in unaffordable housing, this would be reported in the text as single parent families being 9 times as likely as couples with children to be in unaffordable housing, but the bar on the graph would be at 2.2, because \log_e of 9 = 2.2. This is necessary to maintain the correct relative differences on the graph between groups. If the odds ratios were plotted on this same linear scale, differences would appear larger than they are.

Interpreting the height or length of the coloured bar:

The height or length of each coloured bar is a measure of the strength of the relationship being analysed. For example, in Figure 1, the height of the bar for singles with children is around 2.5 and the height of the bar for couples is around 0.2. This tells us that, compared to the reference group – couples with children – singles with children and couples without children are both more likely to be in precarious housing, and that the relationship is more marked for singles with children. It does not, however, directly tell us *how many times* more likely they are to be in precarious housing compared with the reference group. Readers should refer to the text or the Appendices for these numbers.

Interpreting the thin black line (—):

The thin black line tells us with 95% certainty that the true value of the estimate of the strength of the relationship (i.e. height of the bar) lies somewhere along the line on each bar. In other words these lines represent the 95% confidence intervals for the estimates. When these black lines cross the dotted reference line, this means that point estimate is not statistically different from zero (i.e. there is no statistically significant association). In some graphs, the results for males and females are compared side-by-side, and in these cases it is important to consider whether the male and female black lines overlap one another – when they do not, this indicates a statistically significant difference between males and females for that particular measure.

What demographic characteristics predict precariousness?

The likelihood of being in precarious housing decreased with age.

- The highest prevalence of precarious housing was observed in the 18- to 24-year-old age group (Table A3.4, Appendix 3). Young people were particularly more likely to be in unaffordable or overcrowded housing or private rental tenure.
- People older than 64 were less likely to have undergone a forced move in the past 12 months compared with the younger cohorts.

When we considered tenure type and age in relation to precarious housing, we found that:

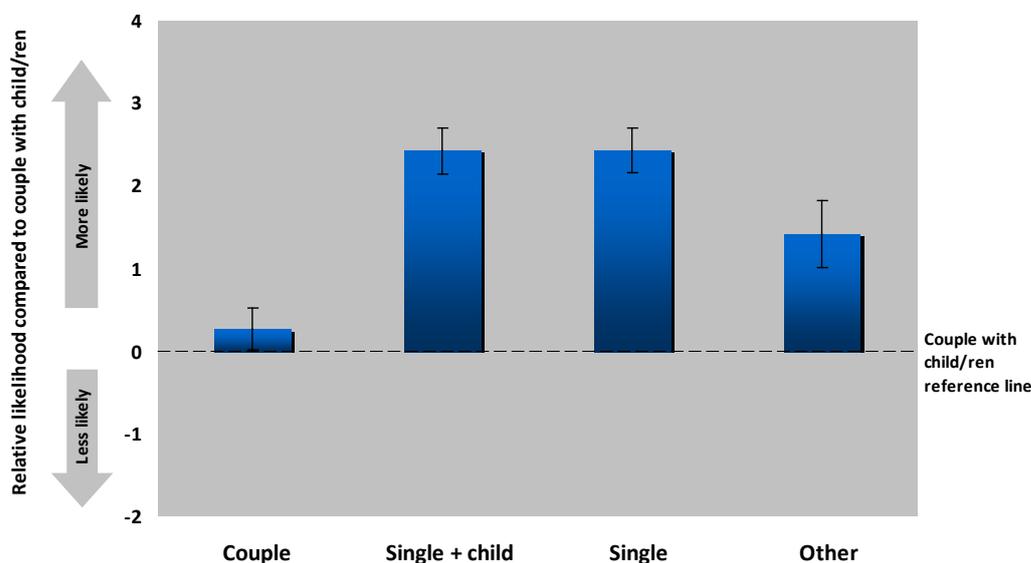
- In terms of housing unaffordability¹⁴:
 - The highest prevalence across the age groups was observed for the younger people and older people in private rental. Nearly 25% of people 18–24 years of age and 50% of people older than 64 years who were in private rental were in housing affordability stress (Table A3.5, Appendix 3).
- In terms of unsuitability:
 - Overall, older people (65+) were the least likely to live in poor-condition dwellings (4% of people aged over 64), but within public rental 39% of older people lived in poor-condition dwellings.
 - Younger people were much more likely to live in overcrowded dwellings and poor-condition dwellings. Nearly 27% of young people living in public rental were living in an overcrowded household and 33% in poor-condition dwellings (Tables A3.6 & A3.7, Appendix 3).
- In terms of insecure tenure:
 - All private renters (irrespective of age) were more likely to have undergone a forced move than people in other tenure types.
 - Nearly 7% of people aged 18–64 and 4% of people aged 65 years or older who were in private rental had undergone a forced move (Table A3.8, Appendix 3).

¹⁴ We note that this analysis finds just fewer than 10% of low-income public housing tenants are paying more than 30% of their income in rental costs which is inconsistent with costs being capped at 30% for people in this tenure type. This finding is consistent with other similar analyses (for example, Baker, Beer & Paris 2006) and is likely to be explained in three main ways. The most substantial of this is likely to be time lag effects where recorded housing costs do not adjust to short-term changes in the household's situation (such as short-term employment or windfalls). Tenants may also misreport their rental costs by including payments to public housing providers that are for outstanding debts. Finally, a small part of the explanation could be related to data collection errors.

Household structure was a predictor of precariousness (Figure 1).

- Single people and lone parents had the highest likelihood of being in precarious housing (each was around 11 times more likely to be in precarious housing compared to a couple with children – see Appendix 3, Table A3.9).
 - Compared to couples with children, lone parents were:
 - nine times more likely to be in housing affordability stress
 - just over three times more likely to be in poor-condition dwellings
 - three times more likely to have made a forced move
 - 11 times more likely to be privately renting.
 - Compared to couples with children, singles were:
 - seven times more likely to be in housing affordability stress
 - nearly four times more likely to be in poor-condition dwellings
 - three times more likely to have made a forced move
 - more than 20 times more likely to be privately renting.
- Lone parents and singles were also more likely to report difficulties accessing services and transport (see Table A3.10, Appendix 3).

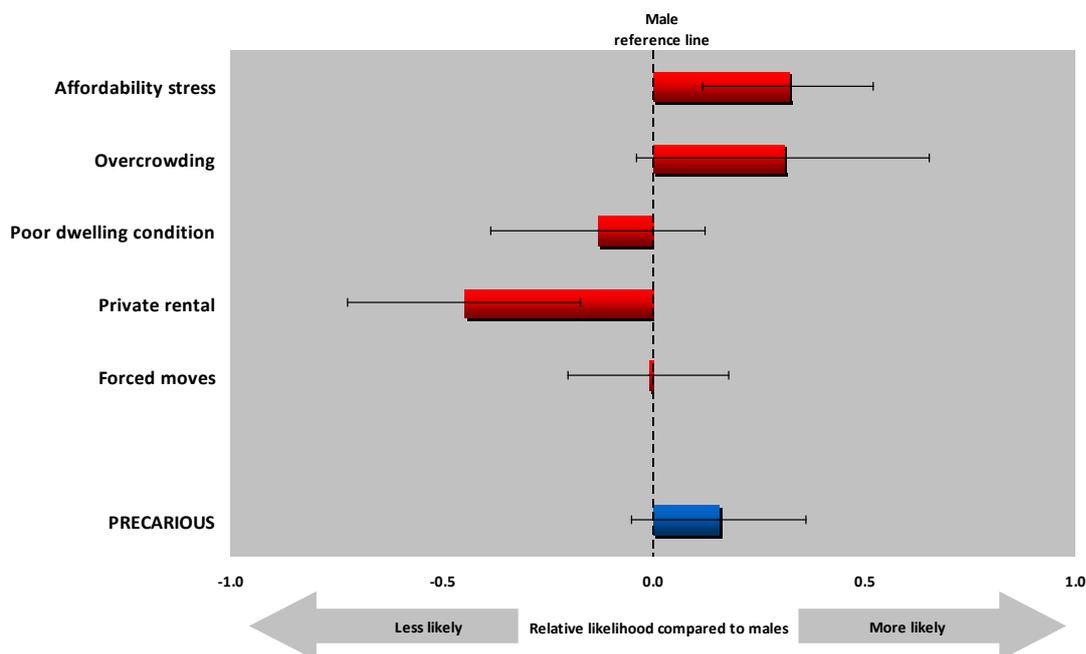
Figure 1 Likelihood of being in precarious housing, by household type (compared to couples with child/ren)



There was no difference between men and women in the overall likelihood of being precariously housed¹⁵ (Figure 2; see also Table A3.9 in Appendix 3).

¹⁵ This is indicated by the blue bar in Figure 2 which shows that the 95% confidence interval around their relative odds of concurrently experiencing at least two components of precarious housing crosses zero – the male reference line.

Figure 2 Likelihood of females being in precarious housing (compared to males)



Importantly however, the profile of precariousness differed between men and women. Women were significantly more likely to experience affordability stress and significantly less likely to be in private rental¹⁶ (Figure 3).

- Women were nearly 1.4 times more likely to be in unaffordable housing than men.
- Men were 1.6 times more likely than women to be in private rental.

Indigenous status was a strong predictor of precarious housing¹⁷ (Figure 3; see also Table A3.9 in Appendix 3).

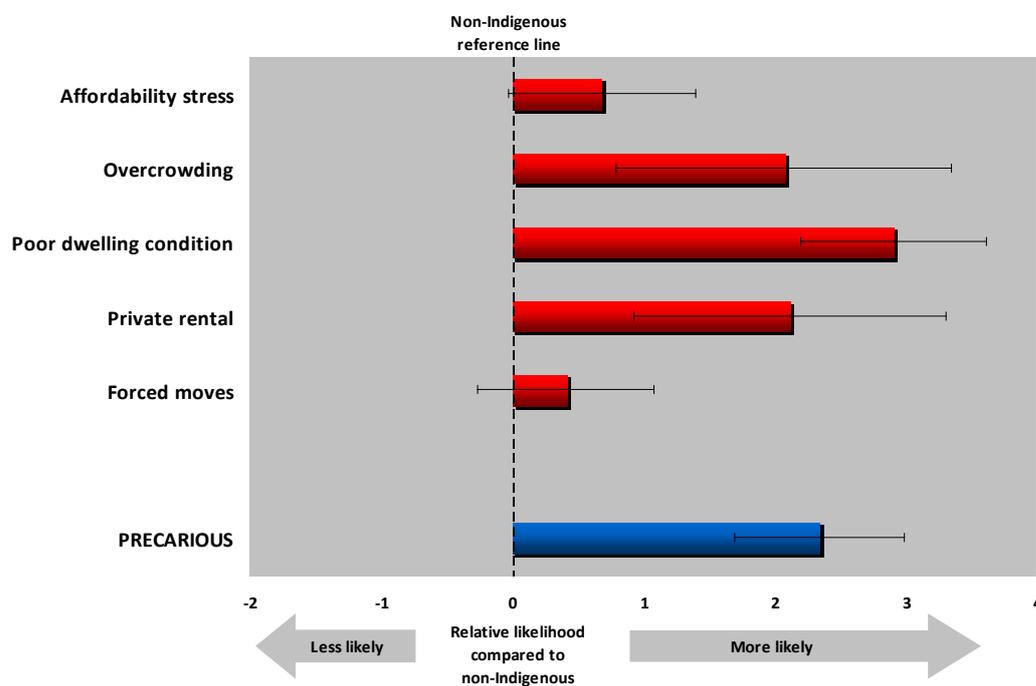
- Indigenous people were more likely than other Australians to experience precariousness on a number of measures including overcrowding (eight times more likely¹⁸), poor dwelling condition (18 times more likely) and private rental (eight times more likely).
- Indigenous people were less likely than other Australians to experience housing affordability stress or forced moves. This is possibly related to the high concentration of this population in the public housing sector, where affordability is regulated, and there is some degree of protection from forced mobility.

¹⁶ Observed gender differences are likely to be related to disparities in income, employment arrangements and household structure.

¹⁷ It should be noted that the number of survey respondents identifying as Indigenous is small. Consequently, these estimates are less reliable than for other population groups considered in these analyses.

¹⁸ The ABS reported in 2001 that 16% Indigenous persons lived in dwellings that required at least one extra bedroom compared with 3% of other households. See page 84 of Australian Bureau of Statistics (2006), *Measures of Australia's Progress*, Cat. No. 1370.0, Canberra, Australian Bureau of Statistics.

Figure 3 Likelihood of Indigenous Australians being in precarious housing (compared to non-Indigenous)



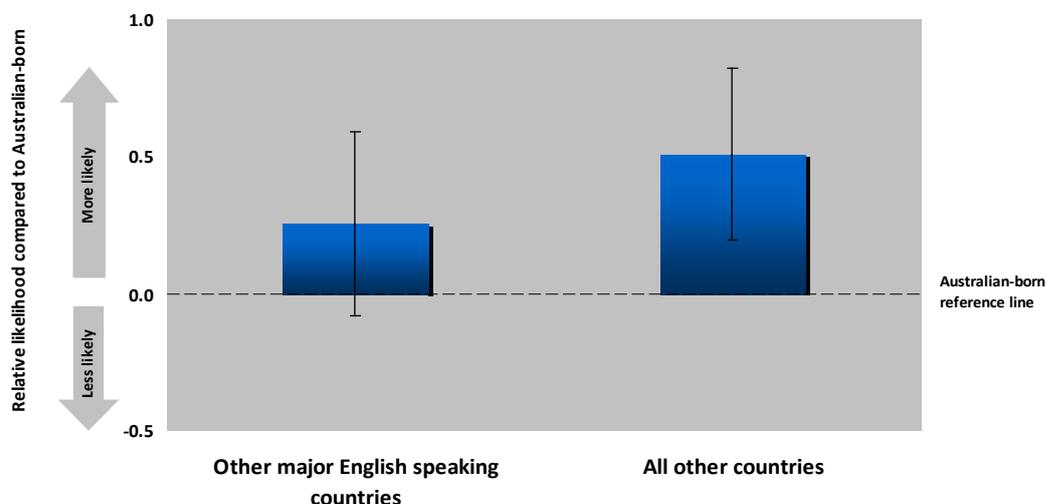
Compared to people born in Australia, people born in a non-English speaking country were significantly more likely to experience precarious housing (Figure 4).

- This group faced increased odds of experiencing precariousness across the forms of poor affordability (more than twice as likely), overcrowding (more than five times as likely) and renting privately (1.7 times as likely) (see Table A3.9 in Appendix 3).
- These individuals were less likely to have experienced forced moves (Table A3.9 in Appendix 3).

Additionally:

- People born in another major English-speaking country were significantly more likely to be renting privately (Table A3.9 in Appendix 3).
- People who did not speak English well found it very difficult to access transport services (Table A3.10, Appendix 3).

Figure 4 Likelihood of being in precarious housing, by country of birth (compared to Australian-born)



What socio-economic characteristics predict precariousness?

Employment arrangements were a significant predictor of precariousness (Figure 5) and housing affordability stress¹⁹ (Figure 6).

- Compared to individuals employed on a permanent full-time basis, the likelihood of being in precarious housing increases almost linearly with decreasing attachment to the labour force. As a result:
 - casual employees were three times more likely to be in precarious housing than permanent full-time worker
 - unemployed people were almost eight times more likely to be in precarious housing.

Unemployed people were more likely to be in all forms of precarious housing compared with permanent full time employees (see Table A3.11, Appendix 3).

We estimated that, compared to full-time employees, unemployed people were:

- around 15 times more likely to be in housing affordability stress
- around three times more likely to be in an overcrowded dwelling
- just under three times more likely to be in private rental
- nearly twice as likely to have experienced a forced move in the past 12 months.

¹⁹ The relationship between employment arrangements and housing affordability stress is likely driving the strong relationship observed between the overall measure of precarious housing and employment arrangements.

Education was a significant predictor of precariousness (Figure 7).

- Compared with individuals who had completed a degree, those whose highest level of education was Year 12 or a diploma or certificate were twice as likely to be in precarious housing; those who had not completed secondary school were five times more likely to be precariously housed.
- An individual whose highest level of education was Year 11 or below had a marked increase in their likelihood of living in an unaffordable housing (five times more likely), overcrowded housing (three times more likely) or poor-condition dwellings (seven times more likely). Additionally, they were twice as likely to be privately renting and to have experienced a forced move in the past 12 months (Table A3.11, Appendix 3).

Figure 5 Likelihood of being in precarious housing, by employment arrangements (compared to permanent full-time)

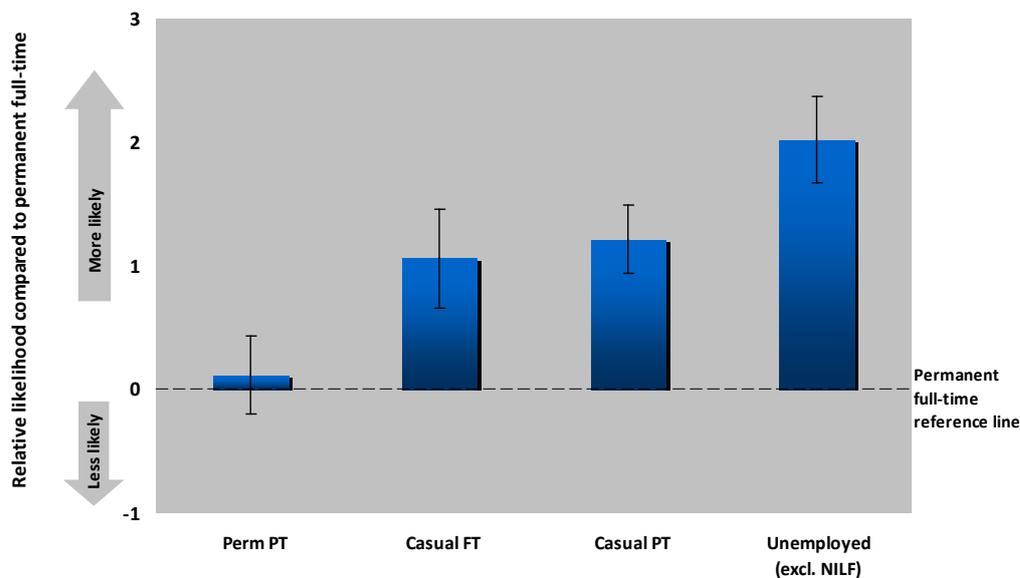


Figure 6 Likelihood of being in housing affordability stress, by employment arrangements (compared to permanent full-time)

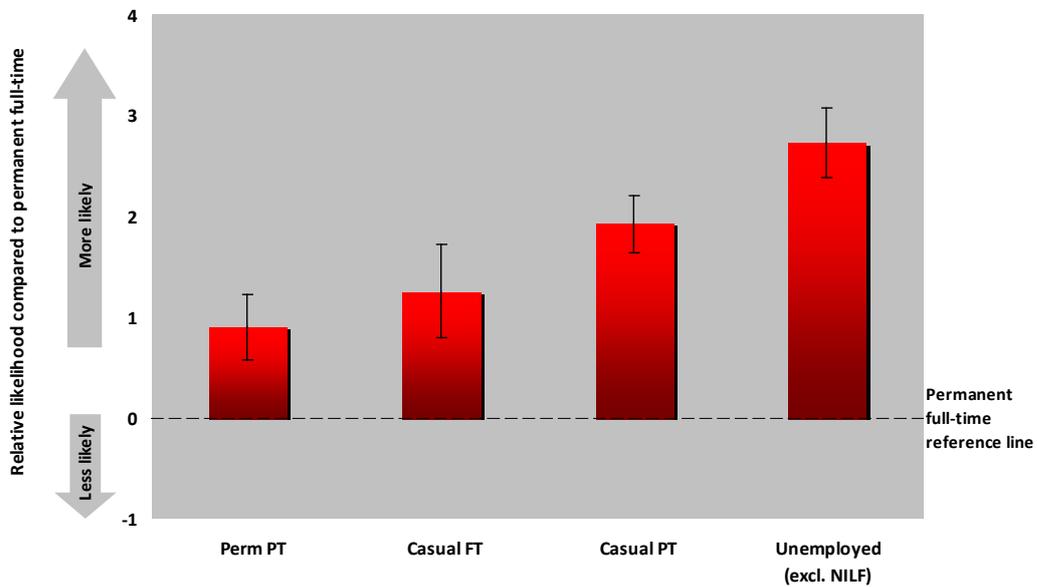
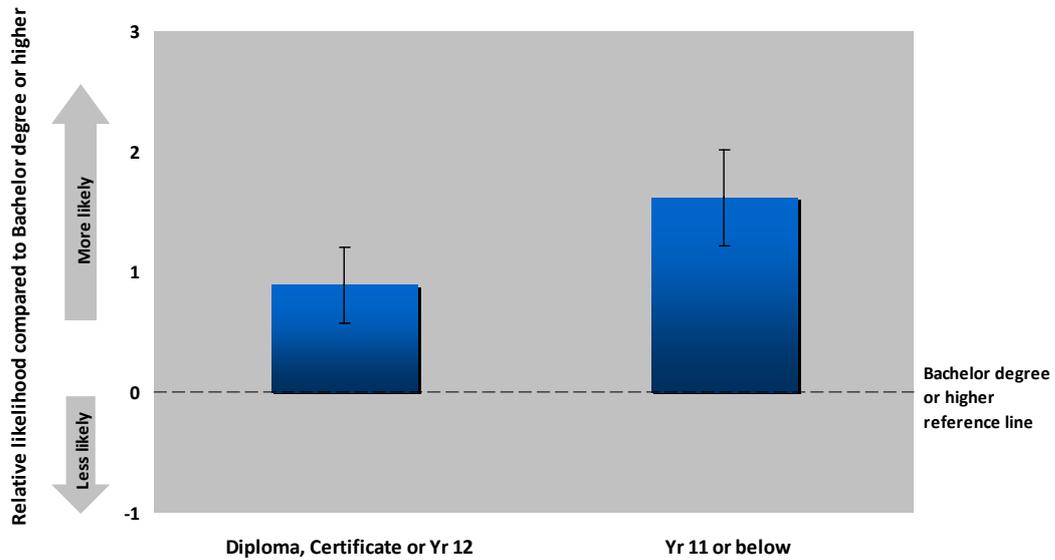


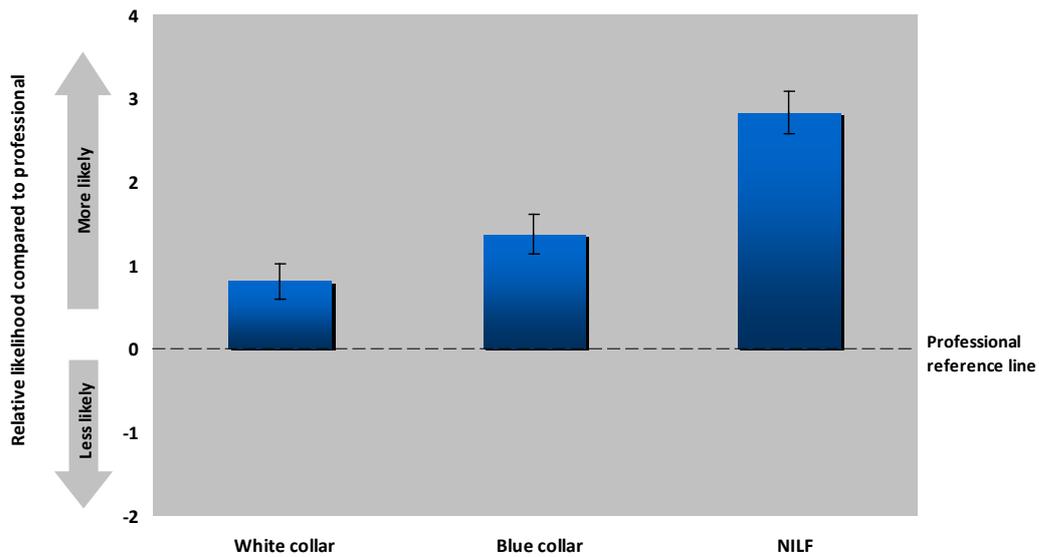
Figure 7 Likelihood of being in precarious housing, by highest level of education (compared to bachelor degree or higher)



Occupation is a significant predictor of precariousness (Figure 8; see also Table A3.11 in Appendix 3).

- Compared to households where the highest occupation in the household was classified as professional, households classified as white collar, blue collar or not in the labour force were more likely to be precariously housed, and the likelihood increased in that order.

Figure 8 Likelihood of being in precarious housing, by highest occupation level in household (compared to professionals)



What is the relationship between housing and health?

This section explores the relationship between precarious housing and health using the GSS and HILDA surveys. In examining this relationship the following key questions are addressed:

- Is there evidence of a relationship between precarious housing and health? If so,
 - to what extent does poor health predict precarious housing?
 - to what extent does precarious housing predict poor health?

Is there evidence of a relationship between precarious housing and health?

First we examine the relationship between precarious housing and health using the self-assessed measure of health reported in the GSS. Self-assessed health (SAH) is considered a robust measure of overall health status (Gerdtham et al. 1999).

An association between precarious housing and SAH was evident: as SAH *worsened*, the prevalence of people in precarious housing *increased* across most of the measures considered (Table 2).

Of those who rated their health as poor:

- 7% of people were in unaffordable housing compared with 5% of people who rated their health as excellent
- 19% of people were in housing stress compared with 9% of people who rated their health as excellent
- 41% people reported difficulty accessing services compared with 15% who rated their health as excellent
- 19% people reported difficulty accessing transport services compared with 2% who rated their health as excellent
- 13% people reported that their dwelling was in poor condition compared with 3% who rated their health as excellent.

Table 2 Precarious housing and self-assessed health

| | Self-assessed health (Proportion of people) | | | | |
|---|---|-----------|-------|-------|-------|
| | Excellent | Very good | Good | Fair | Poor |
| Affordability | | | | | |
| Unaffordability (30/40 rule) (a) | 5.4 | 4.3 | 5.0 | 7.1 | 7.4 |
| Housing stress | 9.3 | 10.8 | 14.2 | 14.1 | 18.8 |
| Suitability | | | | | |
| Difficulty accessing services | 15.6 | 20.4 | 23.7 | 31.9 | 41.4 |
| Difficulty accessing transport services | 2.2 | 2.3 | 4.1 | 10.4 | 18.8 |
| Overcrowding (a) | 3.2 | 2.2 | 3.7 | 3.3 | 4.1 |
| Poor dwelling condition (b) | 3.2 | 3.7 | 5.4 | 7.2 | 12.5 |
| Security | | | | | |
| Privately renting | 20.41 | 21.04 | 20.61 | 16.12 | 17.35 |
| Moved 3+ times in last 5 years | 16.80 | 16.05 | 15.87 | 11.73 | 13.08 |
| Feel unsafe walking in area after dark | 15.76 | 17.09 | 19.22 | 20.44 | 21.97 |

(a) Prevalence estimates from HILDA (2006) using population weights.

(b) Prevalence estimates from HILDA (2005) using population weights.

To what extent does poor health predict precarious housing?

We explored the extent to which poor health predicts precarious housing using the standardised measure of self-assessed physical and mental health (SF-36) available on the HILDA survey. We considered these measures of health in relation to the previously presented measures of precarious housing derived from the HILDA survey – housing affordability stress, overcrowding, poor dwelling condition, private rental, forced moves and the summary measure of precarious housing.

We examined people’s current housing situation in relation to their mental and physical health scores averaged across the prior three years. When we looked at these relationships we controlled for the effects of people’s demographic and socio-economic characteristics, which were seen in the previous section of this report to be associated with precarious housing, such that the extent to which health predicts precarious housing was measured independently of these other factors.

A person was considered to have poor mental health if their average self-assessed mental health score over the three years was amongst the lowest 20% of scores in the survey. The same approach applied to people considered to have poor physical health.

When we considered these measures in relation to the likelihood of being in precarious housing, we found:

A clear relationship between self-assessed health and precarious housing (Figures 9 & 10).

- With each increment of worsening mental health, the likelihood of being in precarious housing increased; that is, the relationship was graded. Compared to people with the best (highest) mental health, people with the poorest (lowest) mental health were 2.3 times more likely to be in precarious housing (Figure 9 and Table A3.12 in Appendix 3).
- Similarly for physical health, those individuals with the poorest (lowest) physical health were the most likely to be in precarious housing compared with the reference group. Individuals with the poorest self-assessed physical health were 1.7 times more likely to be in precarious housing compared to those with the best physical health (Figure 10 and Table A3.12, Appendix 3).

For those groups classified as having the poorest mental health, the analysis showed significantly increased likelihood of experiencing precariousness across most measures (Figure 11).

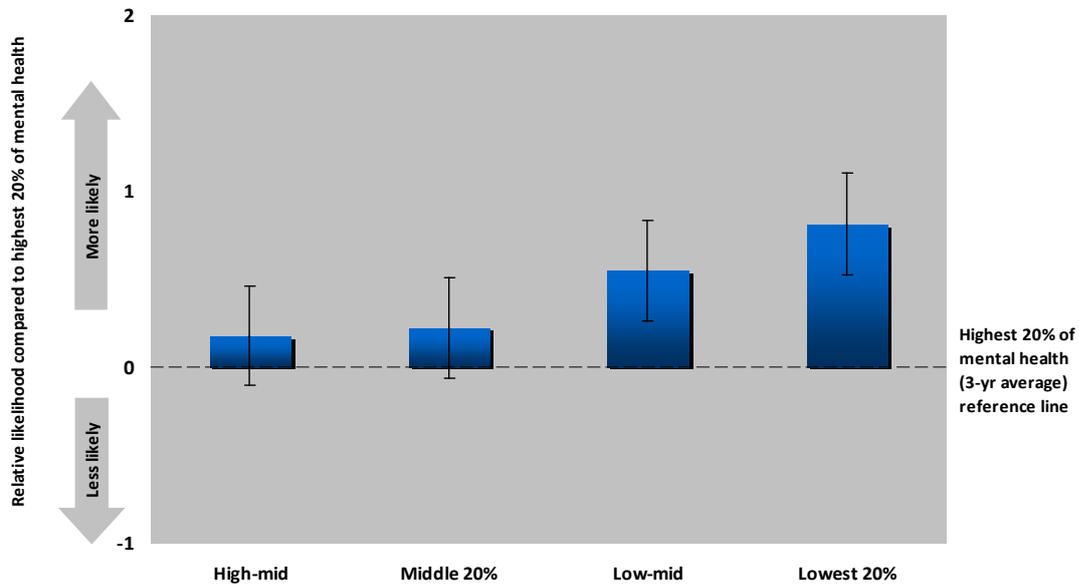
Mental health

- Compared to those reporting the best (top 20%) mental health, those reporting the poorest (bottom 20%) mental health were more than twice as likely to be in precarious housing. In particular, they were:
 - 1.8 times more likely to experience housing affordability stress
 - twice as likely to live in a poor condition dwelling
 - 2.2 times as likely to be in private rental
 - 1.9 times more likely to have experienced a forced move in the last 12 months (Table A3.12, Appendix 3).

Physical health

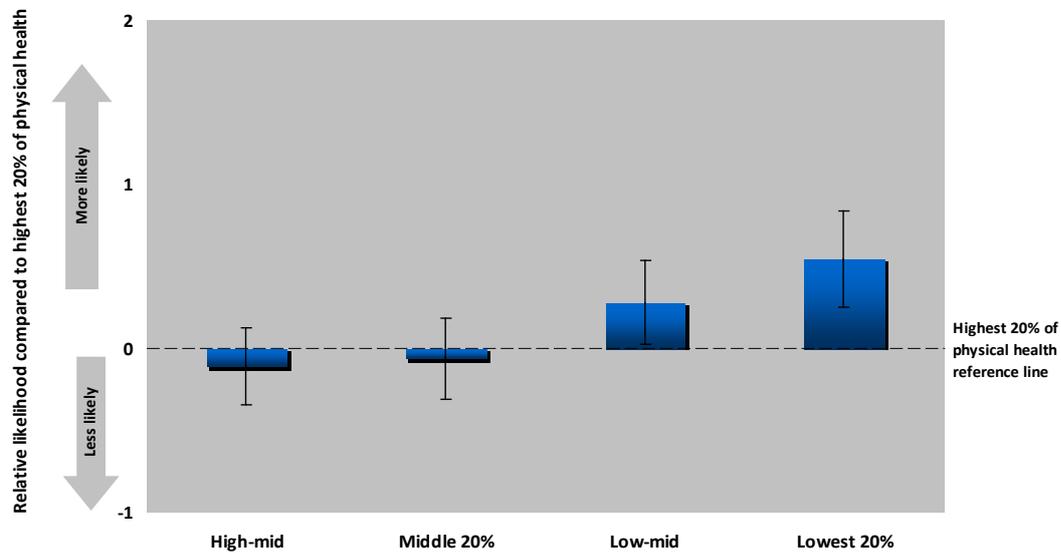
- Compared to those reporting the best (top 20%) of physical health, those reporting the poorest (bottom 20%) physical health were almost twice as likely to be precariously housed. In particular, they were:
 - 1.6 times more likely to be in overcrowded housing
 - 2.4 times more likely to live in a poor condition dwelling.

Figure 9 Quintile of average SF-36 mental health score over 3 years as predictor of precarious housing*



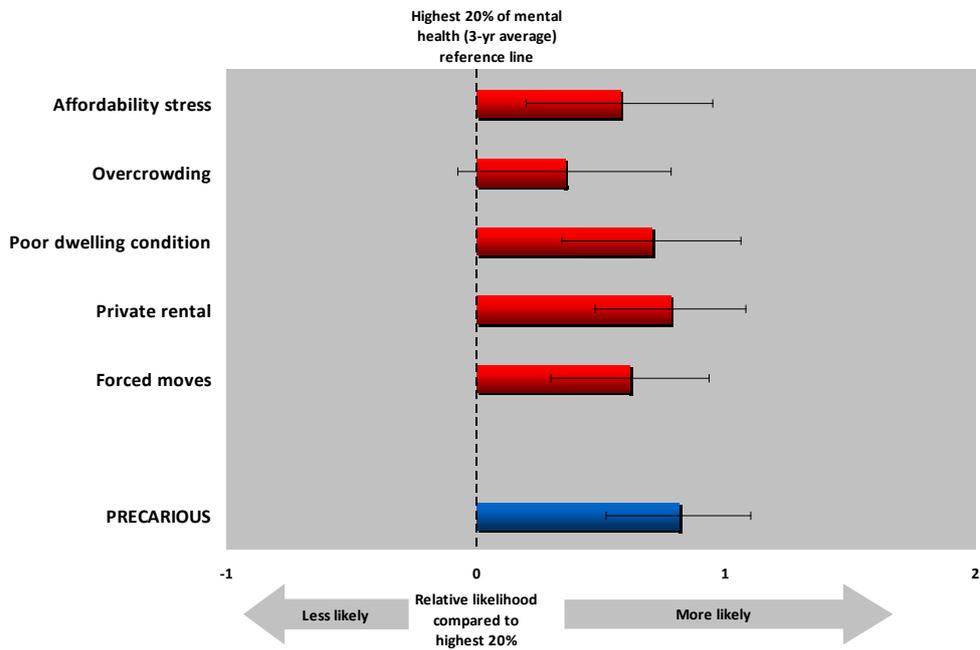
* adjusted for age, sex, country of birth, socio-economic position and household structure

Figure 10 Quintile of average physical health score over 3 years as predictor of precarious housing*



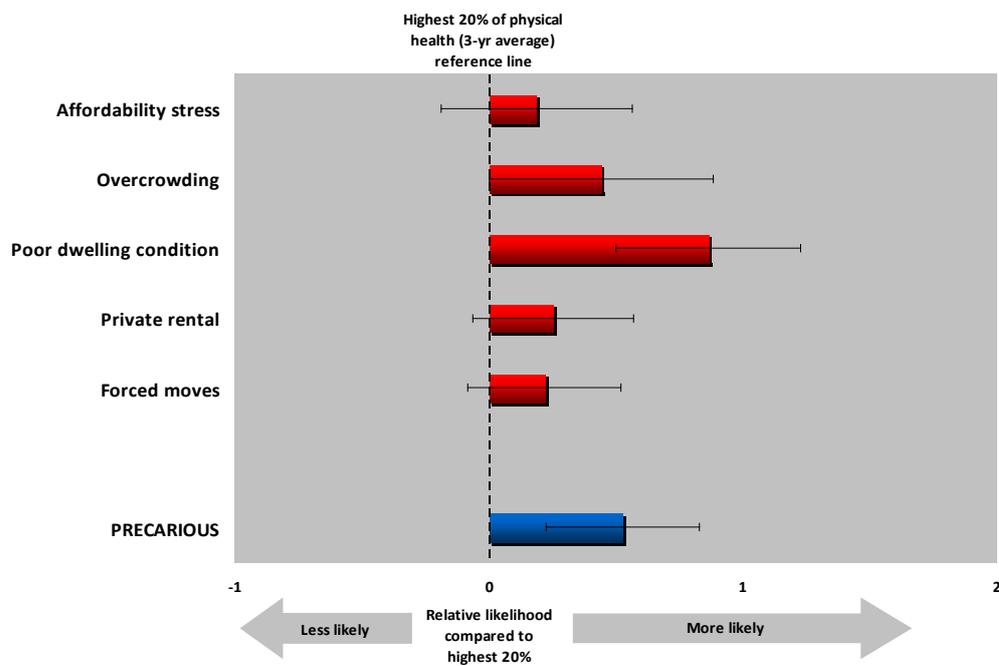
* adjusted for age, sex, country of birth, socio-economic position and household structure

Figure 11 Likelihood of people in lowest quintile of average SF-36 mental health score over 3 years being in precarious housing, compared to highest quintile*



* adjusted for age, sex, country of birth, socio-economic position and household structure

Figure 12 Likelihood of people in lowest quintile of average physical health score over 3 years being in precarious housing, compared to highest quintile*



* adjusted for age, sex, country of birth, socio-economic position and household structure

To what extent does precarious housing lead to poor health?

In the previous section it was demonstrated that there was a relationship between health – particularly mental health – and the likelihood of being in precarious housing. In this section we examine the extent to which precarious housing leads to poor health. To do this we used two measures of precarious housing:

- A count of the number of elements of precarious housing (housing affordability stress, overcrowding, poor dwelling condition, forced moves and private rental) that a person or household was experiencing within a survey year.
- A measure of cumulative exposure to precarious housing (i.e. the number of consecutive years that people were classified as being in precarious housing in relation to their mental and physical health).

Elements of precarious housing

When we considered how many elements or domains of precarious housing that a person or household was exposed to at a point in time, and considered this in relation to their mental health, we found that:

- On average, mental health declined or deteriorated as the degree or extent of an individual's experience of precarious housing increased²⁰ (Figure 13). In other words the longer an individual was exposed to precarious housing, the worse his or her mental health was likely to be.
- When we looked at this relationship for men and women it seemed that men were more likely than women to have their mental health affected by more exposure to precarious housing. This suggests that men's mental health may be more vulnerable to the effects of precarious housing (Figure 14).

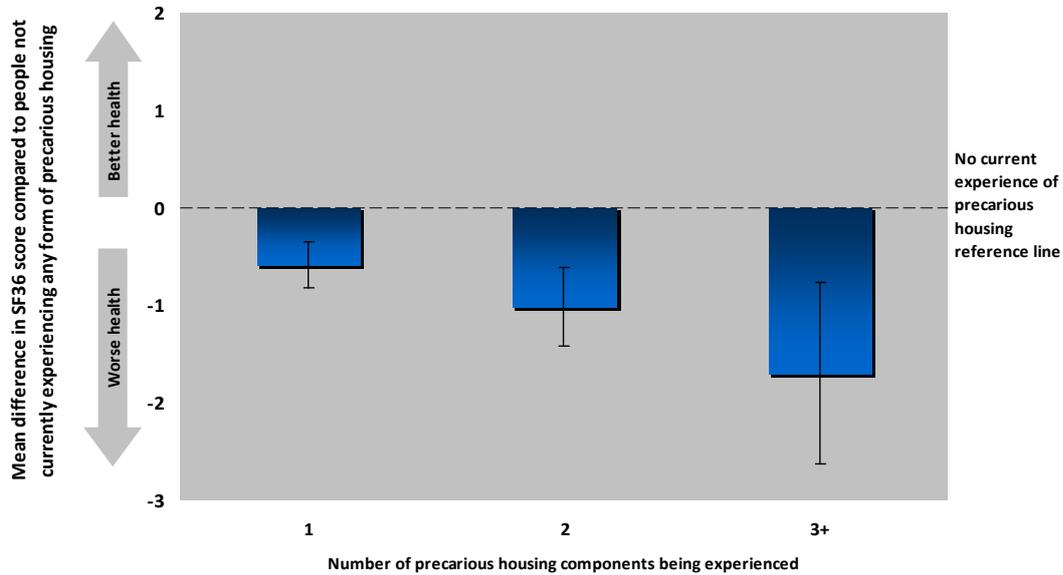
When we considered this same measure in relation to physical health, we found that:

- While there was a trend of declining physical health as the number of components of precarious housing experienced increased, the size of these effects was small and, for those people who were most precariously housed, not statistically significant (Figure 15).

²⁰ Figure 17 shows the average difference in mental health scores between people who are not experiencing any component of precarious housing and those who are experiencing one, two, or more than two of affordability stress, overcrowding, poor dwelling condition, private rental and forced mobility. The results are adjusted so that they reflect the relationship between health and housing *independently* of the socio-demographic and socio-economic factors that were shown in the previous section to be themselves associated with precarious housing. The results are also adjusted to take into account the prior mental health status of the individual. Also see Table A3.13 in Appendix 3.

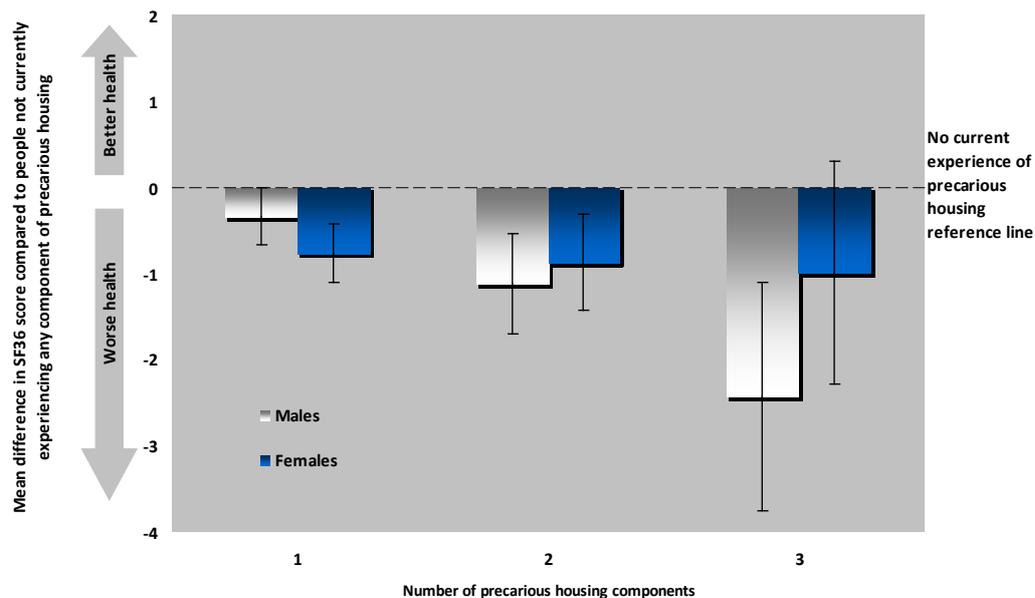
- Analysis of this relationship by sex hinted at a stronger effect in men, but again the statistical evidence was weak (Figure 16).

Figure 13 Adjusted* mean difference in self-assessed mental health score according to extent of current precarious housing experience



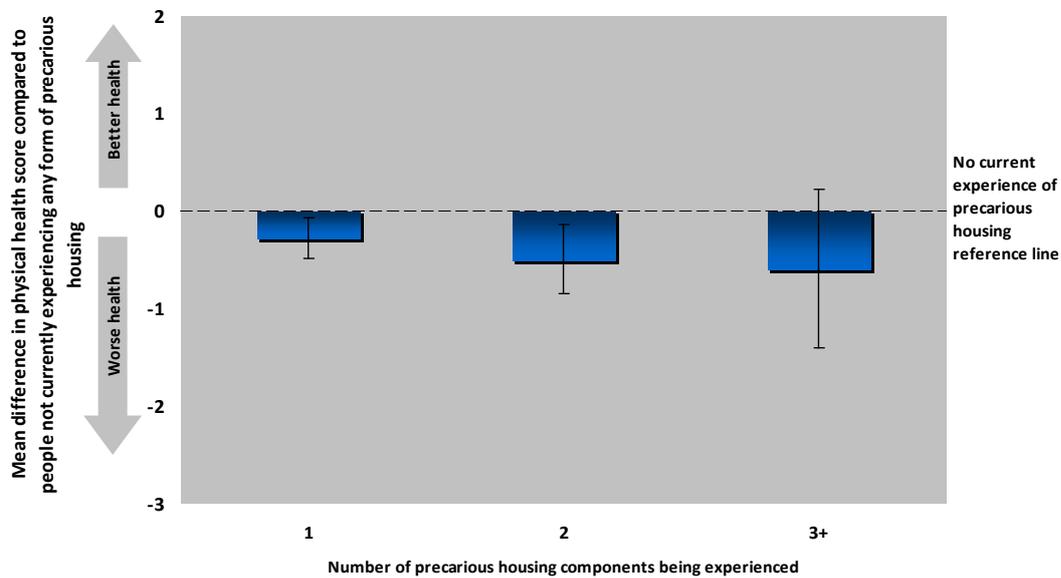
* adjusted for age, sex, country of birth, baseline mental health, socio-economic position and household structure

Figure 14 Adjusted* mean difference in self-assessed mental health score according to extent of current precarious housing experience, by sex



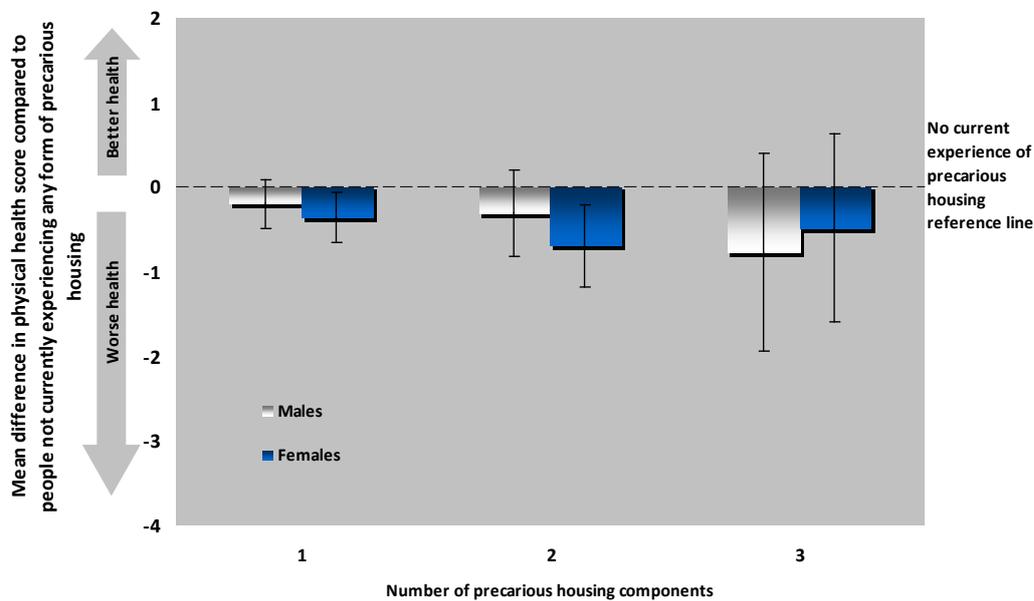
* adjusted for age, sex, country of birth, baseline mental health, socio-economic position and household structure

Figure 15 Adjusted* mean difference in self-assessed physical health score according to extent of current precarious housing experience



* adjusted for age, sex, country of birth, baseline physical health, socio-economic position and household structure

Figure 16 Adjusted* mean difference in self-assessed physical health score according to extent of current precarious housing experience, by sex



* adjusted for age, sex, country of birth, baseline physical health, socio-economic position and household structure

An analysis of people's experiences of the separate domains of precarious housing in relation to *mental* health, found that:

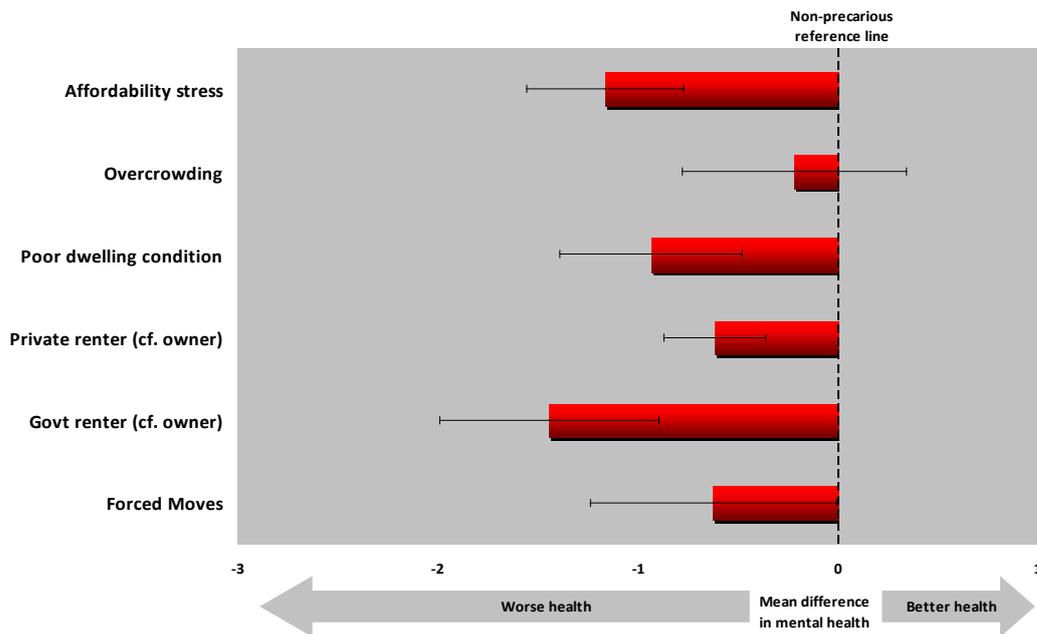
- Individuals in all forms of precarious housing except overcrowding had, on average, poorer mental health than individuals who had not experienced the same housing situation (Figure 17).
- The relative importance of each domain of precarious housing on mental health could not be determined. While experiencing housing affordability stress and living in government rental appeared to have the strongest negative effect on mental health, the confidence intervals estimates for these effects overlap with poor dwelling condition, private rental and forced moves, indicating that the relationship between each of these domains and mental health may be of a similar magnitude.
- Forced mobility was strongly associated with poorer mental health in men, but was not associated with a difference in mental health in women (Figure 18).

When we considered people's exposure to the separate domains of precarious housing in relation to *physical* health, we found that:

- Individuals who experienced each of these components (excepting overcrowding) had, on average, poorer physical health than individuals who had not experienced these forms of precariousness.
- Government rental was the domain of precarious housing that had the strongest relationship with physical health. On average, people in this tenure type had considerably poorer physical health than people who owned their own home and the effect was significantly larger than for affordability, dwelling condition, private rental and forced moves after demographic and socio-economic factors had been adjusted for²¹ (Figure 19).
- A similar pattern was observed across each of the domains for men and women (Figure 20).

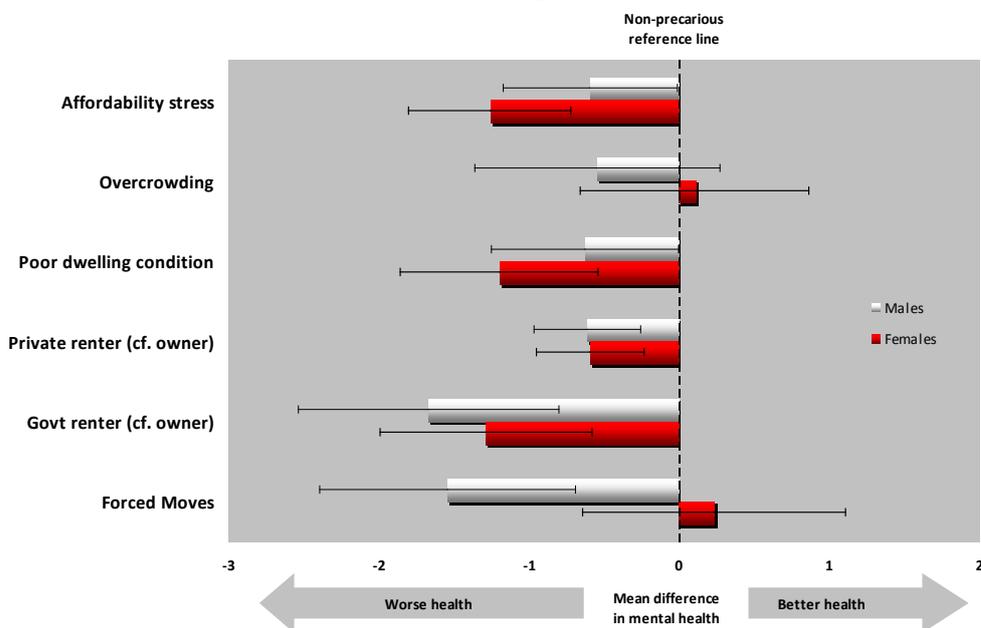
²¹ This would be expected given the profile of those allocated to public housing.

Figure 17 Adjusted* mean difference (compared to no precariousness) in self-assessed mental health score (SF-36) by components of precariousness and housing characteristics



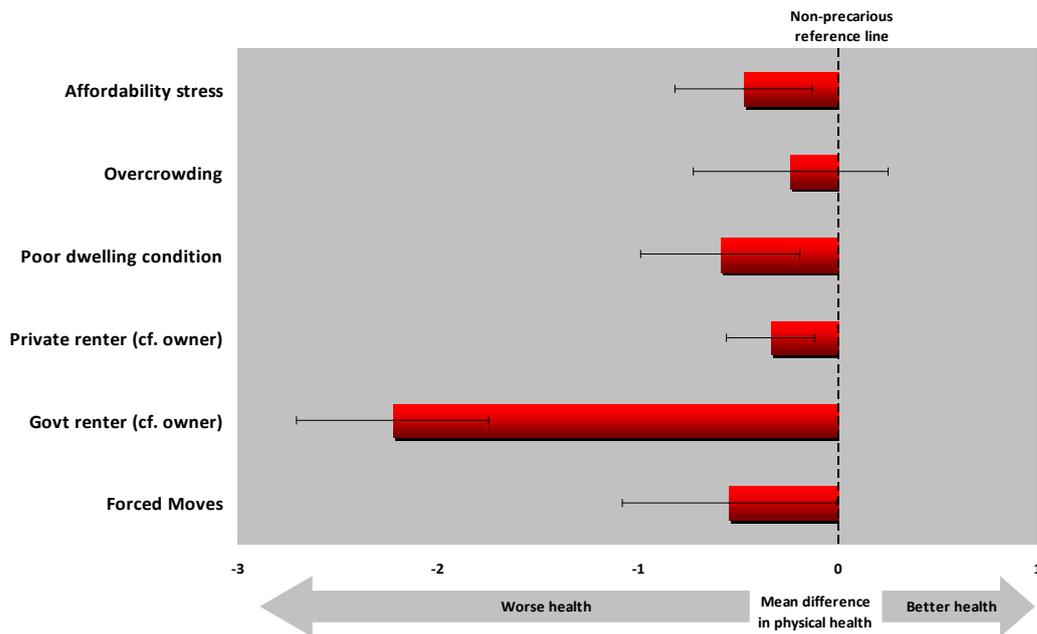
* adjusted for age, sex, country of birth, baseline mental health, socio-economic position and household structure

Figure 18 Adjusted* mean difference (compared to no precariousness) in self-assessed mental health score (SF-36) for components of precariousness and housing characteristics, by sex



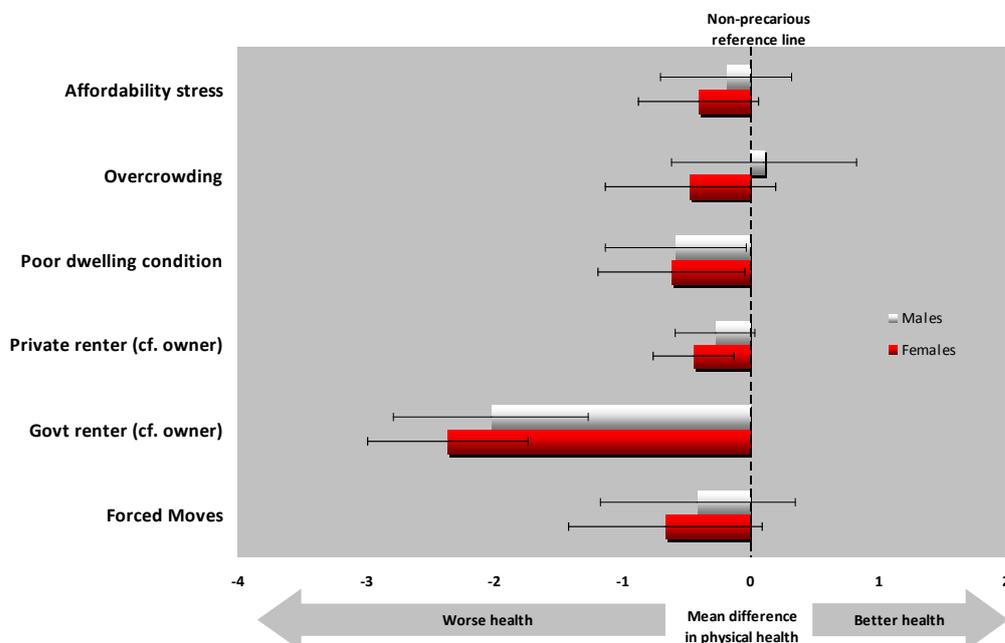
* adjusted for age, sex, country of birth, baseline mental health, socio-economic position and household structure

Figure 19 Adjusted* mean difference (compared to no precariousness) in self-assessed physical health score (SF-36) for components of precariousness and housing characteristics.



* adjusted for age, sex, country of birth, baseline physical health, socio-economic position and household structure

Figure 20 Adjusted* mean difference (compared to no precariousness) in self-assessed physical health score (SF-36) for components of precariousness and housing characteristics, by sex



* adjusted for age, sex, country of birth, baseline physical health, socio-economic position and household structure

Cumulative exposure to precarious housing measure as a predictor of health

To further explore the relationship between precarious housing and health, we considered the number of consecutive years that people were classified as being in precarious housing in relation to their mental and physical health. This provided a more reliable measure of people’s housing history as it related to their experience of precarious housing.

For mental health (Figure 21) we found that:

- Compared to people who had not experienced precarious housing, people who had experienced one year or three or more years of precarious housing reported poorer mental health.

For physical health (Figure 22) we found that:

- Compared to people who had not experienced precarious housing, people who had experienced two or more years of precarious housing reported poorer physical health.

Figure 21 Cumulative exposures to precarious housing measure as a predictor of mental health

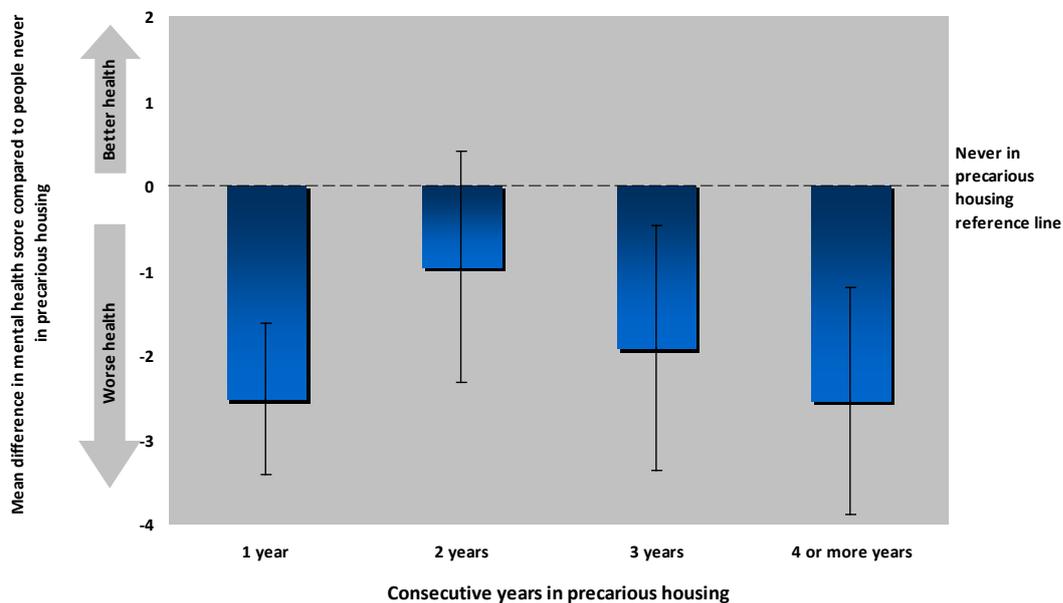
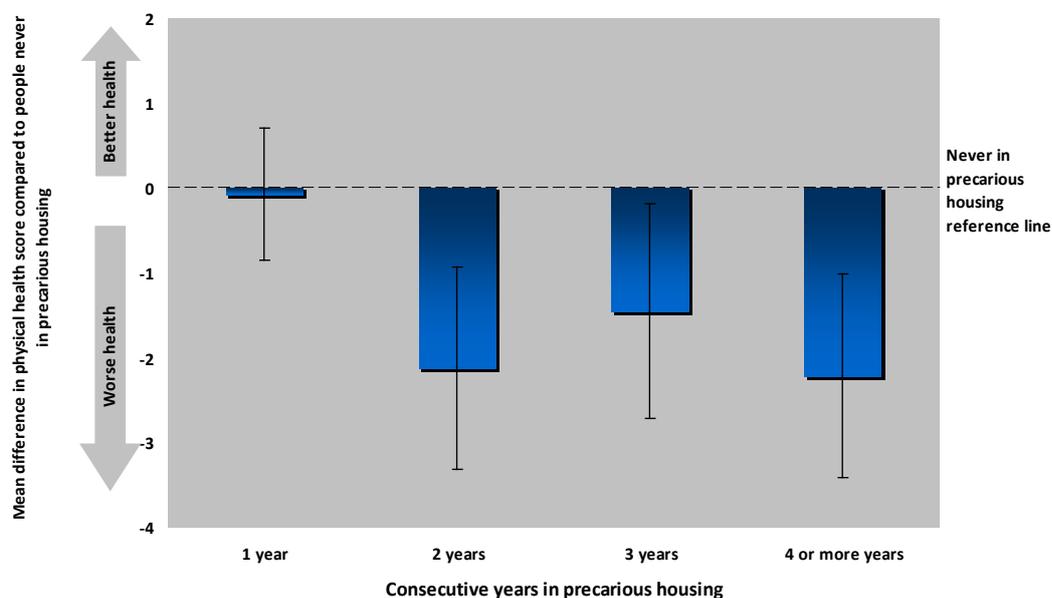


Figure 22 Cumulative exposures to precarious housing measure as a predictor of physical health



Strengths and limitations

This exploratory study provided innovative analyses of the relationship between precarious housing and health (mental and physical). As such it represents a significant contribution to a limited research field. It utilised two key quantitative datasets: HILDA and the GSS. HILDA’s longitudinal dataset includes housing and health measures enabling analysis of the housing health relationship. However, as a secondary dataset it has limited measures of precariousness which restricts some of the key questions that can be asked. It is also difficult to establish causality between precarious housing and health using this dataset due to the year-long interval between survey waves. Also in this study we did not weight the relative importance of the available measures to our construct of precariousness. For example, there were more measures of suitability than affordability in the dataset and we did not adjust for these in our analysis.

Discussion and conclusion

This section has summarised the findings of an initial and, to a large extent exploratory, quantitative analysis of precarious housing in Australia, measured across three domains (unaffordability, unsuitability and secure tenure).

In designing and undertaking the analysis, we sought to address two research questions: does poor health lead to precarious housing and does precarious housing (including affordability, suitability and security of tenure) affect people’s health?

Using HILDA, we have considered precarious housing across a range of domains (affordability, suitability and security of tenure) and in terms of depth of exposure (a count of the number of elements of precarious housing to which people have been exposed). We have considered health in terms of mental and physical health, and considered the relationship between people's average mental or physical health status over a three-year period in relation to their housing.

Using the GSS and HILDA, we have also considered who is likely to be in precarious housing in Australia with estimates of the prevalence of people residing in unaffordable, unsuitable or insecure housing by demographic and socio-economic factors.

We found poor housing and poor health to be *clustered* and the relationship between housing and health to be *bidirectional*. People in poor health, either mental or physical, were more likely to be in precarious housing than people in good health. The more elements of precarious housing a person had experienced in the past year, the poorer their mental health, and people exposed to one to two elements of precarious housing had poorer physical health than those who had not experienced any form of precarious housing. Further, people exposed to one year or three or more years of precarious housing, i.e. cumulative exposure to precarious housing, had worse mental health than those experiencing no form of precarious housing; and people exposed to two or more years of precarious housing had worse physical health than those experiencing no form of precarious housing.

Precariousness, measured in terms of its components – relative housing affordability, suitability and security – was shown in this analysis to be concentrated in specific population groups, groups who, importantly, are often also vulnerable to other forms of disadvantage, such as the unemployed and single parents. A number of individuals, especially in these groups, were also prone to simultaneously experiencing multiple components of precariousness, meaning for example that their housing was unaffordable, in poor condition and that they had limited security of tenure.

These findings highlight the importance of housing precariousness as a potential and real health determinant, but they also highlight the substantial gaps in knowledge within the field, as well as about the Australian experience more specifically. This analysis emphasises a real need to further explore housing's interaction with health, especially over time, and beyond the limitations of existing data sources.

Young people and precarious housing

To further understand the relationship between precarious housing and health, particularly people's experience of their health in relation to precarious housing, we undertook a small qualitative study of one vulnerable sub-population. We determined the sub-population to interview following preliminary analysis of our quantitative datasets (HILDA, GSS). At this point it was clear that a number of sub-populations might be classified as vulnerable – ATSI, single households, single parent households, those with limited education and the unemployed. In this initial study we selected young, female single parents as the focus for the study. This provided an opportunity to build upon earlier research undertaken by members of the research team (Mallett et al. 2010) on young people, including young mothers (Keys 2007), experiencing homelessness. Importantly it also provided an opportunity to gain some insight, through parent report, into the relationship between precarious housing and health for the children in these households. In so doing the research complements earlier work on children's experience of homelessness and housing crisis (Moore et al. 2007; Kirkman et al. 2009).

The following section provides some broad contextual information about young people, particularly young women, and especially those who were single parents and precariously housed. This is followed by an outline of the study and a report of the study findings.

Young people: A snapshot

The 2009 edition of *How Young People are Faring* (FYA 2009) states that, overall, young people's life opportunities and circumstances generally deteriorated for young people in Australia following the global financial crisis and structural changes to employment and education.

Income

The income levels of young people aged 15 to 24 are affected by whether they are in paid employment and the level of financial support they receive from parents/guardians or from government income support (DEECD 2008). Overall, income levels among young people tend to be lower than those for the general population (DEECD 2008). Financial hardship can be especially difficult for young people who are unemployed or not in the labour force (FYA 2009).

Employment and education

Among teenagers across Australia:

- 16% were not in paid work or study
- unemployment rose from 12% in 2008 to 19% in 2009 – representing one of largest annual increases in the past 20 years (FYA 2009).

Among young adults (20 to 24):

- Almost one-third of young women were studying full time compared with just over one-quarter of young men.
- For those not in study, the unemployment rate was higher among young men than young women; but
- Compared with young men, twice as many young women were not in the labour force, mostly due to family and child care responsibilities (FYA 2009).

Housing and homelessness

According to 2006 census figures, the majority of dependent and independent young people (aged 12 to 24) were living in housing that was owned or being purchased (66%). Twenty-six per cent were in private rental, and 3% lived in public housing (DEECD 2009).

While it is difficult to get an accurate picture from 2006 census data of the tenure type of young people aged 15–24 who were living independently of their parents, results from HILDA indicate that the vast majority of this group were living in private rental. Findings from HILDA also underlined 2006 census data indicating that, whether living independently or dependently, few young people aged 15–24 were in public housing. The *Public Rental Housing 2008–09* report (AIHW 2010) reinforces this finding. For example, in 2008–09 in Victoria the total number of households in public housing was 62,565. Of these, 28% were households that included at least one young person aged 12–24. At June 2010, there were 953 Victorian households with lone mothers under the age of 25 with children (DHS 2010b).

Analysis of those households most likely to be in precarious housing, using HILDA, indicates that for young people aged 15–24 years, singles and singles with child(ren) were the most likely to be in precarious housing (Table 3):

- nearly a third (31%) of young people in single households experienced affordability stress

- nearly one-fifth (18%) of young single parent households experienced housing affordability stress
- 11% of young single parent households live in poor condition dwellings
- 6% of young single person households had experienced forced moves.

The prevalence of every one of these indicators of precarious housing was higher amongst 15- to 24-year-olds living independently of their parents than amongst the older population.

Table 3 Prevalence of precarious housing indicators for 15–24-year-olds (living independently) by household type

| Household structure | Affordability ^a % | Overcrowding ^a % | Dwelling condition ^b % | Forced moves ^a % |
|-----------------------|---------------------------------|--------------------------------|--------------------------------------|--------------------------------|
| Couple | 8.4 | 1.1 | 7.3 | 3.1 |
| Couple + child | 7.0 | 13.1 | 6.4 | 0.8 |
| Single + child | 18.7 | 8.9 | 11.0 | 2.5 |
| Single | 31.8 | 1.3 | 8.3 | 6.0 |
| Other | 15.1 | 3.7 | 9.7 | 8.2 |
| All households | 13.8 | 8.8 | 7.6 | 2.5 |

^a Estimated from HILDA (2006)

^b Estimated from HILDA (2005)

Across Australia, a minority of young people were homeless, arguably the most extreme form of precarious housing. For example, of the 105,000 people experiencing homelessness on any given night in Australia, 20,511 were in Victoria and almost one-third (31%) were young people aged between 18 and 24 years; the national figure was also 31%. An additional 14% were under 12 years of age, while nationally it was 12% (ABS 2008).

Nationally, 19% of people who experienced homelessness were in specialist homelessness services (previously SAAP) compared to 31% in Victoria (ABS 2008). In 2008–09, more than 11,000 Victorian young people aged 15 to 24 years accessed specialist homelessness services. There were more young women (64%) than young men (36%) who sought support.

Table 4 shows that in Victoria in 2007–08, there were almost 10,000 SAAP clients with accompanying children. The vast majority were women (80%); only 5% of men were accompanied by children.

There were more than 2,600 clients aged 25 years or younger, who had accompanying children. Of this group, 77% were young mothers, 20% were young couples and only 3% were young fathers.

Table 4 SAAP clients with accompanying children, Victoria, 2007–2008

| | |
|---|--------------|
| Total number of SAAP clients with accompanying children: | 9,950 |
| Women with accompanying children | 80% |
| Men with accompanying children | 5% |
| Couples with accompanying children | 15% |
| Total number of SAAP clients 25 years or younger with accompanying children: | 2,650 |
| Women 25 years or younger with accompanying children | 77% |
| Men 25 years or younger with accompanying children | 3% |
| Couples 25 years or younger with accompanying children | 20% |

Source: Special data request SAAP NDCA, Victoria 2007–2008

Domestic or family violence was nominated by young women (10 to 24 years) as a main reason for seeking support from specialist homelessness services. Fifteen per cent of support periods for young women were due to domestic or family violence, 7.5 times higher than for young men (2% of support periods due to domestic or family violence).

Further, data from the ABS *Women's Safety Survey 1996* and the *Personal Safety Survey 2005* indicate that young women aged 18 to 24 years had the highest number of family violence incidents. They were twice as likely as those aged 25 to 34 years to experience family violence (Department of Justice 2009).

Seeking assistance was motivated by other reasons as well. For example, young women also sought support because of accommodation difficulties (23% support periods), including overcrowding and eviction, and relationship or family breakdown accounted for 21% of support periods. Accommodation difficulties were particularly common for young men (30% support periods) while relationship/family breakdown accounted for 20% of support periods (DEECD 2008).

Health

As might be expected, young people were, in the main, healthy. For example, data from the *General Social Survey 2006* showed that among young people 18 to 24, the majority rated their health as excellent or very good (68% of women and 70% of men).

Nevertheless, a proportion of young people suffered from poor health:

- Table 5 shows that young women (7.0%) were slightly more likely to rate their health as fair or poor than young men (6.1%).

Additionally, mental health issues were more common among young people than older people. For example, 26% of young people (16 to 24 years) experienced mental disorders compared with 6% of older people (75 to 85 years). Gender also had an impact:

- Young women experienced higher rates of anxiety (22%) and affective disorders (8%) than young men (9% and 4% respectively).
- While the majority of the 60,000 encounters of postnatal depression in Australian general practice were with women aged 25 to 44 years (80%), young women represented 20% of those encounters.

And, in relation to psychological distress, which refers to the overall level of psychological strain or pain marked by depression, anxiety or anger, gender differences are again highlighted:

- Overall, young women (18%) were more likely than young men (7%) to report *high* or *very high* levels of psychological distress (DEECD 2008).

Table 5 Health among young people

| | <i>Women</i> | <i>Men</i> |
|---|--------------|------------|
| <i>Health status (18 to 24 yrs)</i> | | |
| Fair/poor | 7.0% | 6.1% |
| <i>Mental health (16 to 24 yrs)</i> | | |
| Anxiety disorders | 21.7% | 9.3% |
| Affective disorders (e.g. depression) | 8.4% | 4.3% |
| <i>Postnatal depression (60,000 encounters)*</i> | | |
| 15 to 24 yrs | 18.3% | n.a |
| 25 to 44 yrs | 79.5% | n.a |
| 45 to 64 yrs | 0.1% | n.a |
| <i>Psychological distress (18 to 24 years)**</i> | | |
| | 17.5% | 6.5% |

Sources: (a) ABS, *General Social Survey 2006*, Cat. No. 4159.0; (b) ABS, *National Survey of Mental Health and Wellbeing 2007*, Cat. No. 4326.0.

* www.racgp.org.au (2006)

** ABS, *National Health Survey: Summary of Results, 2007–2008*. Cat. No. 4364.

In summary, the statistics suggest a relatively sombre picture for a considerable group of young people. Young people not in education or the labour force are almost certain to experience difficult times ahead. Those difficult times could be exacerbated if you were young and female.

The next section moves beyond the population statistics and, using qualitative data, takes a closer look at the lives of young women with children who are living in precarious housing.

The experiences of young women with children

This section details the findings from the qualitative component of the study. In-depth face-to-face interviews with young women provided the opportunity to gain a deeper understanding of how living in precarious housing adversely affected health, including mental health, physical health and health behaviours over time. It enabled complex and nuanced understandings of how the young women's lives were mediated by health, environmental and social influences.

Methods

Sample and recruitment

Following university and agency ethics approval, semi-structured interviews and brief surveys were conducted with 14 young women in Melbourne between April and July 2010. Young women were eligible to participate in the research if they:

- 1) were under 26 years of age
- 2) had been a lone parent in the 12 months prior to the interview
- 3) had been living in precarious housing during this period.

Participants were recruited through workers from three specialist homelessness support services in the Melbourne metropolitan area. Workers identified eligible clients and informed them of the research. If the young women expressed interest in participating in the research, workers assisted them to make contact with the researchers to confirm eligibility for the research and arrange interview times. All participants were interviewed at the homelessness services and they each received a \$40 gift voucher for their contribution and time.

Interview content

The face-to-face, semi-structured interviews lasted for up to one hour and explored women's housing history (transitions and pathways into precarious housing including any experiences of homelessness) and gauged the effects of their housing history on their health and wellbeing. In addition, young women were also asked to comment on the policy and programmatic responses that could assist them to maintain stable housing and positive health outcomes. The young women also completed a brief survey on demographic details, housing circumstances and health and wellbeing. This included a standardised health questionnaire which measured their health issues over a specified four-week period.

Analysis

Interviews were all digitally recorded and transcribed. Three researchers then independently read and coded the same four sample transcripts. Categorical and emerging themes were identified by the researchers. Following extensive discussion, a data dictionary of themes was agreed upon and the remaining 10 transcripts were coded. Quotes from participants appear throughout this section and are used to highlight the impact of housing and health issues on the personal lives of the young women and their children. Pseudonyms are used to ensure the privacy of participants.

Findings

Profile of participants

Fourteen young women who were mothers volunteered to participate in the study.

Thirteen of the young women were single at the time of interview; one had been separated from her partner for only six weeks following the breakdown of their 10-year relationship. The remaining young woman had recently re-partnered after a period of being single.

As shown in Table 6, the young mothers were aged between 19 and 25 years; five were 23 years of age. All 14 young women were born in Australia but only one was Aboriginal or Torres Strait Islander. Half reported that their mother was born in Australia and about half reported that their father was born in Australia. Three young women indicated that their mother was born in a non-English speaking country (Russia, Italy and the Czech Republic), while for five young women it was their father who was born in a non-English speaking country (Egypt, Macedonia, Argentina, Bosnia and Malaysia). The young women all spoke English at home and reported that they spoke it very well.

Between them, this group of young mothers had a total of 20 children. About half (57%, n=8) had one child and the remainder had two (43%, n=6). One parent was expecting her third child later in the year. Not surprisingly, the children were very young; 17 were less than 5 years of age. Three were school-aged. All of the young women had their children living with them. However, in one case, a young woman had one of her two children living elsewhere.

Table 6 Background details of participants (N=14)

| | <i>n</i> |
|---|----------|
| Age | |
| 19 years | 2 |
| 22 years | 3 |
| 23 years | 5 |
| 24 years | 3 |
| 25 years | 1 |
| Aboriginal or Torres Strait Islander | |
| Yes | 1 |
| No | 13 |
| Born in Australia | |
| Yes | 14 |
| Mother born in Australia | |
| Yes | 7 |
| No | 7 |
| Father born in Australia | |
| Yes | 6 |
| No | 8 |

Table 7 Participants' children

| | <i>N=20</i> |
|------------------------|-------------|
| Age of children | |
| < 12 months | 6 |
| 1 to 4 years | 11 |
| 5 to 7 years | 3 |

Housing and homelessness history

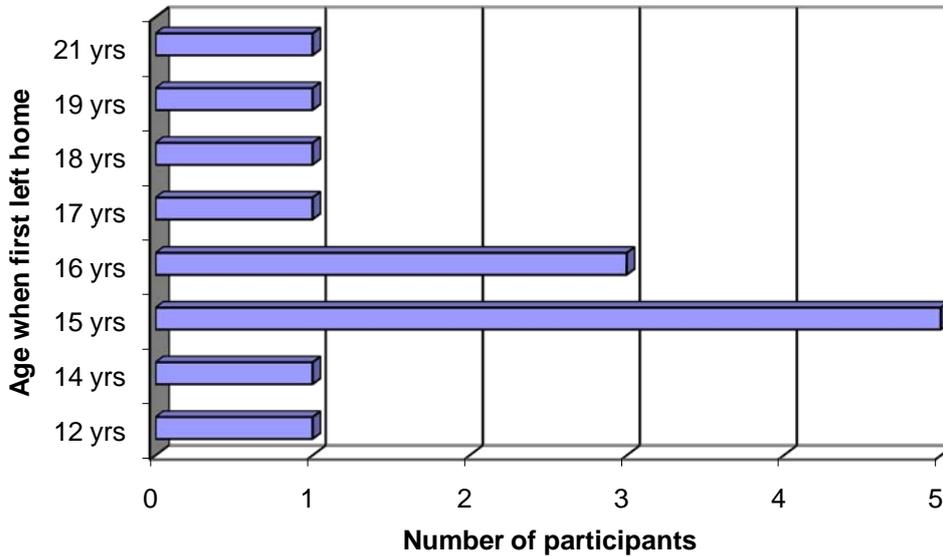
As shown in Figure 23, most of those interviewed were very young when they first left home. Ten were less than 17 years of age and the youngest was just 12 years old. One young woman first left home when she was 21 years old. Since first leaving home, the lives of these young women have been characterised by instability. On average, they have moved 9.5 times; one young woman had moved 26 times since leaving home.

In the 12 months preceding the interview, only three young women remained stable; that is, they had not moved house. One was in public housing²², another in community housing and the third was in private rental. The remaining 11 women, on average, had moved house three times over the 12-month period; this equates to a house move every four months. Some had moved more

²² In the previous section public housing and community housing were classified as social housing. In this section we differentiate between public and community housing as this allows for a more nuanced analysis of women's housing experiences.

frequently. For example, Kim, with her three-year-old, had moved five times while Melissa had moved seven times with her 21-month-old child.

Figure 23 Age when first left home (N=14)



Reasons for first leaving their family home

The reasons for leaving home so young were varied. Generally, however, the young women attributed leaving to difficult relationships with their parents. Some reported that they had no choice but to leave, others indicated they were kicked out of home.

Julie left home to escape the violence:

My dad was physically abusing my younger brothers and sisters...I'm not a violent person, I don't like violence at all, and it just killed me to see my brothers and sisters being harmed. So I went to the Department of Human Services...So I went to foster care...and DHS started working with my family.

A couple of young women left due to eviction. Jennifer experienced eviction on two occasions:

Where I was living with my mum, we got evicted, so my mum could go to her boyfriends but I wasn't allowed there...I moved in with a friend for about three months until I found a place...I was living in [suburb] for about just over a year um, and I fell pregnant and I lost my job um...and then I couldn't keep up with the rent payments so I got evicted from there and then I moved in with my sister and my brother.

In Ashley's case, she first left home to be closer to work:

I was 16 when I left home because of work, my first job...it took me two hours on the train every morning. So we decided, my dad helped me [to] find private rental...and decided that I'll move out and be closer to work.

Where did they go once they left home?

All reported that accommodation was difficult to find. It was especially difficult for those who were younger than 18 when they left home, and those without a job. Most young women sought help from friends. Generally, these arrangements lasted only for a relatively short time before things changed. For example, sometimes friends moved away; and sometimes sharing was too hard because it got overcrowded. Some moved back with parents, or with different family members, but relationship difficulties commonly resurfaced. They shared with partners, or with their partner's family, but that too could be fraught with difficulty. Two young women managed to get private rental but their tenure was short-lived.

Three young women found themselves in foster care; but that did little to provide any stability or security. Elizabeth ended up squatting after being in foster care:

I went into State care with DHS and they moved, they moved me to a couple of places...A couple of years...I just kept running away. I didn't want to be there. Took to the streets...Squatting.

Julie escaped a violent home but ended up sleeping in a car before returning home and eventually going into foster care:

I was 14 and I think I was sleeping in a friend's car for about a week, and I didn't know who to call, I didn't know what to do...and I couldn't access a phone and I had no money. So I was stuck...I went back to my parents. That was just before I moved out with the Department of Human Services

She spent time with five different carers and eventually returned home with her baby son. But there were now nine people living the house and "we're all climbing over each other". Also, with younger siblings in the house, it was difficult to get a routine and structure for her baby son. She and her son were due to move into transitional housing following the research interview.

Some were in and out of youth refuges, but for Kim and Stephanie, it was difficult to get access:

They [agency] tried to get me into refuges and anywhere that had a room, but they were all booked out and there were waiting lists...I couch-hopped for just over three weeks. (Kim)

I was still trying to get into some sort of transitional, anything, sort of housing or even into a refuge...there wasn't any room in refuges. (Stephanie)

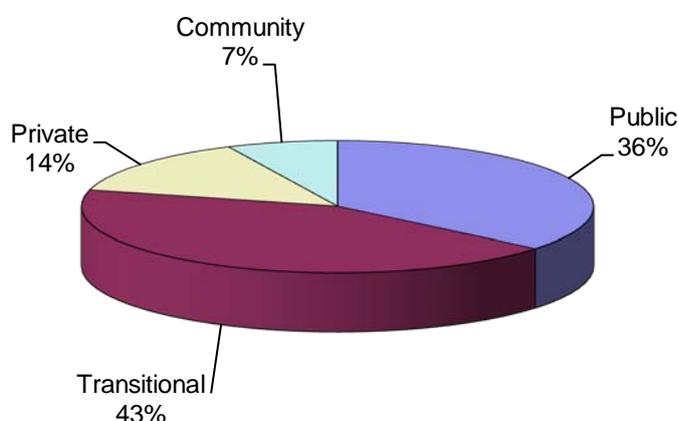
Ashley's experience with friends was similar and she wanted to limit the amount of time she spent there:

Just a night or two but, yeah, in the end we just, we had no choice. It was, it was okay for me to be there but it was very hard with a child to stay with friends and stuff.

Where are they now?

Figure 24 shows that, in the main, this group of young women were in public housing (36%, n=5) or transitional housing (43%, n=6) at the time of the interview. For people experiencing homelessness, transitional housing provides medium-term accommodation that can last from between several months to more than 12 months. One young woman was in community housing and two were in private rental; one had been there for a couple of months, while the other had been in her place for between three to five years. Most (n=9), however, had been in their housing for less than six months.

Figure 24 Current housing (N=14)



Security of tenure

In terms of security of tenure, public housing offers one of the more stable forms of accommodation. It is affordable (maximum of 25% of income in rent payments) and the tenure is secure, offering long-term permanency.

Community housing is a type of social housing that offers secure and affordable housing (maximum of 25% of income in rent payments) to people on low to moderate incomes. It is owned or managed by community organisations.

Private rental housing, on the other hand, usually offers 12-month leases that may be renewable, but it is increasingly becoming unaffordable for low-income families. While two young women in the group were in private rental, with leases attached, their continuing difficulties affording rental payments meant that their tenure was effectively highly insecure.

Transitional housing is provided by not-for-profit housing providers and offers short- to medium-term tenancies. There is no security of tenure in transitional housing. Although affordable

(maximum of 25% of income in rent payments), leases are generally offered on a monthly or three-monthly basis, although actual tenancies ranged between three to 18 months for the sample of young women. The housing situation for the young women in transitional housing was precarious, primarily because the accommodation was temporary and the length of stay, while generally flexible, was unpredictable.

Education, training, employment

At the time these young women were engaged in secondary school, the school leaving age was 15 years. As shown in Figure 25, most of the young women had left school after completing Year 10 or higher, indicating they were at least 15. Two of the young women left school prior to Year 10, one of them was younger than 15 at the time. Three of the women had completed Year 12, and six had left school after completing Year 11.

Despite most of them leaving school without completing Year 12, education was important to this group of young women. As illustrated in Figure 26, the majority of the young women (n=12) have undertaken some form of post-secondary education. Most (n=8) had started a TAFE course although only three had completed it. Four young women were currently studying, mostly to gain a vocational qualification. One was studying for a bachelor degree.

Only two young women had not started or completed any post-secondary education. One of these, however, had already started investigating relevant courses that would provide her with the prerequisites needed to eventually be able to complete a degree in social work. The cost of the course was \$1300. This young woman hoped to be able to get some financial assistance but was also looking for paid work.

Figure 25 Highest level of school completed (N=14)

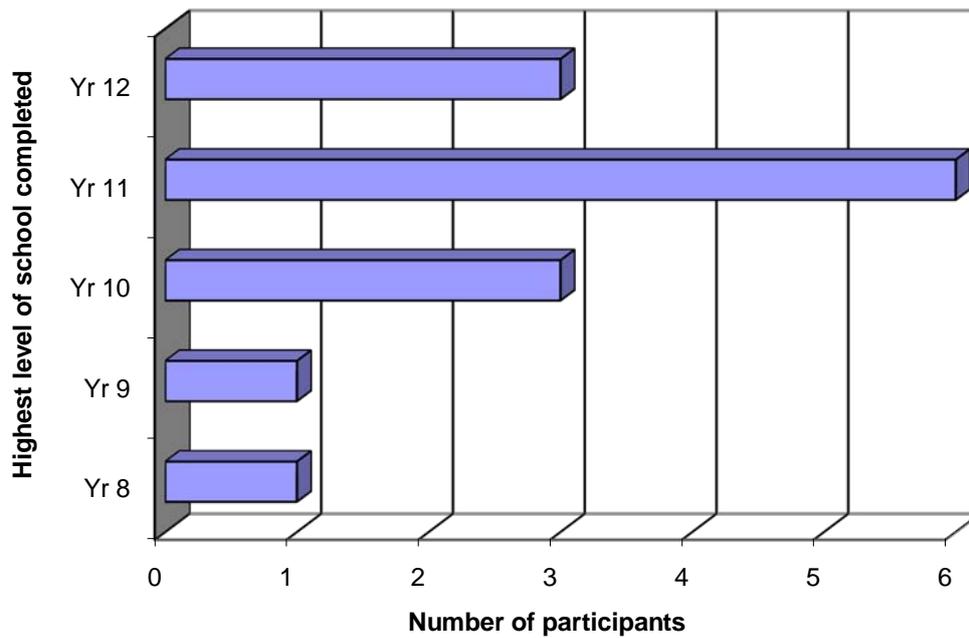
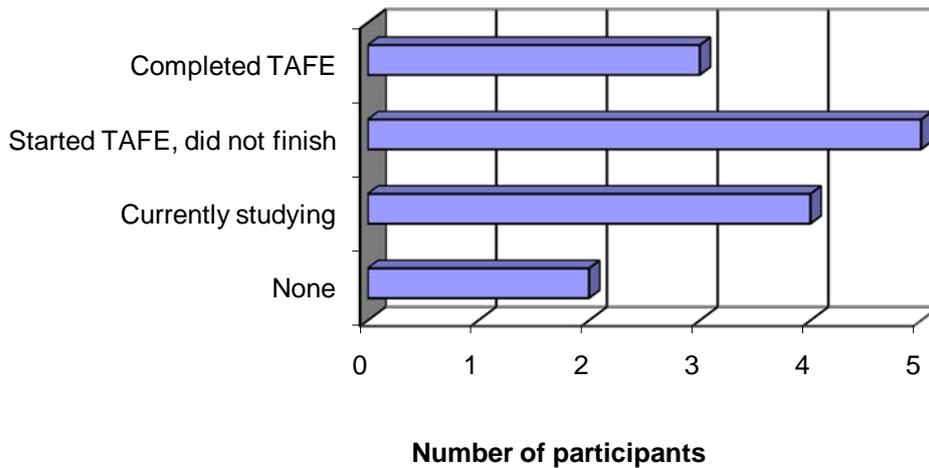


Figure 26 Any post-secondary education (N=14)



Having very young children made it difficult to be in paid work. While none of the young women were in paid work, most had plans to obtain such work in the near future. They were well aware that without qualifications their prospects of gaining well-paid work and being able to afford housing of their choice, especially in the private rental market, were severely limited. Julie, who had an 8-month-old baby, lamented her future prospects:

I won't have a job because no one hires single mums...I'm not qualified in anything, I actually can't find a high enough paid job.

And Melissa, mother to a 21-month-old, explained the difficulty of her situation:

Maybe if I got more money and then like I started working except that I can't really do that because I really want to go back to TAFE and then I still don't even know if I can do that because I don't think I can afford child care so, but it would be easy to get a private rental property if I was earning, like I had a bigger income probably.

While Elizabeth, who had a five-year-old, simply said:

I need a job; I need it bad...I'm so desperate.

Source of income

The most common source of income for this group of young women was the Parenting Payment (and one young woman received the Disability Support Pension because she did not have her two children's birth certificates). For the majority of young women (n=11), this was their *only* source of income. Child support was received by only two of the young women, while a third received payments from the Traffic Accident Commission.

In three cases, the young women received the Baby Bonus. The Baby Bonus amounts to \$5,294 and is paid in instalments every fortnight over a period of 6.5 months. It is not defined as income support.

Table 8 shows the basic weekly rate that can be expected if receiving the Parenting Payment. The Family Tax Benefit Part A provides a maximum amount of \$80.15 per week, an additional payment received for each child. It is usually combined as part of the Parenting Payment. Extra assistance is provided through the Family Tax Benefit Part B to families with a dependent child aged under 16.

It can be assumed, therefore, that at a minimum, most of the young women in this group received \$448 per week if they had one child, and \$528 if they had two.

Table 8 Weekly income support

| | 1 child | 2 children |
|---|-----------------|-----------------|
| Parenting Payment (basic rate) | \$300.65 | \$300.65 |
| Family Tax Benefit Part A (max per child) | \$ 80.15 | \$160.30 |
| Family Tax Benefit Part B (max payment) | \$68.00 | \$68.00 |
| Weekly total | \$448.80 | \$528.95 |

Source: *A guide to Australian Government payments, 1 July – 9 September 2010.*

Housing affordability, security and suitability

Affordability

The benchmark for housing affordability is generally defined as rent that does not exceed 30% of low-income households; that is, households in receipt of Centrelink payments (DHS 2010a).

Table 9 shows that the median rent for private rental housing in Melbourne for the 2010 March quarter was \$340 per week; in regional Victoria it was \$230. However, only 21.3% of all new rental listings in Victoria, at the March quarter 2010, were defined as affordable for low-income households. Only 9% of affordable rentals were located in the Melbourne metropolitan area. Further, only 3% of two-bedroom dwellings across Melbourne were affordable (\$200 weekly rent) for a single parent with one child (DHS 2010a).

It was no surprise then that affordability had been the major obstacle to obtaining and maintaining housing in the past for the young women in our study. Three had experienced eviction and several others had left housing due to lack of adequate income to pay the rent.

Surviving on the Parenting Payment and Family Tax benefit alone, these young women struggled to enter the private rental market. Most had made numerous unsuccessful applications for private rental properties that they could barely afford. Because so few affordable options were available, they had no option but to apply regardless.

Table 9 Status of private rental housing, March 2010

| | |
|---|----------|
| Median weekly rent across Melbourne | \$340.00 |
| Median weekly rent in regional Victoria | \$230.00 |
| Affordable weekly rent for 2 bedrooms Melbourne | \$200.00 |
| Vacancy rate | 1.6% |

Source: *DHS Rental Report March quarter 2010*.

Even if they could afford to pay private rental, with a current rental vacancy rate of 1.6%, they cannot compete with other renters for the small number of suitable and available properties. Kate summarised the situation in the following way:

If there's 10 or 15 people applying for a house, why are they going to pick a single mum who is going to be on a sole parent pension...I've applied for many houses and I've never heard, ever.

However, there were two young women in this group who were in private rental. How did they manage it? For one young woman the weekly rent was unknown; the second young woman paid \$220 per week. While this is \$120 cheaper than the median rent, it still cost 48% of the young woman's income to rent this property. This young woman said she was at her financial limit; the

other private renter could only afford her rent because she was receiving Baby Bonus instalments which would soon end.

Although most of the women in our study described their current rent as manageable, this was probably due to the fact that all but the two women in private rental were living in public, transitional or community housing where they were paying a maximum of 25% of their income on rent. Young women in these three housing types acknowledged the relatively low cost of their rent when compared to the market costs. However, for some, meeting rent payments could still be difficult, especially when relying on only one source of income (Parenting Payment). Rent tended to be paid first, with the balance left to cover utilities and day-to-day necessities. Even in public housing some young women struggled financially, saying there was insufficient money for basic needs after the rent was paid. Kim, mother to a three-year-old, had an increase in rent for her transitional housing, which resulted in things getting harder:

I was finding it harder before, but now it's just, I've got my rent, I've got food shopping, electricity, gas, petrol – I can't survive on the little I get from Centrelink. I don't receive child support. I have no other source of income, and it's just getting harder and harder...I pretty much get food for [son], because I'd rather him eat than me...so I'm not eating as much or as well as I should be.

Indeed, Table 10 shows that once the cost of housing was deducted, which was calculated at 25% of weekly income for those in public or transitional housing, the weekly balance would be \$285 (1 child) or \$345 (2 children). That works out to just \$41 per day with an extra \$8 for a second child.

Table 10 Estimated income and expenses

| | 1 child | 2 children |
|---|----------------|----------------|
| Weekly income | \$380.00 | \$460.00 |
| <i>less</i> estimated rent at 25% | – \$95.00 | – \$115.00 |
| Estimated balance for essentials (food, utilities, etc) | \$285.00 | \$345.00 |
| Remaining amount available per day | \$41.00 | \$49.00 |

Most participants hoped to rent privately in the future but regarded finding an affordable property as unlikely unless they were able to find employment.

Security

Experience of security

The young women in our study had rarely experienced secure housing since leaving home in their mid-teens, as detailed in the previous section. Most had experienced homelessness — the extreme of housing insecurity. While only one young woman spent an extended period of time living on the street, several had ‘couch surfed’ among friends and family, and all but one had turned to the homelessness service sector for accommodation assistance. For many this had meant short refuge stays and/or more extended periods in transitional accommodation.

Importance of security

Secure accommodation was extremely important to the young women in the study; without it they struggled to establish or maintain basic connection to family, community, education, employment and consistent healthcare. Unsurprisingly, they told us that they experienced less stress once they were stably accommodated. The daily concern about where they would be housed in the future was removed, thereby eliminating the worry that they might be evicted and left with nowhere for themselves and their children to go.

Three of the young women who were in public or community housing reported that the security provided peace of mind; it was a relief, life was less stressful and they could finally make plans for the future. One had started work on her backyard and had a vegetable garden for her children. The other young woman was looking for paid work and was planning to study social work. Two other young women who had recently acquired public housing liked having security of tenure, but due to the unsuitability of the housing were unsure whether they would stay.

One young woman highlighted the importance of secure accommodation for her self-confidence and self-esteem as a parent. When she was unable to provide a secure home she felt like she’d ‘stuffed up’ as a parent. All the participants stressed how important it was for them to provide a secure, safe home for their children where they could thrive.

According to their mothers, housing security reduced the children’s stress, enabling them to feel like they had a home and allowing them to engage in education. One young woman in secure community housing said it had enabled her children to attend childcare and participate in recreational activities such as dancing classes and she had been able to join a netball team and a mothers group.

Most said that ideally they would like the security of owning their own house, but when asked where they would like to live in the future, many said in affordable private rental. Though public

housing was seen to offer secure tenure, fear of being breached and evicted made some *feel* less secure in this form of housing.

For the young women in transitional accommodation who were yet to secure more long-term housing, the situation was far less certain and their engagement with community weaker. While transitional accommodation was unpredictable it was also usually flexible. Kate, for example, knew that she and her son could stay in their transitional housing as long as she continued to look for other accommodation:

If I don't have anywhere to live and as long as I make the appropriate steps to try and find somewhere to live, then they [agency] will support me.

Not knowing where they would eventually settle meant that young women found it difficult to make any sort of plans for themselves and their children. It was especially difficult, for example, to plan where children would go to school. Young women who had previously been accommodated in transitional housing echoed these concerns.

In one case, a young woman who was pregnant was unable to plan in which hospital she would have her baby because she did not know where she would be in a few months' time. Another spoke of being unable to enrol her child in childcare.

Future prospects of security

Only those with security of tenure (public housing [n=5] and community housing [n=1]) were afforded the possibility of stability. However, of the six with secure tenure, only two, both in public housing, saw their current housing as long term. For two public housing tenants, security was threatened by feeling unsafe due to problems with neighbours. One of these young women, who had just moved in, was also struggling with her mental health in an area far from her support agency and family. A third public housing tenant, resident for less than three months, had already been breached due to behaviour associated with anger management issues exacerbated by unsuitable housing. Even the young woman in community housing considered the option as short term as she felt overcrowded (two children in a two-bedroom unit) and thought she would need to move back into private rental where she could get a three-bedroom property. Clearly, the security of long-term tenure did not always equate with tenants wanting to stay in their current housing. Security of tenure is just one aspect facilitating stability.

Courtney, one of three young women in transitional accommodation who were on the waiting list for public housing, was concerned that housing would be provided in an area that would throw her life back into chaos and substance abuse:

Like I know every area has their good and bad but there's some areas that are just like completely off the rails. And especially now that I've got [my daughter] I don't want her around stuff like that. Because I think that was partly my problem too. I wouldn't have gotten in with a bad crowd if I hadn't have been living in where I was living, if I hadn't have grown up around them...[I'm] really worried about being put in Broadie Bronx, if they do, I'll put in for a transfer ASAP.

The remaining tenants in transitional housing were hoping to move into private rental which, even if they did manage to obtain it, was unlikely to be financially tenable in the long-term.

The two young women privately renting were also in tenuous positions. For one, whose rent would cease to be affordable once her baby bonus payments finished, and whose lease was close to expiration, obtaining further private rental seemed unlikely. The other young woman had just got settled but due to the poor condition of the house would probably have to move within the next couple of months.

Suitability of current housing

Along with affordability and tenure that offered the opportunity for security, the following aspects of housing were identified as being most important:

- Proximity to social connections
- Proximity to public transport and shops
- Indoor and outdoor space for children to play
- Location in a safe, quiet neighbourhood
- Effective heating
- Good dwelling condition and prompt maintenance.

'Housing hardware': The physical qualities of housing

Most young women reported that their current housing was in good repair overall, although four of these noted at least one negative aspect to their housing and several noted long waits for maintenance. The exceptions were two tenants in transitional accommodation, one in public housing and one private rental tenant, who each described housing in poor repair. They detailed a number of problems including gaps between the walls and the floor, leaking shower bases, holes in walls, rotting carpets and jammed doors. One young woman in transitional accommodation said the house was full of holes in the walls, the place was cold and did not have a safety switch. This

young woman was concerned that the poor state of the house could set off an electrical spark and cause a fire. Three young women noted that the door handles were low enough for their children to open giving them access to the street which was a major safety concern.

Heating problems, including ineffective or faulty heaters or no working heating at all, plagued around half of the participants in the study.

My son came up to me one afternoon and he's like, you know, "mummy my socks are wet"...And I went and had a look and there was big patch of the carpet and it was absolutely soaked...it was something from the roof and there was just water just coming down...I had a look on the side of the wall and the wall is actually dis-attaching itself from the floor so I can see underneath my house, which is absolutely shocking. (Stephanie, private rental)

Space

Lack of adequate indoor and/or outdoor space was an issue for around one-third of the young women. A few public tenants complained that there was no storage space for anything other than their clothing. For one public tenant, the unit was so cramped and confining that she felt she could not bear to stay. However, lack of adequate safe outdoor play space was the most common problem. Several children had nowhere to play other than busy driveways and some had no nearby parkland. While overcrowding had been an issue in the past for at least three of the participants, only one mentioned a shortage of bedrooms as a current issue.

Place

Neighbourhood

Almost all of those interviewed had easy access to public transport, shops and medical services. Two women drove back to their old neighbourhoods to receive care from GPs with whom they had established good relationships.

Most of the young women felt safe in their current accommodation. Their houses were lockable; they had good, or at least not bad, relationships with neighbours and adequate privacy. However, this wasn't the case for some of the public housing tenants who reported having no breathing space away from their neighbours, and feeling unsafe due to neighbours fighting amongst themselves or threatening them directly.

Despite most young women feeling safe with their close neighbours, four mentioned current or past concerns about negative qualities of their neighbourhood, including high crime rates, drug use and concentrations of people with multiple issues living too closely together.

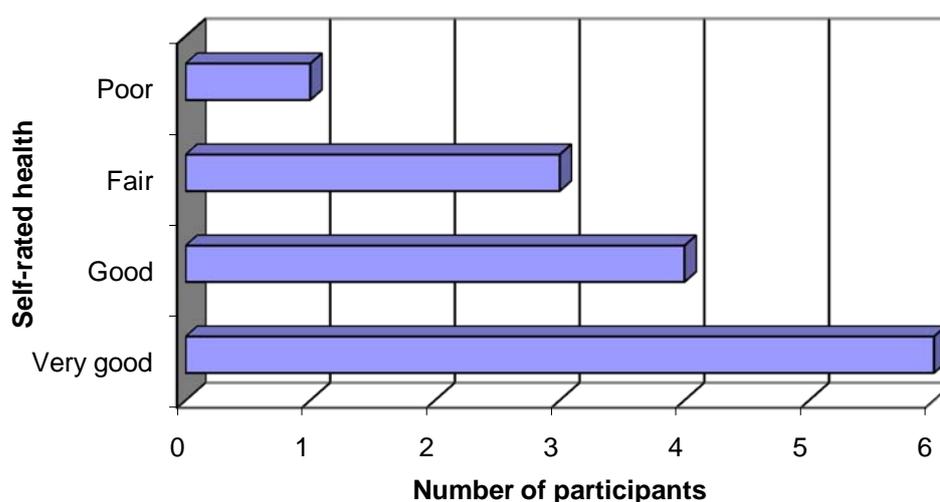
Social connections

A major concern, in the past and in the present, was being located away from people, support services and areas that they knew. While only four young families were currently located in areas where they lacked social connections, several others had been in that situation in the past, most notably when staying in transitional accommodation. Two of the families currently living in new areas without close proximity to family, friends or support services were finding it extremely difficult. Their tenancies were at risk both through the possibility of eviction due to behaviours related to stress (for example, anger management issues) and their inability to cope without social support.

Young women's health

As shown in Figure 27, over the four-week period preceding the interview, most of the young women (n=10) rated their health as good or very good; three rated it as fair and one as poor.

Figure 27 General health status (N=14)



Despite being in the prime of life and rating their health positively, physical and mental health presented difficulties for these young women. Overall, for example, nearly all (n=13) reported that visiting family or friends had been curtailed to some degree during the past four weeks because of their physical or mental health problems.

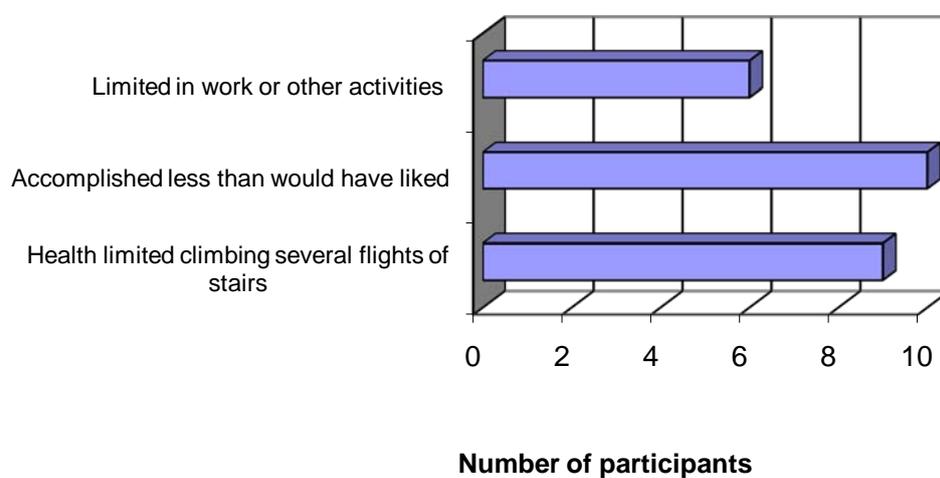
Physical health

Additionally, Figure 28 shows that a majority said that in the last four weeks they had been limited when climbing several flights of stairs because of their physical health (n=9) and that they had accomplished less than they would have liked because of their physical health (n=10). Six young women said that their physical health had limited, to some extent, the kind of work or other activities they had done in the past four weeks.

In fact, during this time, most of the young women (n=8) indicated that pain had interfered, to some degree, with their normal work. This included work outside the home and housework.

Four young women reported that their physical health problems were ongoing, although none said they had a disability. One young woman was dealing with severe back and knee problems following a recent car accident. She also suffered from endometriosis. A second young woman experienced severe back pain related to a pregnancy. A third was in constant pain following surgery she had in 2007, while a fourth woman was starting to experience the effects of being a smoker.

Figure 28 Impact of physical health in last 4 weeks (N=14)

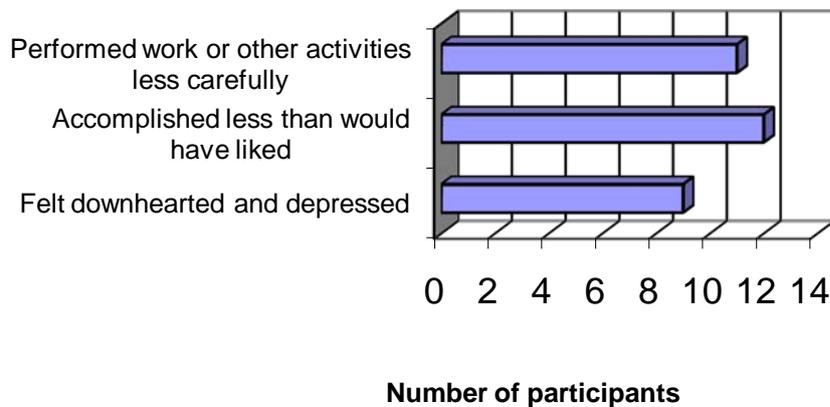


Mental health

Five young women had been diagnosed with a mental health illness; three of these also had ongoing physical health problems. The most common diagnosis was depression, and diagnosis had typically occurred in the early teenage years. One was also diagnosed with an anxiety disorder when she was just 12 years old.

While only five young women had been diagnosed with a mental health illness, Figure 29 shows that in the four weeks prior to the interview, *nearly all* had been affected by mental health issues. For example, 12 had accomplished less than they would have liked in that time and 11 reported that they had performed work or other activities less carefully due to their mental health. Additionally, the majority (n=9) had felt downhearted and depressed at some time during the last four weeks; seven had felt this way at least *most* or *all* the time.

Figure 29 Impact of mental health in last 4 weeks (N=14)



The following section reports on the association between the health of the young women in this study and their housing circumstances.

The effect of housing on health: young women

For young women, the key aspects of health and wellbeing associated with housing were stress, depression and anxiety.

Stress

Lack of affordability

Most of the participants had experienced stress when trying to get access to housing that was affordable (let alone suitable). If they did gain access to private rental, predominantly their housing tenure of choice, they commonly experienced stress in relation to maintaining that housing due to the high proportion of their income they were paying in rent.

While many of the young women struggled to get by on low incomes, three stated directly that the stress associated with meeting their current rental payments impacted on their health.

Crystal, a mother to a three-year-old, noted the stressful nature of financial hardship:

Very difficult...I don't get much. I'm only on the single parent pension...my health goes down because I'm very stressed and everything else. But if my bills aren't paid I'm not happy...it's just a round robin...you're not happy if your bills aren't paid but...if you pay your bills you don't have money. It's ridiculous.

Insecurity

Many of the young women were without secure housing or were homeless during their pregnancies. Indeed pregnancy directly affected the housing situations of some. For four young women, having a baby led to being without a home; two due to overcrowding and one due to job loss and subsequent eviction. A fourth was asked to leave her emergency accommodation. Three obtained housing just weeks before their babies were born; one baby was born the day his mother moved into public housing.

For Lisa, being without secure accommodation in the last stages of pregnancy caused enormous stress:

I was pregnant. I was actually in a refuge...It was very stressful...I was eight months pregnant, and I hadn't found a house yet...I had three weeks before I had to get DHS involved because I didn't have a house. If DHS get involved they take your kid...So I was really terrified then. Finally, I got my transitional property, but very stressful process. I was ripping out my hair when I was pregnant, I was stressing as hell. I was being kicked out in the morning at 36 weeks...on 39 degree day heat so I could try and get housing...my mum had to take my daughter, because DHS was going to get involved.

With young children in tow, things just got harder, options narrowed and several turned to services for assistance with accommodation. As Melissa explained:

I was living with a friend and they moved away and I didn't have anywhere to live... It was easier when I didn't have my daughter to get someone to take me in. I couldn't really live with a friend. There's no room with a baby as well because she needs her own bedroom...

Short-term housing, including transitional accommodation, provided shelter, thus alleviating some of the stress of homelessness, but for several young women the uncertainty associated with short-term leases and the difficulty of finding long-term housing caused a level of ongoing stress.

Frequent moves led to additional financial strain through associated costs such as storage, removals charges, bonds and the cost of purchasing new white goods and furniture, thus causing added stress.

Unsuitability

Young women also experienced stress associated with poor quality and slow maintenance of 'housing hardware', lack of indoor and outdoor space, neighbourhood safety, and isolation due to distance from family, friends and familiar locations. One young woman reported that the stress associated with a confrontation with her landlord over making her new private rental property habitable precipitated premature labour.

I came to the house just after they'd fixed all the electricity and because they had to put holes in every single wall in the house, there was plaster everywhere...I was seven months pregnant...And he sort of insinuated because I was young I should clean the property. And I sort of turned around to him and I go "no, this isn't my responsibility"...And he started yelling at me...he made me really nervous, like really uncomfortable to the point that I was even screaming back at him...I went into premature labour two days later...and the midwives go "more than anything we do believe that it's because of stress"...Plus the fact that I was looking for housing for so long and I was so stressed about the housing. (Stephanie)

Depression and anxiety

For several young women, stress escalated into anxiety and depression. While the clinical diagnoses of anxiety disorder (n=1) and/or depression (n=5) generally pre-dated their leaving the family home, almost half of the young women affected stated that housing problems, including homelessness, had exacerbated the condition/s or led to relapses. Although only two participants, both new public housing tenants, said in their interviews that they were currently struggling to maintain their mental health due to housing issues, as reported earlier the results of the health questionnaire indicated that nearly all had been affected by mental health issues in the past four weeks. Insecurity and unsuitability were the housing aspects most often associated with worsening mental health.

Insecurity

The insecurity associated with short-term or no tenure was a contributing factor. As one young woman in transitional accommodation observed:

I think my depression would come under control a lot if we were somewhere secure...I think mentally and physically, emotionally, everything would change if we got what we wanted...because it's permanent, it's stability. (Kim)

Another said:

I'm a really patient person and I just reach the end of my tether and go I can't take it anymore and then I just collapse. That will take me years to do, but housing issues that usually tends to get me. That just makes me break because...you don't know what is going to happen from there. (Julie)

Unsuitability

Overcrowding when sharing with family and friends, and being moved to areas where they were isolated from support were the two situations related to unsuitability that had most often caused deterioration of mental health.

One young woman said overcrowding and the substance abuse of housemates and neighbours had contributed to her daily drinking and poor mental health in the past. Now she attributes having a

place of her own away from that neighbourhood as contributing to her abstinence and improved wellbeing.

I ended up going completely off the rails to the point where the CAT team came out and picked me up...I think it was mainly part of it being like the area I was in. It was full of either drunks or druggies and just the people I was living with...We just weren't getting along because everybody wanted their own space but because of how small the house was nobody got their own space. Was desperate to get out but had nowhere to go. Really angry and anxious. (Courtney)

Being relocated far from family, friends, support services and/or communities were key contributors to deteriorating mental health. This situation was most likely to occur in public housing and transitional accommodation.

One young woman who had been in transitional accommodation said she was so depressed she couldn't even set up the house.

The effect of housing on health: children

Most children were reported to be in good health but their wellbeing was affected by housing insecurity and unsuitability. Although poor physical health related to housing was rare, many children were at risk, either due to lack of heating or due to lack of a safe playing space.

Wellbeing

Insecurity

While a couple of young women said that their children were too young to be affected by housing insecurity, others reported that constant moving unsettled children, made establishing routines difficult and in some cases affected children's wellbeing and behaviour. For example, one child's appetite has been poor for the past two years; his mother hopes it will improve now that they are settled in permanent housing.

For another young woman, the multiple moves from couch to couch meant her son's behaviour had deteriorated until recently when they moved to a transitional property where they were relatively more secure. She was amazed at the change in her son and said he was 'a completely different kid', describing him as calm and more relaxed.

Most parents noted that in their current housing children were now in routines and were generally happier. One young woman reported that housing security had improved her relationship with her school-aged daughter.

For two families, the level of housing insecurity in the past resulted in young children living with other relatives, one temporarily and one longer-term, in the first case causing re-adjustment problems when the 2½-year-old rejoined his mother.

Unsuitability

Several young women reported that their children were suffering, or had suffered in the past, from lack of adequate indoor and/or outdoor play space. A few of those without adequate fenced space to play played in unsafe areas such as driveways. One woman reported her son hated the housing as much as she did:

He doesn't like the house, he doesn't like it either. He says "I hate this house, it's shit, it's crap, I'm going to put a bomb in it, I'm going to do this and I'm going to do that" and like whatever...I feel exactly the same way he feels. (Elizabeth)

Those children who had recently been provided with adequate play space were reported to be happier than they had been previously.

Relocation to public housing in a neighbourhood far from his father was causing distress to one three-year-old boy whose father now saw him much less frequently.

Children were also impacted indirectly by their mothers' poor mental health. Lack of space and distance from family and community caused deteriorating mental health and wellbeing respectively for two young women that impacted on their children.

Three weeks after I moved here my health went downhill, my anger went really high. I was taking everything out on my son. (Crystal)

Because it's so small and it frustrates me, I'm frustrated as soon as I get back. The place is ruining my and my child's relationship. We're constantly arguing because of, we're in each other's faces all the time. (Elizabeth)

Physical health

While the children were in good physical health overall, the quality of their housing had affected children's physical health in a couple of cases and was cause for concern for in others. Lack of heating was the main problem for two children in particular.

In one case, a child got scabies from mice in the house and regularly got sick because the heater was broken. The transitional house had holes everywhere and possums in the ceiling. The family had lived with these conditions for three years; despite the case going to VCAT, these issues were never addressed.

In another, a broken heater was the mother's greatest concern because her child had a heart condition and she feared that he would catch pneumonia or bronchitis. She, also, had tried and failed to get the matter addressed.

One young woman, who had bought portable heaters to keep her premature baby and 2½-year-old warm, provided an example of how housing hardware could contribute to affordability issues.

My electricity is going to be through the roof, I know it already because I've got them on all day, every day because with this weather it's just not worth them getting sick. It's going to end up costing me more if they get sick. (Stephanie)

Another family had moved into a transitional concrete dwelling where the presence of mould exacerbated her son's asthma.

The effect of health on housing

Only three young women thought that their *health* had affected their *housing* at any time. For one young woman, prior to motherhood, the cost of alcohol made affording rent impossible; for two others depression had rendered them incapable of searching for ongoing accommodation in the past. As Julie said, "Maybe I haven't been willing to try [look for housing] lately as much because I've been kind of crushed".

Summary

Housing and health go hand in hand basically. You don't have stable housing or you're homeless or whatever, you go down...You got a decent house more than likely your health will pick up and if you can get help with getting a job and stuff like that, you'll be happy. But you got no house, you fall back down. So I think they go hand in hand. (Crystal)

Housing and health

Young women's housing circumstances had direct and indirect negative health and social and consequences for themselves and their families. They reported multiple, interconnected ways that the three aspects of precarious housing – unaffordable housing, insecure housing tenure, and unsuitable housing – had impacted on their housing and health circumstances and pathways.

For example, when rent became unaffordable young women typically moved on to insecure or unstable accommodation which was often unsuitable, poor-quality housing. Their precarious housing pathway resulted in feelings of insecurity, and this instability had negative effects on their health and wellbeing, especially their mental health. Equally, living in unsuitable housing that felt unsafe or overcrowded often resulted in young women moving on into housing with insecure tenure. Typically this left them feeling stressed, if not depressed and anxious. Young women

consistently reported that the sense of insecurity and instability created by living in emergency and transitional housing impacted on their health and wellbeing, particularly their mental health.

Most of the young women in the study had struggled or were struggling to find suitable, good-quality housing. No matter what their housing circumstances they often battled with landlords and housing providers to get much-needed maintenance carried out on their accommodation. This impacted on their capacity to provide basic care for their children; to keep them warm and safe.

Location of housing was also important. Most wanted to be located in areas close to family and friends, and to have adequate space for their children to play. Conversely, a few wanted to live away from family and friends, preferring to establish a new life for themselves and their children independent of their past relationships. All valued locations that were close to public transport, shops, employment and training options and services such as doctors. When housed in unsuitable locations young women felt isolated and depressed.

In addition to direct health and wellbeing effects on both mothers and children, lack of affordable housing, insecure housing tenure and unsuitable housing also had a negative effect on parenting capacity, making them more irritable and less positively engaged with their children. This had a flow-on effect to their children's sense of wellbeing.

Precarious housing also affected these young women's capacity to engage in the community, particularly their capacity to engage in education, employment and training. This too created stress and a sense of being trapped in a vicious cycle of poverty, rendering them powerless to achieve stable housing, a sustainable income and meaningful social connections for themselves and their children.

Unsurprisingly, precarious housing had a greater effect on the health and wellbeing of those young women in the study who had a predisposition to poor mental health. In particular, having to move far from the support of family, friends and support agencies exacerbated or triggered depression for those with a previous history.

Housing choices

Like other young, single people experiencing homelessness or precarious housing, the young women in this study aspired to home ownership in the long term but mostly preferred to rent in the private rental market in the short to medium term. Most reported that private rental potentially offered maximum flexibility in relation to their housing. While private rental was their preferred form of tenure, most experienced the private rental market as inaccessible or unaffordable due to the lack of suitable, affordable stock and the intense competition for this housing. Many reported

experiencing stigma and discrimination when attempting to access the private rental market. They attributed this to them being young, women, single parents and unemployed.

With few exceptions, public housing was perceived as restricting housing choice and autonomy. However, it was certainly regarded as preferable to short- and medium-term tenure in emergency accommodation. Transitional housing was also problematic for this population. While acknowledged as a welcome stop-gap solution to primary homelessness, young women reported that they often felt insecure, stressed and anxious in these settings; their lives put on hold while they waited for longer-term housing options. If housed away from their social networks they also reported that they felt dislocated from family and friends.

Discussion

This project addressed two key research questions: Does poor health lead to precarious housing and does precarious housing (including affordability, suitability and security of tenure) affect people's health? As part of this investigation, we also identified who was most likely to be in precarious housing. Unlike other studies in the field we examined the relationship between precarious housing and mental health *as well as* physical health. Further, we did not confine our analysis of who is in precarious housing to a *single dimension* of precariousness such as affordability stress or insecure tenure. We instead identified precariousness across a range of dimensions, including unaffordability, insecurity of tenure and unsuitability.

Some clear findings were elicited in this three-part study about the relationship or interaction between housing and health.

1. Poor housing and poor health cluster. People in precarious housing had, on average, worse health than people who were not precariously housed. Significantly, this relationship existed regardless of people's income, employment status, education, occupation and other demographic factors. In other words, the relationship between housing and health cannot simply be explained by, or attributed to, other characteristics of people's lives, including their income.

2. The worse people's housing, the worse their health. That is, the more elements of precarious housing people experienced simultaneously, the more likely they were to be in poor health. While, strictly speaking, we cannot infer causality from this quantitative analysis, it suggests that precarious housing at the very least compounds, if not leads to, poor health. However, the lone young mothers interviewed in the qualitative component of the study were less equivocal about the relationship between precarious housing and health. They identified a clear causal relationship between precarious housing and their health, particularly their mental health. Precarious housing made them stressed which in turn led to anxiety and depression, variously impeding their capacity to parent, and participate in employment, education, training and the broader community.

3. The relationship between health and precarious housing is graded. For example, as mental health worsened, the likelihood of living in precarious housing increased. Alternatively, as housing became more precarious, mental health worsened. While the findings were less conclusive for physical health, it was still the case that as physical health worsened the likelihood of living in precarious housing increased.

4. It is likely that poor health leads to precarious housing. When we considered people's likelihood of living in precarious housing in relation to their health status over the three preceding years, those with the worst mental or physical health were the most likely to be in precarious housing. They were the most likely to be in unaffordable housing, most likely to live in poor-condition dwellings and most likely to have experienced a forced move.

5. No one measured component of precarious housing was clearly more important, or had a greater effect, on mental health than another. The relative importance of each of the individual measures of precarious housing available in HILDA (affordability stress, dwelling condition, private rental, forced moves), was similar for mental health. All forms of precarious housing, except overcrowding, were associated with worse mental health. The same was true for physical health. It should also be noted that government rental was also strongly associated with physical health that seemed far greater than the relationships observed for our measures of precarious housing.

6. Particular groups were more susceptible to precarious housing. For example, single people and lone parents (mostly female-headed households) were more vulnerable to precarious housing than other household types. Age was also an important determinant of precarious housing. Young people were more likely to be in precarious housing than other age cohorts – more likely to be in unaffordable housing, private rental, overcrowded households and to have experienced a forced move recently. And at the other end of the age spectrum, half of older private renters were living in unaffordable housing. We can infer that these and other groups including NESB, Aboriginal and Torres Strait Islander people and the unemployed are more likely to experience the poor health consequences of precarious housing.

7. As lone parents, young people (primarily young women) and their children were particularly vulnerable to precarious housing. They reported ongoing health and wellbeing, economic and social effects of precarious housing on themselves and their children. Lone young women indicated that children provide a powerful motivating force for them to build a sustainable, healthy life for themselves and their families. Young women in the study emphasised that suitable, secure and affordable housing is key to this and yet the majority were trapped in a cycle of precarious housing and poverty compounded by low income, limited employment capacities and options, incomplete secondary education, childcare responsibilities, limited social support and inadequate supply of affordable and accessible social and private rental housing stock.

8. Location is a vital component of the housing and health relationship for lone single mothers.

Interviews with lone young mothers underlined that proximity to family and friends, known services, public transport and being located in a safe and secure setting outweighed affordability, size and quality of dwelling in their aspirations and decisions about housing for themselves and their families.

9. Precariousness is a useful concept for understanding housing crisis or vulnerability. This study has highlighted the importance of a multi-dimensional concept of precarious housing that takes account of affordability, security of tenure and suitability of dwelling. The finding that each measure was significantly related to health underlines the importance of research and policy that considers more than one dimension of precarious housing.

Conclusion

Evidence from this study underlines what many claim to know intuitively – i.e. that there is a fundamental bi-directional relationship between precarious housing and health. In short, precarious housing can lead to poor health and poor health can lead to precarious housing. Importantly, we can also say that these fundamental relationships exist once demographic and socio-economic factors have been, to a large extent, accounted for.

What then are the implications of such findings?

Given the fundamental connection between housing and health it is clear that we cannot selectively acknowledge or overlook this relationship in housing and health policies and programs. Housing is health's business, health is housing's business. As such, a radical rethink of housing and health policy and programs in Australia is required, especially for disadvantaged populations, including those in government rental.

It is not simply that good housing and good health go together. For people to achieve sustainable housing they need support for their health. Equally, to maintain good health people need to be in affordable, adequate, secure dwellings. This is especially the case for people with the poorest health and/or living in the worst housing. Clearly then to maximise good health and housing outcomes for these groups, and minimise the cost burden, integrated housing and health services are required and not just at the point of crisis.

The interaction is most plainly evident for mental health. As this study demonstrates, precarious housing leads to poor mental health (particularly for affordability, dwelling condition and tenure type) suggesting there is a cost burden of poor housing on health care that is currently not fully acknowledged in either housing or mental health policy. This not only leads to a cost burden for the health system, but also has important cost and social implications for other areas of government service provision (income support, employment, education, training). The costs of ignoring this relationship are not just economic or social. There are also significant costs to the health and wellbeing of individuals and families. For example, when families with multiple health issues are supported to find housing in the private sector we must ensure that they will be provided with ongoing health care to support their health but also, importantly, to support their tenancy.

Clearly affordability and security of tenure are important measures of precarious housing; however, the significance of location – including proximity to services, connections to family and friends, a safe and secure setting – should not be overlooked or underestimated. As the qualitative findings

underline, people will choose location over security of tenure and affordability to ensure that they and their children maintain their connections to significant people, the community and to transport and work. When dislocated from these connections they report a negative impact on their health and wellbeing and their capacity to engage and participate in work and education.

Where to from here with the research?

In this piece of research we have looked at two broad health outcomes – self-reported mental and physical health. We have not examined how health behaviours including drug and alcohol use interact with mental and physical health or how mental and physical health interact with each other. In order to design good policy and interventions around housing and health we need to spend more time understanding these complex relationships.

Also, we have focused here on the housing and health relationship. But clearly this is only part of the story. We need to further understand the links between housing, health and other key domains such as employment, income and education. This will enable more sophisticated and nuanced policy and programmatic responses.

References

- Acevedo-Garcia, D, Osypuk, T, Werbel, R, Meara, E, Cutler, D & Berkman, L (2004). Does Housing Mobility Policy Improve Health? *Housing Policy Debate*, 15, 1, 49–98.
- Australian Bureau of Statistics (2008). *Counting the homeless Australia 2006, Australian Census Analytic Program*. Cat. No. 2050.0. Canberra, Australian Bureau of Statistics.
- Australian Bureau of Statistics (2006). *General Social Survey: User Guide*. Cat. No. 4159.0. Canberra, Australian Bureau of Statistics.
- Australian Bureau of Statistics (2006). *Measures of Australia's Progress*. Cat. No. 1370.0. Canberra, Australian Bureau of Statistics.
- Australian Bureau of Statistics (2004). *Measures of Australia's Progress*. Cat. No. 1370.0. Canberra, Australian Bureau of Statistics.
- Australian Institute of Health and Welfare (AIHW) (2010). Public rental housing 2008–09. Canberra: AIHW. www.aihw.gov.au/housing/assistance
- Baker, E, Beer, A & Paris, C (2006). *The Development of a Methodology that Provides Indices to Measure and Monitor Housing Need at Various Spatial Scales*. AHURI Southern Research Centre, August.
- Bentley, R, Baker, E, Mason, K, Subramanian SV, Kavanagh A (2011 in press). Association Between Housing Affordability and Mental Health: A Longitudinal Analysis of a Nationally Representative Household Survey in Australia, *American Journal of Epidemiology*.
- Bonnefoy, X (2007). Inadequate housing and health: an overview. *International Journal of Environment and Pollution*, Vol. 30, Nos. 3/4, pp. 411–29.
- Bonnefoy, X, Braubach, M, Krapavickaite, D, Ormandy, D & Zurlyte, I (2003). Housing conditions and self-reported health status: A study in panel block buildings in three cities of Eastern Europe. *Journal of Housing and the Built Environment*, 18, 329–52.
- Bornehag, CG, Blomquist, G, Gyntelberg, F, Jarvholm, B, Malmberg, P, Nordvall L et al. (2001). Dampness in Buildings and Health. *Indoor Air*, 11(2), 72.
- Breeze E, Sloggett A & Fletcher A. (1999). Socioeconomic and demographic predictors of mortality and institutional residence among middle-aged and older people: results from the Longitudinal Study. *Journal of Epidemiology and Community Health*, 53 (12) , 765–74.
- Cairney, J & Boyle, MH (2004). Home Ownership, Mortgages and Psychological Distress. *Housing Studies*, 19, 2, 161–74.
- Commonwealth of Australia (1991). *The Affordability of Australian Housing*, National Housing Strategy Issues Paper no. 2.
- Department of Education and Early Childhood Development (DEECD) & Department of Planning and Community Development (2008). *The state of Victoria's young people: a report on how Victorian young people aged 12–24 are faring*, Melbourne, Victoria, Australia, www.office-for-children.vic.gov.au/statewide-outcomes

- Department of Human Services (DHS) (2010a). *Rental Report – March Quarter, Office of Housing*, Department of Human Services, Victoria, Australia, www.housing.vic.gov.au
- Department of Human Services (DHS) (2010b). *Special data request to Division of Housing and Community Building*, September, Department of Human Services, Victoria, Australia, www.housing.vic.gov.au
- Department of Justice (2009). *Victorian Family Violence Database Volume 4: Nine Year Trend Analysis, 1999 to 2008*. Victorian Government Department of Justice, Melbourne, Victoria, Australia, www.justice.vic.gov.au
- Evans, GW, Wells, NM & Moch, A (2003). Housing and mental health: A review of the evidence and a methodological and conceptual critique. *Journal of Social Issues*, 59, 3, 475–500.
- Foard G, Karmel, R, Collett, S, Bosworth, E & Hulmes, D (1994). *Public Housing in Australia*. Australian Institute of Health and Welfare Publication, Canberra.
- Ford, J & Burrows, R (1999). The costs of unsustainable home ownership in Britain. *Journal of Social Policy*, 28, pp. 305–30.
- Foundation for Young Australians (2009). *How Young People are Faring 2009: The national report on the learning and work situation of young Australians*. www.fya.org.au/wp-content/uploads/2009/10/FYA_HYPAFReportWEB.pdf
- Gemmell, I (2001). Indoor heating, house conditions, and health. *Journal of Epidemiology and Community Health*, 55(12), 928.
- Gerdtham, M, Johannesson, L & Isacson, D (1999). A note on validating Wagstaff and van Doorslaer's health measure in the analysis of inequality in health. *Journal of Health Economics*, 18, 117–224.
- Government of Australia (1994). *National Action Plan on Human Rights*. Department of Foreign Affairs and Trade, Canberra.
- Government of Australia (1999). *Commonwealth State Housing Agreement*. Commonwealth of Australia, Canberra.
- Hiscock, R, Macintyre, S, Kearns, A, & Ellaway, A (2003). Residence and Residents: Factors Predicting the Health Disadvantage of Social Renters Compared to Owner-Occupiers. *Journal of Social Issues*, 59, 3, pp. 527–46.
- Howden-Chapman, P, Matheson, A, Crane, J, Viggers, H, Cunningham, M, Blakely, T, Cunningham, C, Woodward, A, Saville-Smith, K, O'Dea, D, Kennedy, M, Baker, M, Waipara, N, Chapman, R & Davie, G (2007). Effect of Insulating Existing Houses on Health Inequality: Cluster Randomised Study in the Community, *British Medical Journal*. BMJ, doi:10.1136/bmj.39070.573032.80 (published 26 February 2007).
- Howden-Chapman, P & Wilson, N (2000). Housing and Health. In Howden-Chapman P & Tobias M, *Social inequalities in health: New Zealand 1999*. Wellington: Ministry of Health, pp. 133–46.
- Hulse, K & Saugeres, L (2008). *Housing insecurity and precarious living: an Australian exploration*. AHURI Final Report No. 124. Melbourne: Australian Housing and Urban Research Institute, Swinburne-Monash Research Centre.

- Jacobs, DE (2004). Housing and Health: Challenges and Opportunities. Paper presented to the 2nd WHO Symposium on Housing and Health, Vilnius, Lithuania.
- Jones, A, de Jonge, D & Phillips, R (2008). *The role of home maintenance and modification services in achieving health, community care and housing outcomes in later life. AHURI Final Report No. 123*. Melbourne: Australian Housing and Urban Research Institute, Queensland Research Centre.
- Kearns A, Hiscock R, Ellaway A & Macintyre S (2000). Beyond four walls. The psycho-social benefits of home: evidence from West Scotland. *Housing Studies*, 15: 387–410.
- Kendig, H, Browning, C, Teshuva K et al. (1998). Health actions and social class among older Australians. *Australian and New Zealand Journal of Public Health*, 22, 7: 808–13.
- Keys, D (2007). *Opportunity for Change: Young motherhood and homelessness*. Key Centre for Women's Health in Society, University of Melbourne.
www.kcwh.unimelb.edu.au/_data/assets/pdf_file/0006/59865/BAM_report.pdf
- King, D (1994). *Towards Indicators of Housing Stress*. Australian Government Publishing Service, Canberra.
- Kirkman, M, Keys, D, Turner, A & Bodzak, D (2009). *'Does camping count?': Children's experiences of homelessness*. Melbourne: The Salvation Army.
www.kcwh.unimelb.edu.au/publications/reports
- Macintyre, S, Ellaway, A, Hiscock, R, Kearns, A, Der, G & McKay, L (2003). What features of home and the area might help to explain observed relationships between housing tenure and health? Evidence from the west of Scotland, *Health and Place*, 9, pp. 207–18.
- Macintyre, S, Hiscock, R, Kearns, A & Ellaway, A (2001). Housing Tenure and Health Inequalities: A Three-Dimensional Perspective on People, Homes and Neighbourhoods. In Graham, H, *Understanding Health Inequalities* (Buckingham: Open University Press).
- Mallett, S (2004). Understanding home: a critical review of the literature. *The Sociological Review*, 52: 62–89.
- Mallett, S, Rosenthal, D, Keys, D & Averill, R (2010), *Moving Out, Moving On: Young people's pathways in and through homelessness*. Routledge.
- Moore, T, Noble-Carr, D & McArthur, M (2007). *Finding their way home: Children's experiences of homelessness*. Canberra: The Institute of Child Protection Studies, Australian Catholic University, for the ACT Department of Disability, Housing and Community Services.
- Mee, K (2007). 'I Ain't Been to Heaven Yet? Living Here, This is Heaven to Me': Public Housing and the Making of Home in Inner Newcastle. *Housing, Theory & Society*, 24(3), 207–28.
- Morris, A (2009). Living on the Margins: Comparing Older Private Renters and Older Public Housing Tenants in Sydney, *Housing Studies*, 24(5), September, 693–707.
- National Housing Supply Council (2010). *National Housing Supply Council – 2nd State of Supply Report*. Canberra, Australian Government.
- National Housing Supply Council (2009). *State of Supply Report 2008*. Canberra: Department of Families, Housing, Community Services and Indigenous Affairs.

- Naughton, MP, Henderson, Mirabelli, AMC, Kaiser, R, Wilhelm, JL, Kieszak SM et al. (2002). Heat-related mortality during a 1999 heat wave in Chicago. *American Journal of Preventive Medicine*, 22(4), 221.
- Nettleton, S & Burrows R (1998). Mortgage Debt, insecure home ownership and health: an exploratory analysis. *Sociology of Health and Illness* 20(5): 731–53.
- Office of Housing (2011). *Allocations Policy and Procedure Manual*. Victorian Government Department of Human Services. Melbourne, Victoria, Australia.
- Randolph, B & Holloway, D (2007). *Commonwealth Rent Assistance and the spatial concentration of low income households in metropolitan Australia (AHURI Final Report No. 101)*. Melbourne: Australian Housing and Urban Research Institute.
- Ross, C & Mirowsky, J (1999). Disorder and Decay: The Concept and Measurement of Perceived Neighbourhood. *Urban Affairs Review*, 34, 3, pp. 412–32.
- Shaw, M (2004). Housing and public health. *Annual Review of Public Health*, 25, pp. 397–418.
- Shaw, M, Dorling, D & Brimblecombe, N (1999). Life chances in Britain by housing wealth and for the homeless and vulnerably housed. *Environment and Planning A*, 31, pp. 2239–48.
- Shenassa, ED, Daskalakis, C, Liebhaber, A, Braubach, M & Brown, M (2007). Dampness and Mold in the Home and Depression: An Examination of Mold-Related Illness and Perceived Control of One's Home as Possible Depression Pathways. *American Journal of Public Health*, 97(10), 1893–9.
- Smith, S, Easterlow, D & Munro, M (2004). Housing for health: Does the market work?. *Environment and Planning A*, 36, 4, pp. 579–600.
- Stafford, M, Chandola, T & Marmot, M (2007). Association Between Fear of Crime and Mental Health and Physical Functioning. *American Journal of Public Health*, Vol. 97, Issue 11, pp. 2076–81.
- Taylor, MP, Pevalin, DJ & Todd, J (2007). Psychological costs of unsustainable housing commitments. *Psychological Medicine*, 37: 1027–39.
- United Nations Centre for Human Settlements (UNCHS) (2001). *Position Paper on Housing rights*. <http://ww2.unhabitat.org/programmes/housingrights/documents/housing.PDF>
- Wilkins, R (2010). *Income, Wealth and Consumption Measures in HILDA*. HILDA Survey Workshop. University of Melbourne, Melbourne Institute of Applied Economic and Social Research.
- Windle, GS, Burholt, V & Edwards, RT (2006). Health related difficulties, housing tenure and variations in health status: Evidence from older people in Wales. *Health and Place* 12: 267–78.
- Wood, G & Ong, R (2009). *The dynamics of housing affordability: movements in and out of housing affordability 2001–2006. AHURI Final Report No. 133*. Melbourne: Australian Housing and Urban Research Institute, RMIT Research Centre and the Western Australian Research Centre.

- Wooden, M & Watson, N (2007). The HILDA Survey and its Contribution to Economic and Social Research (So Far). *The Economic Record*, 83(261), 208–231.
- Woodward, M, Shewry, M, Cairns, W, Smith, S & Tunstall-Pedoe H (1992). Social status and coronary heart disease: Results from the Scottish heart health study. *Preventative Medicine* 21 (1): 136–48.
- World Health Organization (WHO) (1946). *Preamble to the Constitution of the World Health Organization*. <http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf>
- Wulff, M, Dharmalingam, A et al. (2009). *Australia's private rental market: changes (2001–2006) in the supply of, and demand for, low rent dwellings*. AHURI Positioning Paper No. 122. Australian Housing and Urban Research Institute, Swinburne-Monash Research Centre & Sydney Research Centre.

Appendix 1

Glossary

Tenure types

Ownership – owner-occupied housing, in which the resident is either paying off a mortgage on the property or owns it outright.

Private rental – housing that is rented through a real estate agent or private landlords. Leases are often offered for 12-month periods that may be renewable.

Social housing – a term used in some sections of this report to collectively describe all forms of supported housing – that is housing provided by government, community or not-for-profit organisations – as distinct from private rental properties or owner-occupied housing. Social housing includes public housing, community housing and transitional housing (see below).

Public Housing – Affordable rental housing that offers shelter and security to people who most need it, especially those who experience homelessness, and is provided by state and territory governments.

Community housing – a type of social housing that offers secure and affordable housing (maximum of 25% of income in rent payments) to people on low to moderate incomes. It is owned or managed by community organisations.

Transitional housing – a form of social housing delivered by community-based housing providers that offers affordable, supported accommodation to four broad client groups: young people (under 25), women and children escaping domestic/family violence, people addressing their alcohol or drug use, and a general client group experiencing homelessness. It generally provides only short (3 months) to medium-term (up to a maximum of 12 months) accommodation. See, for example, www.lmhs.com.au/housing.html.

Affordability

Housing affordability refers to the ability of a household to meet the cost their housing. In this report we use two measures of affordability, or more accurately, unaffordability:

- *Unaffordability/housing affordability stress* is measured at the household level, in terms of the amount of rent or mortgage paid as a proportion of equivalised disposable income, for low income households.
- *Housing stress* is measured as self-reported difficulty in paying rent or mortgage and utilities (electricity, gas, telephone bills) in the past 12 months.

Suitability

Housing suitability refers to how well an individual's housing meets their needs. It can be considered in terms of physical appropriateness, safety, and the access that one's housing provides to important social networks and services. In this report we measure it in five ways:

- *Overcrowding* – a measure of whether a dwelling contains sufficient bedrooms for the resident household (see Appendix 2 for details).
- *Dwelling condition* – a self-rated measure on a five-point scale from very poor/derelict through to excellent.
- *Access to services* – a self-rated measure of adequacy of access to services in general, and transport services specifically.
- *Safety of area after dark* – a self-reported measure of how safe an individual feels walking in their area after dark.

Security of tenure

Security of tenure refers to the degree to which a household has rights to continue to reside in a dwelling for the period that they wish to. In this report we reflect security/insecurity of tenure in three ways:

- *Tenure type* – private rental tenure is widely found to be the least secure tenure type in Australia, largely (but not only) as a result of limited lease lengths. As a result we use private rental housing as a proxy indicator for insecure tenure.
- *Forced moves* – whether an individual has been forced to move out of their home in the past year, due to eviction, the property becoming unavailable, or being required to move between public housing properties.
- *Number of moves* – the number of times an individual has moved residence in the past five years.

Self-assessed health (SAH)

An overall measure of health, in which an individual rates his/her health on a five-point scale from 1=excellent to 5=poor.

Mental health and physical health

The HILDA survey assessed both physical and mental health using the widely recognised Short Form 36 (SF-36) tool, which takes responses to 36 questions about health and collapses them to subscales measuring different aspects of health. These are then used to calculate separate summary scores for mental and physical health, both of them on a scale from 1–100.

Equivalised disposable household income

Equivalisation of income adjusts the actual income of a household in a way that enables comparison of households of different size and composition. For example, it would be expected that a household comprising two people would normally need more income than a lone person household if the two households are to enjoy the same standard of living. To achieve this, the actual household income is divided by an equivalence factor which is calculated by allocating points to each person in a household. The first adult in the household is allocated 1 point, each additional person who is 15 years or older is allocated 0.5 points, and each child under the age of 15 is allocated 0.3 points. Equivalised household income is then derived by dividing total household income by a factor equal to the sum of the equivalence points allocated to the household members. Equivalised household income is an indicator of the economic resources available to each member of a household. It can therefore be used for comparing the situation of individuals as well as comparing the situation of households. (Summarised from ABS, *Household Income & Income Distribution 2007–08*, Cat. no. 6523.0.)

Low income households

Households in which the weekly equivalised disposable household income falls in the bottom 40% of the income distribution of Australian households.

Appendix 2

Datasets, measures and methods used in the quantitative analysis

The General Social Survey

The General Social Survey (GSS) is a large-scale survey conducted by the Australian Bureau of Statistics every four years. It collects data on a range of personal and household characteristics of people aged 18 years and over resident in private dwellings, throughout non-remote areas of Australia. It is designed to provide reliable estimates at the national level and for each state and territory, and to enable analysis of the relationships between a range of social circumstances and outcomes. The 2006 GSS collected information from a nationally representative sample of 13,375 households throughout Australia (ABS 2006).

This report uses housing, health and demographic data from the 2006 GSS to estimate nation-wide and state/territory-level prevalence across a number of precarious housing characteristics, and to examine the relationship between precarious housing and overall self-assessed health. The following table describes the GSS measures used in this report, under three main headings: precarious housing, health and demographics.

| Precarious housing indicator | Definition |
|---|--|
| Housing affordability stress | Individuals were defined as experiencing housing stress if they reported being unable to pay mortgage, rent or utility bills on time as a result of having insufficient money, at some time in the past 12 months. |
| Moved 3 or more times in last 5 years | Based on survey respondents' reporting of the number of changes in residence in the past five years |
| Tenure type (private rental) | Based on information collected about type of tenure (owner, renter, etc.) and type of landlord (private, government, etc.) |
| Difficulty accessing service providers | Individuals were classified as having difficulty accessing service providers if they reported at least one of a range of potential difficulties with access, including availability, adequacy, cost, distance, disability, lack of support networks, and lack of trust in service providers. |
| Difficulty accessing transport | Individuals were defined as having difficulty accessing transport if, when asked to describe their transport situation for getting to all the places they need to get to, they reported sometimes or often having difficulty or being unable to get there. |
| Feeling unsafe walking in area after dark | Individuals were asked to report their feelings of safety walking alone in their local area after dark, on a five-point scale from very safe to very unsafe. Respondents who reported feeling unsafe or very unsafe were classified in this report as feeling unsafe. |
| Health measure | Definition |
| Self-assessed health | An individual's general assessment of their own health, against a five-point scale from excellent through to poor. |
| Demographic measures | Definition |
| Remoteness | Based on the Remoteness Structure of the ABS's Australian Standard Geographical Classification (ASGC). The GSS classifies broad geographical regions which share common characteristics of remoteness, using the following three categories: <ul style="list-style-type: none"> - Major Cities - Inner Regional - Other Areas As the GSS did not cover very remote areas of Australia, 'Other Areas', encompasses most of Outer Regional Australia, part of Remote Australia, and only a small proportion of Very Remote Australia. |
| State/Territory | All Australian States, along with the Australian Capital Territory and Northern Territory |

The Household, Income and Labour Dynamics in Australia (HILDA) Survey

The Household, Income and Labour Dynamics in Australia (HILDA) Survey is a household-based longitudinal survey conducted annually since 2001 (Wooden & Watson 2007). It collects a wide range of data on households and the individuals living within those households by surveying adult members of participating households every year via face-to-face interview and a self-completion questionnaire.

This report uses the demographic, socio-economic, housing and health data collected in HILDA between 2001 and 2007 from 12,968 survey respondents (59,233 observations over seven survey waves) to explore the following four research questions:

- 1 How many people are in precarious housing in Australia?
- 2 What is the association between demographic and socio-economic factors and precarious housing?
- 3 What is the association between health (mental and physical) and precarious housing?
- 4 What is the association between precarious housing and health, independent of any effects of demographic and socio-economic factors?

Precarious housing in HILDA

Precarious housing was measured in HILDA using five key indicators:

- Housing unaffordability (based on the 30/40 rule)
- Overcrowding
- Poor dwelling condition
- Private rental tenure
- Forced mobility

The following table outlines how each of these was defined in terms of identifying individuals or households experiencing some form of precarious housing.

| Precarious housing indicator | Definition |
|------------------------------|---|
| Unaffordability | Individuals were defined as experiencing housing affordability if their household's rental or mortgage costs were more than 30% of the household's gross income AND if their household's income was in the bottom 40% of the population household equivalised disposable income distribution |
| Overcrowding | <p>Individuals were defined as living in an overcrowded household if the number of bedrooms in the household was insufficient according to the Canadian National Occupancy Standard, which states that:</p> <ul style="list-style-type: none"> - there should be no more than two 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; and - single household members 18 years or over should have a separate bedroom, as should parents or couples. <p>Households living in dwellings where this standard cannot be met are considered to be overcrowded.</p> |
| Poor dwelling condition | Dwelling condition was rated by the individual as part of the survey, on a five-point scale from 'Excellent/Very good' through to 'Very poor/Almost derelict'. Individuals who rated their dwelling as 'Poor' or 'Very poor/Almost derelict' were classified as living in a dwelling of poor condition. |
| Private rental tenure | Tenure type was recorded in each year of the survey, and private rental was defined as renting from a private landlord or real estate agent |
| Forced mobility | Individuals were defined as having experienced a forced move if they had changed residence in the last year and had given any of the following reasons for the move: eviction, property no longer available, or living in government housing with no choice but to move |

An overall measure of precarious housing was also constructed by counting the number of indicators of precarious housing (as described above) experienced by an individual in the preceding year. This was converted to a dichotomous indicator of overall precariousness whereby individuals who had experienced more than one form of precarious housing were defined as being precariously housed. This variable was then used to look at what other characteristics of people, such as their

socio-economic status, age, sex etc, predicted their likelihood of being precariously housed. Additionally, each separate indicator was used as a predictor of self-assessed mental and physical health.

Demographic predictors in HILDA

A range of demographic characteristics of individuals and households were analysed to examine their associations with precarious housing. These were:

- Age
- Sex
- Country of birth
- Indigenous status
- Household structure

The following table describes how each of these was defined, using the available HILDA data:

| Demographic characteristic | Definition |
|----------------------------|--|
| Age | Most of the HILDA analyses in this report were restricted to 25- to 64-year-olds. A separate section considered 15- to 24-year-olds. All analyses were also adjusted to control for confounding by single year age (centred around mean age). |
| Sex | Males and females were considered separately in some analyses |
| Country of birth | HILDA classified individuals as being born in either: <ul style="list-style-type: none"> - Australia, - another major English-speaking country (e.g. UK, New Zealand, Canada), or - any other country. |
| Indigenous status | HILDA invites participants to identify as Aboriginal, Torres Strait Islander, both or neither. Aboriginal and Torres Strait Islander were collapsed into a single category for analysis |
| Household structure | Households were classified as one of the following five types: <ul style="list-style-type: none"> - Couple without child/ren - Couple with child/ren - Lone person - Single adult with child/ren - Other <p>'Other' includes households of unrelated individuals, related family members without children, and multi-family</p> |

| | |
|--|--|
| | <p>households. The remainder of the categories (except 'lone person') may in some cases include other individuals e.g. a 'single adult with child/ren' household may also include a grandparent. Individuals were classified according to the household type in which they live.</p> |
|--|--|

Socio-economic predictors

The following socio-economic indicators were also considered in terms of their association with precarious housing:

- Educational attainment
- Occupation level
- Employment arrangements

| Socio-economic characteristic | Definition |
|--------------------------------------|--|
| Educational attainment (individual) | Highest level of educational attainment was classified into three categories: <ul style="list-style-type: none">- Year 11 or below- Year 12 and/or a qualification at Certificate, Diploma or Advanced Diploma (or equivalent)- Bachelor degree or higher |
| Occupation level (household) | The highest occupation level in each household was identified after classifying all household members as either 'Professional', 'White collar', 'Blue collar' or 'Unemployed or not in labour force'. |
| Employment arrangements (individual) | Individuals who were in the labour market (i.e. working or looking for work) were classified according to their current type of employment contract. Employment arrangements were either: <ul style="list-style-type: none">- Permanent full-time- Permanent part-time- Casual full-time- Casual part-time- Fixed term- Self-employed- Labour hire- Unemployed Individuals who were not in the labour market were excluded. |

Mental and physical health

At each survey round, HILDA participants complete self-rating questionnaires to assess their physical and mental health. Physical and mental health are both assessed using the widely recognised Short Form 36 (SF-36) tool, which take responses to 36 questions about health and collapses these to subscales measuring different aspects of health. These are then used to calculate separate summary scores for mental and physical health, both of them on a scale from 1–100. These scores were used in two ways in the analyses in this report. First, when health was used as a predictor of being in precarious housing, individuals were grouped into quintiles (20% groupings) of mental or physical health. Second, when health was analysed as an outcome of precarious housing, the raw scores on the 100-point scale were used, with differences in this score reported between groups according to their precariousness.

Statistical analysis

The HILDA data were utilised in three main ways:

- (1) to generate estimates of the prevalence of precarious housing measures in the Australian population, using 2006 data only and weighting it to the Australian population using information provided by HILDA about the survey's sampling frame
- (2) to examine bivariate associations between demographic and socio-economic variables and the odds (likelihood) of being in precarious housing, using longitudinal, random effects logistic regression modelling adjusted for age
- (3) to analyse the independent associations between precarious housing and mental and physical health, using longitudinal, random effects linear regression modelling, adjusted for age, sex, country of birth, household structure, educational attainment, highest occupation level in household, disposable income and baseline health.

Longitudinal modelling allows information from individuals at multiple time points to be used, recognising that there are differences between people as well as within people over time.

Analyses were restricted to 25- to 64-year-olds with data on all relevant variables, except in the section on 15- to 24-year-olds, where analyses were restricted to that age group.

Graphs and tables

For logistic models (models where the outcome is binary, e.g. precariously housed or not), tables in the appendices of this report show odds ratios, whilst the graphs show these same odds ratios on the log scale. This is done to enhance the interpretability of the graphs, as graphing odds ratios requires the use of an exponential scale which may be unfamiliar to many readers and may lead to misinterpretation of the magnitude of effects. For linear models, β -coefficients are reported in both

graphs and tables. These represent the average difference in the outcome (e.g. mental health score) between the category of interest (e.g. women) and the reference category (e.g. men). All point estimates are reported with their corresponding 95% confidence interval. See *A note on the estimates from HILDA* on page 30 for more information about interpreting the graphs in this report.

Appendix 3

Table A3.1 Affordability indicators by State/Territory and Major City, Regional & Other (HILDA and GSS data)

| | Unaffordability (30/40 rule)^a | Housing stress (trouble paying rent, mortgage, bills in past 12 months)^b |
|------------------------|---|--|
| Urban/rural | | |
| Major city | 5.90 | 11.97 |
| Inner regional | 5.58 | 11.28 |
| Other | 4.09 | 14.70 |
| State/Territory | | |
| NSW | 5.60 | 11.9 |
| VIC | 5.47 | 11.3 |
| QLD | 5.96 | 14.4 |
| SA | 4.97 | 12.7 |
| WA | 5.43 | 10.5 |
| TAS | 6.79 | 10.4 |
| NT | 4.70 | 15.9 |
| ACT | 7.60 | 10.0 |

^a Household Income and Labour Dynamics in Australia (HILDA) Survey

^b General Social Survey (GSS)

Table A3.2 Suitability indicators by State/Territory and Major City, Regional & Other (GSS & HILDA data)

| | Difficulty accessing services ^a | Difficulty accessing transport ^a | Feel unsafe walking in area after dark ^a | Overcrowding ^b |
|------------------------|--|---|---|---------------------------|
| Urban/rural | | | | |
| Major city | 18.07 | 4.34 | 19.67 | 4.10 |
| Inner regional | 27.91 | 3.80 | 14.49 | 2.79 |
| Other | 38.8 | 6.00 | 14.12 | 4.98 |
| State/Territory | | | | |
| NSW | 21.4 | 5.69 | 17.67 | 5.49 |
| VIC | 19.9 | 3.45 | 16.67 | 2.73 |
| QLD | 26.9 | 4.51 | 16.87 | 4.14 |
| SA | 20.4 | 4.00 | 21.90 | 2.54 |
| WA | 24.9 | 3.33 | 21.15 | 3.85 |
| TAS | 22.4 | 2.69 | 14.46 | 1.54 |
| NT | 38.1 | 4.61 | 30.28 | 1.34 |
| ACT | 17.9 | 2.20 | 18.33 | 0.00 |

^a Data from the General Social Survey (GSS) 2006

^b Data from Household Income and Labour Dynamics in Australia (HILDA) Survey 2006

Table A3.3 Security indicators by State/Territory and Major City, Regional & Other (GSS data)

| | Moved 3 or more times in last 5 years (%) | Privately renting (%) |
|------------------------|---|--------------------------|
| Urban/rural | | |
| Major city | 14.7 | 21.48 |
| Inner regional | 16.3 | 16.82 |
| Other | 19.3 | 17.67 |
| State/Territory | | |
| NSW | 13.0 | 22.26 |
| VIC | 12.9 | 16.78 |
| QLD | 22.4 | 23.50 |
| SA | 13.7 | 15.99 |
| WA | 18.0 | 18.52 |
| TAS | 14.2 | 15.69 |
| NT | 29.5 | 24.74 |
| ACT | 17.5 | 17.10 |

Table A3.4 Estimated prevalence of precarious housing measures, various age groups, 2006 (HILDA)

| Age (years) | AFFORDABILITY | OVERCROWDING | DWELLING CONDITION | TENURE (private rental) | FORCED MOVES | PRECARIOUS (2+) |
|-------------|----------------------|----------------------|---------------------|-------------------------|---------------------|------------------------|
| 18-24 | 9.13% (7.39 - 11.23) | 7.43% (5.26 - 10.39) | 6.08% (4.14 - 8.85) | 25.93% (23.13 - 28.94) | 2.21% (1.47 - 3.30) | 12.53% (10.09 - 15.45) |
| 25-64 | 5.30% (4.39 - 6.40) | 3.36% (2.55 - 4.41) | 6.24% (4.88 - 7.94) | 18.71% (17.07 - 20.47) | 1.59% (1.27 - 1.99) | 6.42% (5.36 - 7.66) |
| 65+ | 4.66% (3.56 - 6.08) | 0.87% (0.41 - 1.85) | 4.04% (1.85 - 8.62) | 4.35% (3.37 - 5.61) | 0.30% (0.15 - 0.63) | 2.79% (1.95 - 3.96) |

Table A3.5 Estimated prevalence of housing affordability stress by tenure type and age group, 2006 (HILDA)

| Age (years) | % IN HOUSING AFFORDABILITY STRESS | | | |
|-------------|-----------------------------------|------------------------|------------------------|-----------------------|
| | Owner | Private rental | Public rental | Other |
| 18-24 | 2.49% (1.22 - 4.99) | 24.73% (20.32 - 29.74) | 6.51% (2.19 - 17.82) | 14.29% (8.29 - 23.52) |
| 25-64 | 3.03% (2.30 - 3.97) | 14.04% (11.17 - 17.49) | 7.31% (4.10 - 12.70) | 4.79% (2.66 - 8.47) |
| 65+ | 0.50% (0.19 - 1.27) | 50.17% (36.86 - 63.46) | 17.72% (11.56 - 26.21) | 13.83% (7.55 - 23.96) |

Table A3.6 Estimated prevalence of poor dwelling condition by tenure type and age group, 2006 (HILDA)

| Age (years) | % LIVING IN POOR CONDITION DWELLING | | | |
|-------------|-------------------------------------|-----------------------|------------------------|-----------------------|
| | Owner | Private rental | Public rental | Other |
| 18-24 | 3.34% (1.72 - 6.40) | 7.94% (5.54 - 11.26) | 33.25% (14.35 - 59.68) | 0.94% (0.13 - 6.39) |
| 25-64 | 4.02% (2.64 - 6.08) | 10.46% (7.36 - 14.66) | 22.41% (12.31 - 37.26) | 12.97% (6.74 - 23.52) |
| 65+ | 1.90% (1.21 - 2.99) | 2.43% (0.75 - 7.64) | 38.99% (13.85 - 71.75) | 0.00% |

Table A3.7 Estimated prevalence of overcrowding by tenure type and age group, 2006 (HILDA)

| Age (years) | % LIVING IN OVERCROWDED DWELLING | | | |
|-------------|----------------------------------|----------------------|------------------------|----------------------|
| | Owner | Private rental | Public rental | Other |
| 18-24 | 5.47% (3.32 - 8.90) | 8.19% (4.49 - 14.49) | 26.65% (12.39 - 48.29) | 6.27% (2.63 - 14.21) |
| 25-64 | 2.64% (1.82 - 3.81) | 4.92% (2.96 - 8.08) | 7.19% (3.68 - 13.58) | 6.06% (3.24 - 10.49) |
| 65+ | 0.31% (0.08 - 1.19) | 1.13% (0.28 - 4.49) | 2.69% (0.47 - 13.88) | 5.52% (1.73 - 16.26) |

Table A3.8 Estimated prevalence of forced moves by tenure type and age group, 2006 (HILDA)

| Age (years) | % WHO EXPERIENCED A FORCED MOVE IN PAST 12 MONTHS | | | |
|-------------|---|----------------------|---------------------|---------------------|
| | Owner | Private rental | Public rental | Other |
| 18-24 | 0.52% (0.14 - 1.88) | 6.69% (4.31 - 10.25) | 0.81% (0.11 - 5.72) | 1.62 (0.53 - 4.85) |
| 25-64 | 0.17% (0.00 - 0.36) | 6.89% (5.35 - 8.82) | 0.97% (0.27 - 3.47) | 3.91% (1.84 - 8.13) |
| 65+ | 0.02% (0.00 - 0.16) | 3.57% (1.37 - 8.96) | 0.34% (0.04 - 2.55) | 1.52 (0.34 - 6.58) |

Table A3.9 Demographic predictors of precarious housing

| | Relative odds (95% confidence intervals) | | | | | Overall Precarious (≥ 2) |
|----------------------------|--|---------------------------|----------------------------|-------------------------------|--------------------------|---------------------------------|
| | Affordability stress | Overcrowding | Poor dwelling condition | Private rental | Forced moves | |
| Sex | | | | | | |
| Male | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Female | 1.38 (1.13, 1.69) | 1.36 (0.96, 1.92) | 0.88 (0.68, 1.13) | 0.64 (0.49, 0.84) | 0.99 (0.82, 1.20) | 1.17 (0.95, 1.44) |
| Country of birth | | | | | | |
| Australia | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Main English speaking | 1.08 (0.78, 1.50) | 0.84 (0.46, 1.56) | 0.90 (0.59, 1.37) | 1.84 (1.18, 2.86) | 1.05 (0.77, 1.43) | 1.29 (0.92, 1.81) |
| Other | 2.04 (1.52, 2.72) | 5.95 (3.63, 9.76) | 0.81 (0.53, 1.23) | 1.69 (1.10, 2.61) | 0.59 (0.41, 0.84) | 1.66 (1.22, 2.27) |
| Indigenous status | | | | | | |
| Non-ATSI | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| ATSI | 1.97 (0.97, 4.02) | 7.91 (2.20, 28.37) | 18.23 (9.01, 36.90) | 8.27 (2.51, 27.32) | 1.50 (0.77, 2.93) | 10.32 (5.41, 19.68) |
| Household structure | | | | | | |
| Couple + child | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Couple | 0.92 (0.71, 1.17) | 0.01 (0.00, 0.02) | 0.78 (0.57, 1.06) | 4.52 (3.56, 5.73) | 1.64 (1.30, 2.08) | 1.30 (1.01, 1.68) |
| Single + child | 9.13 (6.93, 12.02) | 1.99 (1.40, 2.82) | 3.37 (2.38, 4.77) | 11.25 (8.15, 15.54) | 3.01 (2.25, 4.03) | 11.29 (8.51, 14.97) |
| Single | 7.02 (5.39, 9.13) | 0.12 (0.06, 0.23) | 3.79 (2.78, 5.17) | 104.10 (76.11, 142.38) | 3.25 (2.52, 4.19) | 11.37 (8.68, 14.88) |
| Other | 1.07 (0.62, 1.82) | 5.12 (3.28, 7.97) | 3.73 (2.29, 6.07) | 8.68 (5.37, 14.01) | 2.22 (1.41, 3.49) | 4.10 (2.73, 6.17) |

Associations significant at 95% level are in bold

Table A3.10 Suitability indicators by sex, age, household type, language proficiency (GSS data)

| | Difficulty accessing services (%) | Difficulty accessing transport (%) |
|--|--------------------------------------|---------------------------------------|
| Sex (individuals) | | |
| Males | 20.1 | 3.62 |
| Females | 24.7 | 5.17 |
| Age (years) (individuals) | | |
| Under 25 | 23.2 | 4.06 |
| 25-44 | 24.1 | 3.16 |
| 45-64 | 21.5 | 4.25 |
| 65-84 | 19.0 | 6.99 |
| 85 + | 28.9 | 16.81 |
| Family composition (households) | | |
| Couple + child | 23.1 | 2.4 |
| Couple | 20.3 | 6.0 |
| Single + child | 32.9 | 8.4 |
| Single | 23.9 | 7.8 |
| Other | 21.2 | 6.0 |
| Proficiency in spoken English (individuals) | | |
| Spoke English only | 23.2 | 38.38 |
| Very well | 16.1 | 38.99 |
| Well | 18.7 | 49.71 |
| Not well | 24.4 | 60.82 |
| Not well at all | 14.8 | 60.38 |

Table A3.11 Socio-economic predictors of precarious housing

| | Relative odds (95% confidence intervals) | | | | | Overall Precarious (≥ 2) |
|--|--|--------------------------|---------------------------|--------------------------|--------------------------|---------------------------------|
| | Affordability stress | Overcrowding | Poor dwelling condition | Private rental | Forced moves | |
| Employment arrangements | | | | | | |
| Permanent FT | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Permanent PT | 2.46 (1.79, 3.39) | 0.99 (0.60, 1.66) | 1.08 (0.71, 1.65) | 0.94 (0.70, 1.26) | 0.75 (0.52, 1.10) | 1.12 (0.82, 1.54) |
| Casual FT | 3.52 (2.22, 5.56) | 1.90 (0.92, 3.91) | 3.23 (1.92, 5.43) | 1.83 (1.19, 2.80) | 1.38 (0.82, 2.30) | 2.88 (1.93, 4.31) |
| Casual PT | 6.87 (5.18, 9.12) | 1.29 (0.76, 2.18) | 2.64 (1.82, 3.84) | 1.27 (0.92, 1.74) | 1.22 (0.86, 1.72) | 3.36 (2.54, 4.43) |
| Fixed term | 1.54 (1.04, 2.29) | 1.36 (0.78, 2.36) | 0.98 (0.60, 1.59) | 1.18 (0.88, 1.60) | 0.94 (0.63, 1.41) | 1.21 (0.86, 1.71) |
| Labour hire | 2.48 (1.33, 4.62) | 2.25 (0.89, 5.66) | 2.17 (1.09, 4.32) | 1.99 (1.12, 3.51) | 1.16 (0.57, 2.36) | 2.08 (1.21, 3.58) |
| Self-employed | 4.56 (3.12, 6.65) | 0.99 (0.48, 2.05) | 1.11 (0.62, 2.02) | 0.43 (0.27, 0.67) | 0.67 (0.39, 1.16) | 0.90 (0.56, 1.45) |
| Unemployed (excl. NILF) | 15.27 (10.82, 21.56) | 3.21 (1.61, 6.40) | 4.19 (2.60, 6.75) | 2.78 (1.77, 4.36) | 1.92 (1.21, 3.04) | 7.57 (5.33, 10.75) |
| Educational attainment | | | | | | |
| Bachelor or higher | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Diploma, Certificate or Yr 12 | 3.14 (2.36, 4.17) | 2.21 (1.41, 3.46) | 3.19 (1.85, 5.50) | 1.16 (0.84, 1.59) | 1.34 (1.05, 1.71) | 2.44 (1.84, 3.24) |
| Yr 11 or below | 5.14 (3.78, 6.99) | 3.45 (2.12, 5.63) | 7.27 (3.92, 13.50) | 1.98 (1.39, 2.84) | 1.97 (1.51, 2.58) | 5.02 (3.68, 6.84) |
| Highest occupation in household | | | | | | |
| Professional | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| White collar | 2.26 (1.84, 2.78) | 1.49 (1.08, 2.04) | 1.89 (1.44, 2.49) | 1.62 (1.33, 1.97) | 1.30 (1.04, 1.63) | 2.24 (1.82, 2.77) |
| Blue collar | 3.53 (2.81, 4.44) | 1.57 (1.07, 2.30) | 4.03 (3.02, 5.37) | 2.87 (2.23, 3.68) | 1.61 (1.25, 2.06) | 3.94 (3.12, 4.98) |
| Not in labour force | 17.22 (13.58, 21.83) | 2.08 (1.36, 3.19) | 6.48 (4.72, 8.88) | 5.84 (4.28, 7.95) | 2.49 (1.88, 3.31) | 16.95 (13.12, 21.90) |

Associations significant at 95% level are in bold

Table A3.12 Health as an independent predictor of precarious housing – 3-year average of health scores

| | Adjusted* relative odds (95% confidence intervals) | | | | | Overall Precarious (≥ 2) |
|------------------------|--|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------------|
| | Affordability stress | Overcrowding | Poor dwelling condition | Private rental | Forced moves | |
| Mental health | | | | | | |
| Highest 20% | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| High-mid | 1.26 (0.88, 1.81) | 1.02 (0.69, 1.50) | 1.28 (0.92, 1.78) | 1.24 (0.97, 1.60) | 1.31 (0.94, 1.82) | 1.19 (0.90, 1.58) |
| Middle 20% | 1.42 (0.98, 2.05) | 1.18 (0.79, 1.77) | 1.27 (0.90, 1.79) | 1.43 (1.10, 1.87) | 1.22 (0.88, 1.71) | 1.25 (0.94, 1.67) |
| Low-Mid | 1.25 (0.87, 1.82) | 1.19 (0.79, 1.80) | 1.54 (1.09, 2.19) | 1.71 (1.30, 2.27) | 1.57 (1.14, 2.17) | 1.73 (1.30, 2.30) |
| Lowest 20% | 1.78 (1.23, 2.58) | 1.43 (0.93, 2.18) | 2.02 (1.42, 2.89) | 2.18 (1.61, 2.95) | 1.85 (1.35, 2.55) | 2.25 (1.68, 3.01) |
| Physical health | | | | | | |
| Highest 20% | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| High-mid | 0.77 (0.56, 1.07) | 1.08 (0.77, 1.52) | 0.90 (0.66, 1.22) | 0.91 (0.73, 1.13) | 0.70 (0.54, 0.92) | 0.90 (0.71, 1.13) |
| Middle 20% | 0.75 (0.53, 1.06) | 1.10 (0.77, 1.58) | 1.22 (0.88, 1.68) | 1.03 (0.81, 1.30) | 0.84 (0.65, 1.10) | 0.94 (0.73, 1.20) |
| Low-Mid | 0.99 (0.70, 1.39) | 1.44 (0.99, 2.08) | 1.80 (1.30, 2.50) | 1.20 (0.93, 1.55) | 0.96 (0.73, 1.26) | 1.32 (1.02, 1.70) |
| Lowest 20% | 1.21 (0.83, 1.76) | 1.56 (1.00, 2.42) | 2.37 (1.65, 3.42) | 1.29 (0.94, 1.76) | 1.25 (0.92, 1.68) | 1.72 (1.29, 2.30) |

* Adjusted for age, sex, country of birth, educational attainment, highest occupation level in household, disposable income and household structure

Associations significant at 95% level are in bold.

Mental and physical health scores were averaged across the three years prior to the year in which housing was assessed.

Table A3.13 Precarious housing as an independent predictor of mental health

| | Mean difference in SF-36 mental health score associated with precarious housing (95% confidence interval) | | |
|--------------------------------|---|---|-------------------------------------|
| | Adjusted for demographics* and baseline mental health | Further adjusted for socioeconomic position** | Further adjusted for household type |
| Affordability stress | -1.82 (-2.21, -1.44) | -1.31 (-1.70, -0.92) | -1.16 (-1.55, -0.77) |
| Overcrowding | -0.48 (-1.04, 0.08) | -0.41 (-0.96, 0.15) | -0.22 (-0.77, 0.34) |
| Poor dwelling condition | -1.45 (-1.90, -1.00) | -1.04 (-1.49, -0.58) | -0.93 (-1.39, -0.48) |
| Tenure | | | |
| Owner | reference | reference | reference |
| Renter – Private | -1.00 (-1.24, -0.76) | -0.66 (-0.91, -0.42) | -0.62 (-0.87, -0.36) |
| Renter – Government | -2.44 (-2.97, -1.91) | -1.59 (-2.13, -1.05) | -1.44 (-1.99, -0.89) |
| Forced Move | -0.86 (-1.48, -0.24) | -0.65 (-1.26, -0.03) | -0.62 (-1.24, -0.01) |
| "Precarious housing" | | | |
| 0 | reference | reference | reference |
| 1 | -0.85 (-1.08, -0.62) | -0.63 (-0.86, -0.40) | -0.58 (-0.81, -0.34) |
| 2 | -1.75 (-2.15, -1.36) | -1.14 (-1.54, -0.74) | -1.01 (-1.42, -0.61) |
| 3+ | -2.74 (-3.66, -1.82) | -1.87 (-2.79, -0.95) | -1.70 (-2.62, -0.77) |

* Age, sex, country of birth

** Educational attainment, highest occupation level in household, and disposable income (except affordability stress model)

"Precarious housing" = sum of housing stress, overcrowding, dwelling in poor condition, private rental and forced move in previous 12 months

Associations significant at 95% level are in bold

Table A3.14 Precarious housing as an independent predictor of physical health

| | Mean difference in SF-36 physical health score associated with precarious housing (95% confidence interval) | | |
|--------------------------------|---|---|-------------------------------------|
| | Adjusted for demographics* and baseline physical health | Further adjusted for socioeconomic position** | Further adjusted for household type |
| Affordability stress | -1.11 (-1.45, -0.77) | -0.41 (-0.75, -0.07) | -0.47 (-0.81, -0.13) |
| Overcrowding | -0.34 (-0.83, 0.15) | -0.18 (-0.67, 0.30) | -0.23 (-0.72, 0.25) |
| Poor dwelling condition | -1.05 (-1.45, -0.66) | -0.54 (-0.94, -0.15) | -0.59 (-0.99, -0.19) |
| Tenure | | | |
| Owner | reference | reference | reference |
| Renter – Private | -0.67 (-0.88, -0.45) | -0.26 (-0.48, -0.05) | -0.34 (-0.56, -0.12) |
| Renter – Government | -3.14 (-3.61, -2.67) | -2.08 (-2.56, -1.61) | -2.22 (-2.70, -1.74) |
| Forced Move | -0.79 (-1.33, -0.25) | -0.53 (-1.06, 0.01) | -0.54 (-1.08, -0.01) |
| "Precarious housing" | | | |
| 0 | reference | reference | reference |
| 1 | -0.51 (-0.71, -0.31) | -0.23 (-0.44, -0.03) | -0.27 (-0.48, -0.07) |
| 2 | -1.21 (-1.55, -0.86) | -0.40 (-0.75, -0.05) | -0.49 (-0.85, -0.14) |
| 3+ | -1.63 (-2.43, -0.82) | -0.46 (-1.27, 0.34) | -0.59 (-1.40, 0.22) |

* Age, sex, country of birth

** Educational attainment, highest occupation level in household, and disposable income (except affordability stress model)

"Precarious housing" = sum of housing stress, overcrowding, dwelling in poor condition, private rental and forced move in previous 12 months

Associations significant at 95% level are in bold

Table A3.15 Precarious housing as an independent predictor of mental health, by gender

| | Mean difference in SF-36 mental health score associated with precarious housing (95% confidence interval) | | |
|--------------------------------|---|---|-------------------------------------|
| | Adjusted for demographics* and baseline mental health | Further adjusted for socioeconomic position** | Further adjusted for household type |
| MALES | | | |
| Affordability stress | -1.45 (-2.02, -0.89) | -0.65 (-1.23, -0.07) | -0.59 (-1.17, -0.01) |
| Overcrowding | -0.77 (-1.59, 0.05) | -0.74 (-1.55, 0.07) | -0.54 (-1.36, 0.27) |
| Poor dwelling condition | -1.16 (-1.77, -0.54) | -0.75 (-1.37, -0.13) | -0.63 (-1.25, 0.00) |
| Tenure | | | |
| Owner | reference | reference | reference |
| Renter – Private | -0.97 (-1.31, -0.63) | -0.62 (-0.96, -0.27) | -0.61 (-0.96, -0.26) |
| Renter - Government | -2.72 (-3.58, -1.86) | -1.72 (-2.59, -0.85) | -1.67 (-2.54, -0.80) |
| Forced Move | -1.73 (-2.59, -0.87) | -1.53 (-2.39, -0.68) | -1.54 (-2.39, -0.69) |
| "Precarious housing" | | | |
| 0 | reference | reference | reference |
| 1 | -0.65 (-0.97, -0.33) | -0.38 (-0.70, -0.05) | -0.34 (-0.67, -0.01) |
| 2 | -1.82 (-2.39, -1.26) | -1.20 (-1.78, -0.63) | -1.12 (-1.70, -0.54) |
| 3+ | -3.45 (-4.77, -2.14) | -2.56 (-3.88, -1.24) | -2.43 (-3.75, -1.11) |
| FEMALES | | | |
| Affordability stress | -2.05 (-2.57, -1.53) | -1.40 (-1.93, -0.86) | -1.26 (-1.80, -0.72) |
| Overcrowding | -0.22 (-0.98, 0.54) | -0.10 (-0.86, 0.66) | 0.10 (-0.66, 0.87) |
| Poor dwelling condition | -1.71 (-2.37, -1.05) | -1.29 (-1.95, -0.63) | -1.20 (-1.86, -0.54) |
| Tenure | | | |
| Owner | reference | reference | reference |
| Renter – Private | -1.03 (-1.38, -0.69) | -0.70 (-1.05, -0.35) | -0.59 (-0.95, -0.23) |
| Renter - Government | -2.31 (-2.99, -1.63) | -1.52 (-2.21, -0.82) | -1.29 (-1.99, -0.58) |
| Forced Move | -0.07 (-0.95, 0.81) | 0.16 (-0.72, 1.03) | 0.24 (-0.64, 1.11) |
| "Precarious housing" | | | |
| 0 | reference | reference | reference |
| 1 | -1.05 (-1.38, -0.71) | -0.85 (-1.18, -0.51) | -0.77 (-1.11, -0.43) |
| 2 | -1.68 (-2.22, -1.13) | -1.05 (-1.60, -0.49) | -0.87 (-1.43, -0.31) |
| 3+ | -2.09 (-3.37, -0.81) | -1.23 (-2.52, 0.06) | -0.99 (-2.29, 0.30) |

* Age, sex, country of birth

** Educational attainment, highest occupation level in household, and disposable income (except affordability stress model)

"Precarious housing" = sum of housing stress, overcrowding, dwelling in poor condition, private rental and forced move in previous 12 months

Associations significant at 95% level are in bold

Table A3.16 Precarious housing as an independent predictor of physical health, by gender

| | Mean difference in SF-36 physical health score associated with precarious housing (95% confidence interval) | | |
|--------------------------------|---|---|-------------------------------------|
| | Adjusted for demographics* and baseline physical health | Further adjusted for socioeconomic position** | Further adjusted for household type |
| MALES | | | |
| Affordability stress | -1.09 (-1.59, -0.58) | -0.14 (-0.66, 0.37) | -0.18 (-0.70, 0.33) |
| Overcrowding | -0.04 (-0.77, 0.69) | 0.07 (-0.65, 0.79) | 0.11 (-0.62, 0.83) |
| Poor dwelling condition | -1.06 (-1.61, -0.51) | -0.52 (-1.06, 0.03) | -0.58 (-1.13, -0.03) |
| Tenure | | | |
| Owner | reference | reference | reference |
| Renter - Private | -0.54 (-0.84, -0.24) | -0.13 (-0.43, 0.18) | -0.27 (-0.58, 0.04) |
| Renter - Government | -3.20 (-3.96, -2.44) | -1.95 (-2.71, -1.19) | -2.02 (-2.79, -1.26) |
| Forced Move | -0.60 (-1.37, 0.16) | -0.35 (-1.11, 0.40) | -0.41 (-1.17, 0.35) |
| "Precarious housing" | | | |
| 0 | reference | reference | reference |
| 1 | -0.42 (-0.71, -0.14) | -0.10 (-0.39, 0.18) | -0.20 (-0.49, 0.09) |
| 2 | -0.98 (-1.48, -0.47) | -0.18 (-0.69, 0.33) | -0.31 (-0.82, 0.21) |
| 3+ | -1.87 (-3.04, -0.69) | -0.62 (-1.79, 0.55) | -0.76 (-1.93, 0.41) |
| FEMALES | | | |
| Affordability stress | -1.13 (-1.59, -0.68) | -0.32 (-0.78, 0.15) | -0.40 (-0.87, 0.07) |
| Overcrowding | -0.56 (-1.22, 0.10) | -0.37 (-1.02, 0.29) | -0.46 (-1.13, 0.20) |
| Poor dwelling condition | -1.05 (-1.63, -0.48) | -0.56 (-1.14, 0.01) | -0.61 (-1.19, -0.03) |
| Tenure | | | |
| Owner | reference | reference | reference |
| Renter - Private | -0.79 (-1.10, -0.49) | -0.41 (-0.72, -0.10) | -0.44 (-0.76, -0.13) |
| Renter - Government | -3.12 (-3.73, -2.52) | -2.19 (-2.81, -1.58) | -2.36 (-2.99, -1.74) |
| Forced Move | -0.95 (-1.71, -0.20) | -0.68 (-1.44, 0.07) | -0.66 (-1.41, 0.09) |
| "Precarious housing" | | | |
| 0 | reference | reference | reference |
| 1 | -0.59 (-0.88, -0.30) | -0.36 (-0.65, -0.06) | -0.36 (-0.65, -0.06) |
| 2 | -1.40 (-1.87, -0.93) | -0.62 (-1.10, -0.14) | -0.69 (-1.18, -0.20) |
| 3+ | -1.47 (-2.58, -0.36) | -0.35 (-1.47, 0.76) | -0.48 (-1.60, 0.64) |

* Age, sex, country of birth

** Educational attainment, highest occupation level in household, and disposable income (except affordability stress model)

"Precarious housing" = sum of housing stress, overcrowding, dwelling in poor condition, private rental and forced move in previous 12 months

Associations significant at 95% level are in bold

