



## **The role of housing insecurity and homelessness in suicidal behaviour and effective interventions to reduce suicidal thoughts and behaviours: a review of the evidence**

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## Acronyms and abbreviations used in this report

<b>AHURI</b>	Australian Housing and Urban Research Institute Limited
<b>AIHW</b>	Australian Institute of Health and Welfare
<b>b</b>	Unstandardised beta (b) represents the slope of the line between the predictor variable and the dependent variable
<b>CI</b>	Confidence interval
<b>DFV</b>	Domestic and family violence
<b>HR</b>	Hazard ratio (chance of an event occurring)
<b>OR</b>	Odds ratio is the ratio of odds of an event in one group versus the odds of the event in the other group
<b>p</b>	P-value is the level of marginal significance within a statistical hypothesis test, representing the probability of the occurrence of a given event
<b>RR</b>	Risk ratio is the ratio of risk of an event in one group (e.g. exposed group) versus the risk of the event in the other group (e.g. non-exposed group)
<b>SHS</b>	Specialist homelessness services

## Glossary

A list of definitions for terms commonly used by AHURI is available on the AHURI website [www.ahuri.edu.au/research/glossary](http://www.ahuri.edu.au/research/glossary).

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# Executive summary

This evidence check on the role of housing insecurity and homelessness in suicidal behaviour and effective interventions to reduce suicidal thoughts and behaviours was prepared by the Australian Housing and Urban Research Institute (AHURI) for the National Suicide Prevention Adviser and the National Suicide Prevention Taskforce, commissioned through the Suicide Prevention Research Fund, managed by Suicide Prevention Australia.

The evidence on the links between housing related factors and suicide is sparse and Australian studies are lacking.

Overall, the evidence shows that the three main channels by which housing affects suicide:

- protracted financial stress due to the cost of housing
- loss of ontological security due to eviction, insecure housing and homelessness
- the impacts of adverse life events on children and young people on their present and future mental health.

Research on the links between housing and suicide falls into two main clusters. The first relates to research on the links between recession, mortgage default, evictions, and suicide. Most of this evidence shows that the increase in home foreclosures and evictions due to major economic recessions are correlated with increases in suicide rates. However, detailed studies on the mechanisms that cause this are lacking. There is some evidence to suggest that the protracted financial strain that leads to loss of housing is a factor in this. The economic recession engendered by the Coronavirus pandemic may heighten some of the issues previously described in the literature.

The second cluster of research is on the links between homelessness and suicide. While the evidence base is sparse, several studies show that homeless populations have higher rates of suicide than the general population.

There are few studies that examine the impact of race, class, gender, and other cohort specific characteristics. What evidence there is, suggests that young people experience disproportionately negative impacts in relation to their mental health in the present and in their future adult lives. Indigenous Australians require culturally appropriate services and supports and should be involved in program design.

Due to the lack of a solid evidence base it is difficult to evaluate the success of potential interventions for housing and suicide related issues. However, it is likely that interventions that ameliorate the protracted financial stress associated with housing may address some of the risk factors associated with suicide. For homeless people, the provision of appropriate, secure, and affordable housing that is integrated with mental health and other supports will likely deliver the greatest gains in terms of preventing suicide.

There is an urgent need for further research in this area.

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# 1. Impact of economic recession, mortgage default and evictions on suicide

## Key findings

- Evidence on the links between recession, mortgage default, evictions and suicide is sparse and Australian studies are lacking
- Most studies show that economic recession, mortgage default and evictions are correlated with increases in poor mental health and suicide rates at the population level, however only two qualitative studies examine the causal links
- One study finds that middle aged adults have a higher risk of home foreclosure than do other age groups
- One qualitative study points to the impact of clustering effects—economic strain is typically combined with other strains, including loss of housing, in the genesis of suicidality
- One qualitative study finds that suicide risk increases with longer exposure to the eviction process and when banks adopt a threatening attitude, and identifies the importance of formal and informal social supports in mitigating suicide risk
- Several studies highlight the importance of social support

## Interventions

- Amend social and housing policies to tackle structural and fundamental causes of housing insecurity and suicide risk
- Regulate the private rental market to promote it as an affordable, appropriate, and stable type of tenure
- Increase the supply of social rental housing
- Better regulate mortgages and lenders to prevent abuse against borrowers and create second chance mechanisms
- Intervention at the early stages of the mortgage arrears process may prevent acute economic shock from turning into chronic financial stress and foreclosure
- Work with banks to identify borrowers who may be at risk of defaulting on their mortgage and link them with appropriate supports
- Develop programs to prevent evictions (e.g. subsidies for people at risk of foreclosure or mortgage stress)
- Sustain existing programs and develop new ones to enhance universal social protection, and strengthen population-wide suicide prevention measures during economic crises
- Courts may serve as an important locus of suicide prevention and referral to mental health services for at risk groups

Economic recession, mortgage default (foreclosures) and evictions affect mental health and suicide risk through multiple channels, including at the individual and community levels.

First, housing and home provide ontological security for householders. This sense of belonging to a place and community is important to one's sense of self and identity (Hulse and Saugeres 2008). Second, the experience of home foreclosure and eviction are rarely discrete, time-limited events and often involve stress over a long period of time (Rojas and Stenberg 2016; Tsai 2015). Third, foreclosure and eviction may involve relocation and disruption of existing social networks (Tsai 2015).

High rates of foreclosures and evictions affect communities through various 'spillover' effects, including declining local property values, degradation of the neighbourhood environment, changes in safety levels, changes in the retail and built environments (Vásquez-Vera et al. 2017).

Most of the evidence demonstrates that economic recessions, increased foreclosure and evictions are correlated with increases in poor mental health and suicide rates at the population level. Few studies investigated the role of age, ethnic minority status and gender, though one study found that rising home foreclosure rates explained 18 per cent of the variance in the middle-aged suicide rate between 2005 and 2010 (Houle and Light 2014).

Due to study design, most of the evidence cannot draw causal inferences about the links between loss of home and suicide, which highlights the urgent need to undertake more qualitative research on this. However, one qualitative study points to the impact of clustering effects—economic strain is typically combined with other strains, including loss of housing, in the genesis of suicidality (Stack and Wasserman 2007). Another qualitative study finds that suicide risk increases with longer exposure to the eviction process and when banks adopt a threatening attitude while soliciting payments and identifies the importance of formal and informal social supports in mitigating suicide risk (Mateo-Rodríguez et al. 2019).

Two studies had null findings. One US study found that the metropolitan-level variation in the strength of the housing crisis was not significantly correlated with metropolitan-level suicide rates (Jones and Pridemore 2016). An ecological study of 20 EU countries found that unaffordable housing was not significantly associated with suicides (Reeves et al. 2015).

## 1.1 Quality of the evidence base

This review identified twelve studies that considered the links between foreclosures, evictions and suicide; four systematic reviews, five US studies (4 quantitative and 1 qualitative), one ecological study of 20 European countries, one study from Sweden and one qualitative study from Spain. No Australian studies were identified (see Table 1).

Overall, there was a lack of research on the impact of home foreclosures and evictions on suicide. Most studies used cross-sectional quantitative approaches—only two qualitative studies were identified. The preponderance of cross-sectional and ecological studies compared to cohort, case-control and qualitative studies meant that evidence on the causality between foreclosures, evictions and suicide was rudimentary.

In addition, it is possible that the observed association between foreclosures, evictions and suicide may be explained by reverse causality, given that poor mental health is both a cause and consequence of insecure housing (Beer et al. 2006; Brackertz et al. 2020).

There is an urgent need to conduct research on the links between economic recession, loss of home and suicide in the Australian context, using both quantitative and qualitative approaches. Due to the variance in social welfare regimes, findings from US and EU studies may not be transferrable to the Australian context. For example, Reeves et al. (2015) observed in the EU context, where active labour market programmes and social capital were relatively high, there was no elevated risk of suicide during the recent recession associated with the global financial crisis.

## 1.2 Systematic reviews

This review identified four systematic reviews that examined the impact of economic recession, foreclosures and evictions on health and mental health and suicide (Downing 2016; Frاسquilho et al. 2016; Tsai 2015; Vásquez-Vera et al. 2017). All reviews demonstrated the negative effects of foreclosures and evictions on mental health, including suicide.

**Vásquez-Vera et al. (2017)** conducted a systematic review of 47 articles on the evidence of the threat of eviction on health. Studies included were from the US (33) and UK (6), with a smaller number from Spain (3). The authors applied an equity lens based on social determinants of health and health inequities and considered all stages of the process of losing a dwelling, including threat of eviction (e.g. payment arrears) on both homeowners and renters.

The authors hypothesised that threat of eviction has a greater effect on health in more disadvantaged groups (health, gender, race, and socio-economic status) and sought evidence for this by analysing studies for the effects of eviction threat on mental health, general and physical health, mediating factors between the threat of eviction and health, and health inequities in the relationship between eviction threat and health.

The review showed a general consensus that individuals under threat of eviction experienced negative health outcomes, both mental (e.g. depression, anxiety, psychological distress, suicides) and physical (poor self-reported health, high blood pressure, child maltreatment) and that these outcomes were influenced by gender, age, ethnicity and geographic location.

Most studies that assessed mental health found a significant negative association with the threat of eviction and demonstrated that being subject to foreclosure, or living in high foreclosure neighbourhoods increased the likelihood of depression, anxiety, psychological distress and suicide and was detrimental to quality of life.

In relation to the community impacts of foreclosures and evictions, five of the six studies analysed showed that living in areas with higher rates of foreclosure and evictions was related to poorer health and mental health outcomes via spillover effects. Another key finding was that social and health inequities increased the likelihood of eviction threat among the most disadvantaged groups (e.g. low education, unemployed, low incomes, ethnic minorities).

**Downing (2016)** systematically reviewed 40 studies on the effects of foreclosures and unaffordable housing on homeowners to understand the direct and spillover effects on health and mental health. The study found that foreclosures and unaffordable housing were detrimental to health at both the individual and population levels. Evidence from the most rigorous studies suggested that homeowners who experienced foreclosure had more anxiety and depression, and that at the population level, foreclosures were associated with increased violent behaviour and healthcare utilisation.

**Frasquilho et al. (2016)** examined the evidence on the association between economic recessions and mental health outcomes, focussing on quantitative research. The authors found consistent evidence that economic recessions and mediators such as unemployment, income decline, and unmanageable debts, were significantly associated with poor mental wellbeing, increased rates of common mental disorders, substance-related disorders, and suicidal behaviours. The authors observed that most research was based on cross-sectional studies, which facilitated only limited inferences about causality.

The review found that studies on pre- and post-economic recession changes in suicidal behaviour in several countries (Sweden, Greece, South Korea, Spain, Italy, UK, Canada, US, Europe) provided evidence that recessions led to an increase in suicide rates and suicidal ideation. The authors identified a strong possible association between unemployment rates, debt, and suicidal behaviours. They observed that although reports of growing suicidal ideation and attempts in countries in recession were limited due to the complexity of the phenomenon, different cultural backgrounds, quality of the data sets, and self-reporting, which is susceptible to recall bias, the findings were consistent with the idea that suicide was more common in areas of high socioeconomic deprivation, social fragmentation, and unemployment.

The authors found that periods of recession correlated with higher prevalence of common mental disorders, substance disorders, and suicidal behaviour. Factors such as unemployment, precarious work, debts, economic strain, and pre-existing mental illness made people more vulnerable to the effects of recession. The authors noted that the evidence showed specific differences between countries and regions and hypothesised that this may be explained by the socioeconomic policy response to recession (the presence of unemployment benefits or social programmes) which may influence changes in the mental health outcomes of the populations.

**Tsai (2015)** systematically reviewed US studies (43 publications, representing 35 unique studies) about foreclosure, health, and mental health. He did not consider threat of eviction (early stages of the foreclosure process). Most studies (32) analysed found that foreclosure has adverse effects on health or mental health; three studies yielded null or mixed findings; only two studies examined the extent to which foreclosure may have disproportionate impacts on ethnic or racial minority populations.

The author found that home foreclosure adversely affected health and mental health through channels operating at multiple levels. At the individual level, the stress of personally experiencing foreclosure was associated with worsened mental health and adverse health behaviours, which were in turn linked to poorer health status. At the community level, increasing degradation of the neighbourhood environment had indirect, cross-level adverse effects on health and mental health.

All 21 studies based on individual-level data found that the personal experience of home foreclosure was associated with worsened outcomes including depression, anxiety, alcohol use, psychological distress, and suicide.

### 1.3 Impact of evictions on suicide: US literature

Increase in suicide rates in the US between 2005 and 2010 by nearly 13 per cent coincided with the deepest economic recession since the Great Depression and sparked research into the reasons for this. Several US studies examined the links between evictions and home foreclosures and mental health and suicide (Cook and Davis 2012; Currie and Tekin 2015; Fowler et al. 2015; Houle and Light 2014; Tsai 2015).

Cook and Davis (2012) studied adult suicides in an urban county in Ohio from 2000 to 2005. They used court records for their case-control study of all 315 adult suicides; a control group of 630 age-, sex-, race-, and geography-matched non-injury deaths; and a second control group of 630 age-, sex-, race-, and geography-matched unintentional injury and poisoning deaths.

Almost a third of suicide victims had recent court involvement, twice the proportion than among the control groups. Suicide victims were three times more likely to have experienced foreclosure in the year before death compared to persons who died due to non-injury causes (odds ratio [OR], 3.0; 95% confidence interval [CI], 1.2–7.7) and compared to unintentional injury and poisoning deaths (OR, 3.6; 95% CI, 1.5–8.5).

The authors concluded that courts may serve as an important locus of suicide prevention and referral to mental health services for this at-risk group. They identified an opportunity to consider how pre-booking strategies of suicide prevention involving law enforcement and sharing of information among court gatekeepers could assist with identification of high risk clients, as well as assessing other concurrent life stressors (e.g. recent financial crisis, job loss, relationship break up).

While the study design was sound, findings were limited due to the small size of the sample, with only 13 suicides recorded for persons who had court proceedings due to foreclosure (out of N=255 suicide deaths in the year following the court proceedings).<sup>1</sup>

A frequently cited study by **Houle and Light (2014)** evaluated the ecological association between the foreclosure crisis in the US and suicide rates. The authors found that increases in within-state total foreclosure rates were significantly associated with total suicide rates, and the effects of real estate-owned foreclosures on suicide were stronger than total foreclosure. The study also showed that foreclosures affected suicide rates differently depending on age, with the effects being strongest among the middle-aged (46–64 years).

The analysis considered macroeconomic indicators, state level foreclosure rates, suicidal behaviours, and state level suicide rates of annual data from all 50 US states and Washington, D. C. The study used hybrid random- and fixed-effects models to examine the relationship between state foreclosure rates and total and age-specific suicide rates from 2005 to 2010 (N=306 state-years). The foreclosure variable was the proportion of mortgaged housing units in any stage of the foreclosure process and the proportion that were real estate owned. The health-related outcome was the age adjusted suicide rate.

They found that the foreclosure crisis likely contributed to increased suicides, independent of other economic factors associated with the recession, especially among middle-aged adults. Net of other factors, an increase in the within-state total foreclosure rate was associated with a within-state increase in the crude suicide rates (unstandardised beta [b]=0.04;  $p < 0.1$ ), and effects were stronger for the real estate-owned foreclosure rate ( $b=0.16$ ;  $p < 0.05$ ). Analysis of age-specific suicide rates indicated that the effects were strongest among the middle-aged (46–64 years: total foreclosure rate,  $b=0.21$ ;  $p < 0.001$ ; real estate-owned foreclosure rate,  $b=0.83$ ;  $p\text{-value } [p] < 0.001$ ). Rising home foreclosure rates explained 18 per cent of the variance in the middle-aged suicide rate between 2005 and 2010.

The authors observed that middle aged adults had the highest proportion of homeowners relative to other age groups and had a higher risk of home foreclosure than other age groups.<sup>2</sup> This group also has the most to lose—losing key assets and wealth close to retirement age is likely to have a profound effect on the mental health and well-being of middle-aged individuals. The authors observed that in this light, it was perhaps unsurprising that they found no association between foreclosures and suicide among the elderly or younger individuals—who were unlikely to have mortgages and to be affected by the foreclosure crisis in the same way as middle-aged adults.

The study's findings were limited because of its ecological nature, which meant that the quality of data was not assessable and no implications on causality could be drawn. Results should be interpreted with caution as other variables, independent of economic conditions, may be involved in the precipitation of suicide. The time series was limited to five years.<sup>3</sup>

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<sup>1</sup> The study was assessed as 7.5 out of 10 in terms of quality by Vasquez et al. (2017).

<sup>2</sup> This is consistent with an Australian study by Berry et al. (2009) who found that the middle-aged cohort was most likely to experience mortgage default.

<sup>3</sup> Assessed as 8 out of 10 in terms of quality by Vasquez et al. 2017.

**Fowler et al. (2015)** used an ecological (trend analysis) study to examine all 929 eviction or foreclosure-related suicides documented in 16 US states participating in the National Violent Death Reporting System. Loss of housing or impending loss of housing was identified based on key words such as 'evicted', 'sheriff sale or warrant of removal', 'foreclosure', or 'lost house or home'.

The authors aimed to determine the frequency and circumstances of suicide deaths linked to eviction (i.e. renters evicted for financial reasons) and foreclosure (i.e. homeowners losing homes to foreclosure) and examined the extent to which eviction or foreclosure was perceived as a key stressor contributed to the decedent's suicide versus acting in concert with other stressors.

They identified 929 eviction- or foreclosure-related suicides. Eviction and foreclosure-related suicides doubled from 2005 to 2010 (N=88 in 2005; N=176 in 2010), mostly because of foreclosure-related suicides, which increased 253 per cent from 2005 (N=30) to 2010 (N=106). Most suicides occurred before the actual housing loss (79%), and 37 per cent of decedents experienced acute eviction or foreclosure crises within two weeks of the suicide.

The authors concluded that housing loss was a significant crisis that could precipitate suicide. Prevention strategies included support for those projected to lose homes, intervention before move-out date, training financial professionals to recognise warning signs, and strengthening population-wide suicide prevention measures during economic crises.<sup>4</sup>

**Stack and Wasserman (2007)** undertook a qualitative study based on the files of an urban county medical examiner's office for the period 1997–2000 (N=675) to analyse the impact of unemployment and other economic strains on suicide risk. The study applied the theoretical framework of General Strain Theory to the case files. The research identified 62 instances of suicides that occurred in the context of economic strain. The study found that most suicides (43/62) occurred in the context of two or more different strains, most commonly economic plus relationship strain (20/43) and two combined economic strains (16/43); of the latter, the most common pattern was housing loss plus unemployment (4/16).

Loss of home occurred in 10 of the 62 cases of suicide. In all but three cases (where the loss was due to fire, transfer to a nursing home, and parent-forced eviction), these losses occurred in the form of impersonal evictions and foreclosures. The authors observed that the most important pattern regarding anticipated economic strain concerned loss of the home, which highlighted the importance of the ontological security provided by home.

A central finding of the study was that economic strain was typically combined with other strains in the genesis of suicidality, thereby highlighting the impact of clustering effects.<sup>5</sup>

**Jones and Pridemore (2016)** tested the association between the housing crisis and sex- and race-specific suicide rates in 142 major metropolitan statistical areas in the US for the period 2005–2009. The study found that metropolitan-level variation in the strength of the housing crisis did not significantly affect metropolitan-level suicide rates, and the null effects were consistent across different sex- and race-specific groups. The null effects for each of the dependent variables was a unique finding and was inconsistent with previous research highlighting the association between poor economic conditions and suicide (e.g. Houle and Light 2014), suggesting that while overall economic conditions may be associated with suicide rates, variation in housing-mortgage stress is not.

The authors concluded that, while the housing crisis was a key catalyst in the recent economic recession and might plausibly be linked to increased suicide rates or individual suicides, their study found no effect at the metropolitan level of the housing-mortgage stress index on the total, sex-, and race-specific suicide rates.

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<sup>4</sup> Assessed as only 4 out of 10 in terms of quality by Vasquez et al. 2017.

<sup>5</sup> This is consistent with an Australian study by Berry et al. (2009), which found that people in situations of mortgage foreclosure often experienced multiple crises at once.

## 1.4 European studies on housing and suicide

A qualitative study by **Mateo-Rodríguez et al. (2019)** provided insight into the causal links between evictions due to foreclosure, suicide risk and the role of the banks, health care and social support. The study assessed the risk of suicide among victims of eviction and investigated whether this was associated with specific characteristics of households and interviewees, the eviction process and social support, and health needs.

A total of 205 participants from households (674 members) threatened with eviction in Granada, Spain, were interviewed in one-on-one sessions between April 2013 and May 2014. Additionally, a questionnaire obtained information on physical and mental health, characteristics of their eviction process and support networks, and the use of health services.

Almost half of the sample (46.7%) were at risk of suicide. Household and interviewee features had a limited association with suicide risk. A longer exposure to the eviction process increased suicide risk. Threatening phone calls from banks significantly increased the risk of suicide, especially among men. Suicide risk was also associated with low social support, especially among women. In interviewees at risk, the main unmet needs were emotional and psychological help, especially in men. A high percentage of those at risk of suicide declared having large unmet health needs. There was a tendency among the evicted at risk of suicide to visit emergency room and primary care more often than those not at risk, especially among women.

The study showed the role banks had in increasing or mitigating suicide risk among mortgagees who were at risk of eviction. The authors found that banks had a clear role in mortgage victims' suicide risk: suicide risk increased with longer exposure to the eviction process and when banks adopted a threatening attitude while soliciting payment. The main unmet support need among mortgage victims was support to manage the negotiation with banks.

The authors' conclusion highlights the impact of banks—when banks adopted a threatening attitude, suicide risk increased among the evicted. Conversely, when the evicted felt socially supported, suicide risk decreased. Emotional help was the main mediator of suicide risk and the main unmet need, especially among men.

**Reeves et al. (2015)** undertook an ecological study using multivariate statistical models covering the years 1981–2011 and analysed a cross-national sample of 20 EU countries. Models were adjusted for pre-existing time trends and country-fixed effects. Interaction terms were used to evaluate modifying effects. The authors examined the relationship between national male suicide rates, unaffordable housing, unemployment, and indebtedness. Unaffordable housing was measured using self-reported prevalence rates of unaffordable housing ('heavy financial burden due to housing costs') and the rate of indebtedness ('arrear on housing or other bills') from EuroStat (2013 edition).

The authors found that unaffordable housing was not significantly associated with suicides; rather, additional job losses and household indebtedness were stronger determinants of population suicide rises. Economic risk factors significantly increased suicide rates among men of working age but not among those older than 65 years of age. Where active labour market programmes and social capital were relatively high, there was no elevated risk of suicide during the recent recession associated with the GFC.

The study found that changes in levels of unaffordable housing had no effect on suicide rates ( $p=0.32$ ), but that increased male suicides were significantly associated with each percentage point rise in male unemployment, by 0.94 percent (95% CI: 0.51–1.36%), and indebtedness, by 0.54 per cent (95% CI: 0.02–1.06%).

The study had several limitations: because of its ecological nature, the quality of data was not assessable and implications on causality could not be drawn. Results should be interpreted with caution as other variables, independent of economic conditions, may be involved in the precipitation of suicide. Furthermore, unaffordable housing is a self-assessed measure.

**Rojas and Stenberg (2016)** used penalised maximum likelihood logistic regressions, to analyse a sample consisting of all persons served with an application for execution of an eviction order in Sweden during 2009–2012. This group was compared to a random 10 per cent sample of the general Swedish population aged 16 and over. This was one of the few studies focusing on renters—while the study includes homeowners most of the sample were renters.

The authors concluded that home evictions had a significant and detrimental impact on individuals' risk of committing suicide, even when several other well-known suicidogenic risk factors were controlled for.

A total of 195 suicides were included in the analysis, of which 41 occurred in the exposed group. The study found that eviction is significantly related to suicide, with a corrected OR of 9.21. In other words, those who had lost their legal right to the dwelling, and where the landlord had applied for the eviction to be executed, were approximately nine times more likely to commit suicide than those who had not been exposed to this experience. This relationship remains practically unchanged when adjusted for age, gender and place of birth.

When substance abuse, mood disorders and schizophrenia are included in the analysis, the effect of eviction remains significant but decreases considerably in strength. The size of the OR is still large (5.94) and is not significantly different from any of the ORs associated with these newly introduced controls (OR=4.82, 4.94 and 7.36, respectively). In the final model, six additional control variables are introduced into the analysis (unemployment, receipt of social welfare, education, region, family constellation and criminality). The effect of eviction remains significant but decreases slightly in strength, to OR=4.42.

The authors made three points in their conclusion. First, the prospect of losing one's home because of eviction may be experienced as a significant crisis and shameful experience in which one's most basic human needs are denied. Second, professionals and others who interact with individuals who are in the process of losing their homes may be important gatekeepers in preventing suicide.<sup>6</sup> Third, from the perspective of the legislator, evictions are intended as a general preventative measure to promote the general payment moral in society. The authors point to previous studies that showed that 80 per cent of those evicted in Sweden had rent arrears of lower than €2,000 and ask whether suicide is a reasonable outcome in relation of rent arrears of €1000-€2000.

## 1.5 Australian studies

The review was not able to identify any Australian studies on the links between suicide and economic recession, mortgage default and evictions. Two studies examine the effects of mortgage defaults; Ong et al. 2019, who examined the impact of mortgage stress on older Australians is discussed below in section 3.4.

**Berry et al. 2009** examined the incidence, causes, and impacts of mortgage arrears in Australia using qualitative and quantitative sources. They found that mortgage defaults are concentrated in the middle-aged cohort (35–54 years of age) and among low- to moderate- income households. Mortgagees who defaulted were characterised by high initial loan-to-value ratios, paid relatively high mortgage interest rates, fell into arrears early into their loan terms (less than one year), and were more likely than all Australian purchasing home owners to borrow from sources other than a bank. Significantly, only 24 per cent of households sought financial advice on budgeting and other ways to address the problems.

The authors identify several avenues to alleviate mortgage stress, including varying the terms of the mortgage, using hardship programs under the Uniform Consumer Credit Code, refinancing existing loans in default, drawing down superannuation savings, and, as a final resort, declaring bankruptcy. They highlight the need educate borrowers around lending practices, associated risks and access to free financial advice for those in arrears.

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<sup>6</sup> According to the World Health Organisation, a 'gatekeeper' is anyone who is in a position to identify whether someone may be contemplating suicide, and such gatekeepers are particularly important, since individuals at risk of committing suicide rarely seek help but may exhibit risk factors and behaviours that identify them as vulnerable when encountered; see World Health Organisation (2014) *Preventing suicide: a global imperative*, World Health Organization, Luxembourg.

## 1.6 Interventions

The review was unable to identify any studies that examined the effectiveness of interventions to mitigate suicide risk due to factors associated with housing stress and evictions due to economic recession. Based on the evidence examined, the following interventions could be considered to ameliorate the impacts of economic recession, mortgage stress and evictions on suicide:

- Amend social and housing policies to tackle structural and fundamental causes of housing insecurity and suicide risk
- Regulate the private rental market to promote it as an affordable, appropriate, and stable type of tenure
- Increase the supply of social rental housing
- Regulate mortgages and lenders to prevent abuse against borrowers and create second chance mechanisms<sup>7</sup>
- Intervention at the early stages of the foreclosure process may prevent acute economic shock from turning into chronic stress of foreclosure
- Work with banks to identify borrowers who may be at risk of defaulting on their mortgage to link them with appropriate supports. This could include support for those projected to lose homes, intervention before move-out date, training financial professionals to recognise warning signs
- Develop programs to prevent evictions (e.g. subsidies for people at risk, financial education and advice)<sup>8</sup>
- Sustain existing and develop new programs to enhance universal social protection, and strengthen population-wide suicide prevention measures during economic crises
- Courts may serve as an important locus of suicide prevention and referral to mental health services for at risk groups

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<sup>7</sup> For a summary of the processes of dealing with mortgage defaults in Australia, see: Berry, M., Dalton, T. and Nelson, A. (2009) *Mortgage default in Australia: nature, causes and social and economic impacts*, AHURI Positioning Paper No. 114, Australian Housing and Urban Research Institute Limited, Melbourne, <https://www.ahuri.edu.au/research/position-papers/114>.

<sup>8</sup> E.g. Obama's *Making Housing Affordable Initiative* and *Home Affordable Modification Program* provided permanent mortgage modifications to over 1.4 million US people (see Tsai 2015). Scotland also had several programs <https://www2.gov.scot/hosf#:~:text=The%20Scottish%20Government's%20Home%20Owners,Mortgage%20to%20Shared%20Equity%20scheme>.

Table 1: Summary of studies on the links between economic recession, mortgage default, evictions, and suicide

Citation	Country/ Years	Variables	Findings
(Vásquez-Vera et al. 2017)	Mainly US	Systematic review of 47 articles on the evidence of the threat of eviction on health in relation to homeowners and renters	Individuals under threat of eviction experience negative health and mental health outcomes (e.g. depression, anxiety, psychological distress, and suicides) and these outcomes are influenced by gender, age, ethnicity, and territory. Living in high foreclosure neighbourhoods increases the likelihood of depression, anxiety, psychological distress, and suicide and is detrimental to quality of life.
(Downing 2016)	Mainly US	Systematic review of 40 studies on the effects of foreclosures and unaffordable housing on homeowners	Examines the evidence on the direct and spillover effects of foreclosures on health and mental health. Identifies only 3 studies relevant to suicide. Found that foreclosures and unaffordable housing were detrimental to health at both the individual and population levels.
(Tsai 2015)	US	Systematic review of 43 publications (35 unique studies) about foreclosure, health, and mental health	Home foreclosure adversely affects health and mental health. At the individual level, the stress of experiencing foreclosure is associated with worsened mental health and adverse health behaviours, which are in turn linked to poorer health status. At the community level, increasing degradation of the neighbourhood environment has indirect, cross-level adverse effects on health and mental health.  All 21 studies based on individual-level data find that the personal experience of home foreclosure is associated with worsened outcomes including depression, anxiety, alcohol use, psychological distress, and suicide.
(Frasquilho et al. 2016)	20 countries	Systematic review of 101 quantitative studies on the association between economic recessions and mental health outcomes	Found consistent evidence that economic recessions and mediators such as unemployment, income decline, and unmanageable debts, are significantly associated with poor mental wellbeing, increased rates of common mental disorders, substance-related disorders, and suicidal behaviours.
(Cook and Davis 2012)	US (Ohio) (2000–2005)	Foreclosures, adult suicides, noninjury deaths, unintentional injury, and poisoning deaths	Suicide victims were three times more likely to have experienced foreclosure in the year before death compared to persons who died due to non-injury causes (OR, 3.0; 95% CI, 1.2–7.7) and compared to unintentional injury and poisoning deaths (OR, 3.6; 95% CI, 1.5–8.5).
(Fowler et al. 2015)	US (2005–2010)	Eviction or foreclosure-related suicides documented in the National Violent Death Reporting System	Eviction and foreclosure-related suicides doubled from 2005 to 2010 (N=88 in 2005; N=176 in 2010), mostly because of foreclosure-related suicides, which increased 253% from 2005 (N=30) to 2010 (N=106). Most suicides occurred before the actual housing loss (79%), and 37 per cent of decedents experienced acute eviction or foreclosure crises within 2 weeks of the suicide.
(Houle and Light 2014)	US (2005–2010)	Macroeconomic indicators, state level foreclosure rates, suicidal behaviours, state level age specific suicide rates	Rising home foreclosure rates explained 18 per cent of the variance in the middle-aged suicide rate between 2005 and 2010.

1. Impact of economic recession, mortgage default and evictions on suicide

Citation	Country/ Years	Variables	Findings
(Stack and Wasserman 2007)	US (1997–2000)	Qualitative study on the impact of unemployment and other economic strains on suicide risk.	Most suicides occurred in the context of two or more different strains, most commonly economic plus relationship strain and two combined economic strains; of the latter, the most common pattern was housing loss plus unemployment. The most important pattern regarding anticipated economic strain concerned loss of the home, which highlights the importance of the ontological security provided by home.
(Jones and Pridemore 2016)	US (2005–2009)	Total-, sex-, and race-specific suicide rates; housing-mortgage stress index	The metropolitan-level variation in the strength of the housing crisis did not significantly affected metropolitan-level suicide rates, and the null effects were consistent across different sex- and race-specific groups.
(Rojas and Stenberg 2016)	Sweden (2009–2012)	All persons served with an application for execution of an eviction order 2009–2012; suicides	Those who had lost their legal right to their dwellings and for whom the landlord had applied for the eviction to be executed, were approximately four times more likely to commit suicide than those who had not been exposed to this experience (OR=4.42), controlling for several demographic, socioeconomic and mental health conditions prior to the date of the judicial decision.
(Reeves et al. 2015)	20 EU countries (1981–2011)	National male suicide rates, unaffordable housing, unemployment, indebtedness	Unaffordable housing was not significantly associated with suicides.
(Mateo-Rodríguez et al. 2019)	Spain (2013–2014)	Qualitative study; risk of suicide among victims of eviction and association with household characteristics, eviction process, social support, health needs	<p>Almost half of the sample (46.7%) were at risk of suicide. Household and interviewee features had a limited association with suicide risk. Increased suicide risk was associated with longer exposure to the eviction process; threatening phone calls from banks (especially among men); low social support (especially among women).</p> <p>In interviewees at risk, the main unmet needs were emotional and psychological help (especially in men) and large unmet health needs. Evictees at risk of suicide tended to visit emergency room and primary care more often than those not at risk (especially women).</p>

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## 2. Homelessness

### Key points

- Homeless populations have higher rates of suicidal ideation and suicide than the general population
- Suicides among homeless and precariously housed populations tend to be in younger age groups and are associated with psychological illnesses and a high rate of emergency room presentations
- Several studies highlight the importance of social support in preventing suicide among this cohort
- The effect of gender on suicide risk is unclear, with some studies identifying men to be more at risk, while others identify women to be more at risk
- Childhood exposure to inter-parental conflict is a key driver of homelessness among young people and a risk factor for mental ill health
- Youth homelessness is associated with increased rates of suicide and suicidal ideation
- There is an established link between child and youth homelessness and homelessness later in life

### Interventions

- Suicide prevention among homeless populations should be comprehensive and comprise housing and social support as well as mental health services
- Emergency departments and psychiatric outpatient services may be well placed to undertake suicide risk assessment of homeless people
- Preventative and early intervention programs for children and young people in relation to parental domestic violence, alcohol and drug use and entry into out-of-home care arrangements might help
- Generalist services for families (health, mental health, drug and alcohol, child protection, and justice services) in collaboration with local specialist homelessness services, have an important role in identifying and responding to any risk of homelessness and suicide risk
- Interventions for suicide prevention among homeless populations should be comprehensive and comprise housing and social support as well as mental health services
- Targeted interventions should focus on engagement and targeted prevention, including access to mental health services and programs focused on social connectedness, physicians undertaking suicide risk assessment, and suicide prevention
- Both housing first interventions and more traditional homelessness interventions that facilitate access to homeless outreach and support centres and mental health resources, have been shown to decrease suicidal ideation and suicide attempts in homeless populations

The link between homelessness and mental ill health is well established (AIHW 2019b; Brackertz et al. 2020). Data from the Australian Institute of Health and Welfare's (AIHW) *Specialist Homelessness Services Annual Report* show that in 2018–19, 86,500 (30%) of the 290,300 clients accessing specialist homelessness services (SHS) reported a current mental health issue. Not only were clients with a current mental health issue one of the largest SHS client groups, they were also one of the fastest growing client groups (increasing by 38% in the 5 years to 2018–19) (AIHW 2019b).

## 2.1 Quality of the evidence base

The evidence base on the links between homelessness and suicide is sparse. Yet, several good international studies, including from Canada, Japan and Denmark, demonstrate that homelessness and precarious housing are correlated with elevated rates of suicide and suicidal ideation. The review identified only two Australian studies. There is an urgent need for further studies, especially in the Australian context, on effective programs to mitigate suicide risk among homeless populations.

## 2.2 Prevalence of suicide and suicidal ideation among homeless and marginally housed populations

Overall, the evidence finds that suicides among homeless and marginally housed populations tend to be in younger age groups and are associated with psychological illnesses and a high rate of emergency room presentations. Several studies highlight the importance of social support in preventing suicide among this cohort. The effect of gender on suicide risk is unclear, with some studies identifying men to be more at risk, while others identify women to be more at risk.

An Australian study by **Arnautovska et al. (2014)** undertook a comparative analysis of homeless and non-homeless persons (N=82 men and N=10 women) from the Queensland Suicide Register who died by suicide between 1990 and 2009 in Queensland. They found that homeless persons had almost double the suicide rate (risk ratio [RR]=1.9, 95% CI=1.5–2.5) than their non-homeless counterparts and were more likely to be male, younger, single or never married, non-Indigenous, unemployed, had at least one physical illness or other stressful life event prior to death, had drug and alcohol abuse problems, and also were more likely to have evidence for an untreated mental illness. On average, homeless males had 4.6 times higher suicide rate than women (27.6 per 100,000; 40.9 per 100,000 for males and 8.9 per 100,000 for women). Regression analysis showed that being unemployed, having a history of legal problems and not being diagnosed with mental illness were strongly associated with suicide among homeless persons. Findings from this study are limited due to the small number of women included in the sample and because no control group (homeless persons who died of other causes or a sample of alive homeless persons) was included in the design.

**Babidge et al. (2001)** studied deaths among a cohort of (N=708) homeless people referred to the Inner City Mental Health Service in Sydney, a psychiatric outreach clinic. The study found standardised mortality ratios for suicide over 10 in most age groups for men.

**Torchalla et al. (2012)**, using the Mini-International Neuropsychiatric Interview Plus (MINI-Plus) tool, showed that 16.3 per cent of their sample of 500 homeless persons in Canada had moderate to high suicide risk and a further 43.8 per cent had low suicide risk (comparisons with the general population were not provided).

A study by **Hwang et al. (2009)** showed that, compared to the general population, homeless or marginally housed women were 5.6 times more likely to die by suicide and men were 2.3 times more likely to die by suicide. The study used data from the Canadian census mortality follow-up study to examine mortality in a representative nationwide sample of 15,100 homeless and marginally housed people living in shelters, rooming houses, and hotels (1991–2001). They compared the mortality rates among those homeless and in insecure housing with those in the lowest income quintile. Results showed that mortality rates among these homeless and marginally housed people were substantially higher than rates in the poorest income fifth, with the highest rate ratios seen at younger ages.

**Sinyor et al. (2017)** reviewed coroner records for all suicide deaths in Toronto from 1998 to 2012. The study found that 1.8 per cent of people dying by suicide were homeless, a large number given that only about 0.2 per cent of the Toronto population is homeless at a point in time. Homeless and precariously housed individuals accounted for 9 per cent of all suicide deaths in Toronto over a 15-year period. They were therefore overrepresented in suicide death counts 10-fold, which was consistent with previous studies in other locations. Homeless people dying by suicide were younger and more likely to be male than non-homeless people dying by suicide. They were also more likely to have been seen by an emergency department or outpatient psychiatrist in the week prior to their death.

**Nilsson et al. (2014)** examined suicide and unintentional injury mortality levels via a nationwide, register-based cohort study of 32,010 homeless people in shelters aged 16 years and older, using the Danish Homeless Register 1999–2008. Men had higher risk of dying from suicide than women [hazard ratio (HR)=1.5, 95% CI=1.1–2.0]. The mortality rate for men was 174.4 [95% CI=150.6–198.1] per 100 000 person-years for suicide and 111.4 (95% CI=81.7–141.1) for women.

Most men (62.5%; N=14,104) and women (58.2%; N=5,507) had a record of a psychiatric diagnosis. Schizophrenia spectrum, affective, personality and substance use disorders were strongly associated with increased risk of suicide; the highest risk estimates were found for schizophrenia spectrum disorders among both men [HR=3.1, 95% CI=2.0–4.9] and women (HR=15.5, 95% CI=4.5–54.0). A history of psychiatric admission and psychiatric emergency room contact were important predictors of death by suicide.

**Okamura et al. (2014)** investigated the frequency and correlates of suicidal behaviour among homeless people in Tokyo, Japan, using a face-to-face survey (N=423). When questioned about suicidal ideation in the previous 2 weeks, 51 subjects (12.2% of valid responses) had a recurring wish to die, 29 (6.9%) had frequent thoughts of suicide, and 22 (5.3%) had made suicide plans. In addition, 11 (2.9%) subjects had attempted suicide in the previous 2 weeks and 74 (17.7%) reported that they had ever attempted suicide. In univariate logistic regression analyses, street homelessness, lack of perceived emotional social support, poor subjective health perception, visual impairment, pain, insomnia, poor mental well-being, and current depression were significantly associated with recurrent thoughts of suicide in the previous 2 weeks. Among these, current depression had the greatest significance. In multivariate logistic regression analyses after controlling for depression, street homelessness and lack of perceived emotional social support were significantly associated with recurrent thoughts of suicide in the previous 2 weeks.

**Noel et al. (2016)** analysed longitudinal (24 months) data in the Vancouver At Home/Chez Soi project (N=497); this comprised two randomised-controlled trials of housing interventions for homeless individuals with mental disorders. Presence of suicidal ideation was determined using the Colorado symptom index.

The At Home intervention aims to improve housing outcomes for homeless individuals with severe and persistent mental illness. It is based on Housing First principles and has been adapted to fit local realities and needs—the Vancouver site focused specifically on substance misuse.

Baseline diagnoses of Recommended Readings of 117 mood (OR=2.18, 95% CI 1.48–3.21) and anxiety disorders (OR=2.05, 95% CI 1.42–2.97), as well as depressive mood (OR=2.52, 95% CI 1.90–3.33), use of any substance (OR=1.59, 95% CI 1.09–2.32), and polysubstance use (OR=1.90, 95% CI 1.40–2.60) were significantly associated with suicidal ideation in the multivariate model. Baseline diagnosis of a psychotic disorder (protective effect), daily substance use, intravenous drug use, recent arrest, multiple physical illnesses, and history of traumatic brain injury were significantly associated with suicidal ideation in the unadjusted model only.

The intervention, the At Home Program, decreased suicidal ideation significantly over time [OR=0.31 at 24 months, 95% CI 0.21–0.46].

The study showed that interventions targeting depressive symptoms and substance use could help decrease suicide risk in homeless individuals and that mental health services need to be tailored to address the complex needs of socially marginalised individuals.

**Aquin et al. (2017)** analysed data from all five sites (Vancouver, Winnipeg, Toronto, Montreal, Moncton) of the Canadian At Home/Chez Soi intervention (2009–2013) to ascertain whether Housing First decreased suicidal ideation and suicide attempts compared to treatment as usual among homeless persons with mental disorders.

The analysis used data from an unblinded, randomised control trial. Homeless adults with a diagnosed major mental health disorder were recruited through community agencies and randomised to Housing First (N=1265) and treatment as usual (N=990). Housing First participants were provided with private housing units and received case management support services. Treatment as usual participants retained access to existing community supports (e.g. homeless outreach and support centres, and mental health resources). Past-month suicidal ideation was measured at baseline and 6, 12, 18, and 21/24 months. A history of suicide attempts was measured at baseline and the 21/24-month follow-up.

The study found a significant overall decline in suicidal ideation over time—rates of suicidal ideation decreased from 37.3 per cent to 21.3 per cent in the entire study population between baseline and 21/24-month time points). However, there was no statistically significant variance in suicidal ideation and suicide attempts between the Housing First and treatment as usual groups. The baseline presence of mood disorder, PTSD, panic disorder, psychotic disorder, and substance use disorder was associated with later suicidal behaviour.

In other words, while both intervention and control groups experienced similarly significant drops in suicidal ideation over the course of the 2-year study, during the 2 years of follow-up, housing first was not associated with reductions in suicidal ideation or attempts compared to treatment as usual.

The authors suggest that Housing First interventions consider supplemental psychological treatments that have proven efficacy in reducing suicidal behaviour. It remains to be determined what kind of suicide prevention interventions (if any) are specifically effective in further reducing suicidal risk in a Housing First intervention.

## 2.3 Youth homelessness

Homelessness affects young people in several ways. First, the experience of homelessness contributes to increased rates of suicide and suicidal ideation. Second, the adverse experience of homelessness increases the risk of mental ill health later in life and, as the evidence shows, adverse early life experiences are a risk factor for suicide later in life (Turecki et al. 2019). Third, there is an established link between child and youth homelessness and homelessness later in life.

**Kidd et al. (2017)** analysed mental health related data from the Canadian 2015 Leaving Home national youth homelessness survey (N=1103). They found that 42 per cent of participants reported one or more suicide attempts; 85.4 per cent fell in a high range of psychological distress. Key indicators of risk included an earlier age of the first episode of homelessness, female gender, and identifying as a sexual and/or gender minority (lesbian, gay, bisexual, transgender, queer, and 2 spirit).<sup>9</sup>

**Gewirtz O'Brien et al. (2020)** analysed secondary data of 9<sup>th</sup> and 11<sup>th</sup> graders in the 2016 Minnesota Student Survey (N=68,785) using multivariable logistic regression to compare four mental health outcomes (self-injury, suicidal ideation, suicide attempts, and depressive symptoms) across groups, controlling for demographics and abuse history.

The study found that unstably housed youth had poorer mental health outcomes when compared with their stably housed peers ( $p < 0.05$ ); 11 per cent of homeless youth, 20 per cent of runaways, and 33 per cent of youth who had experienced both, had attempted suicide in the previous year compared with 2 per cent of stably housed youth (adjusted OR 2.4, 4.9, and 7.1, respectively).

The authors concluded that the experience of running away was associated with increased risk of poor mental health above and beyond that of unaccompanied homelessness.

## 2.4 Intergenerational homelessness

The evidence demonstrates the enduring negative impact of child and youth homelessness on mental health and future homelessness.

**Flatau et al. (2013a)** conducted an important study on the effects of intergenerational homelessness in Australia. Intergenerational homelessness occurs when homelessness is repeated across generations of the same family. The study used data from the representative national cross-sectional 2009–2010 Intergenerational Homelessness Survey (N=647) and qualitative interviews (N=15). Based on self-reports, at least 13 of the 15 interviewees had a mental illness (including depression, anxiety, schizophrenia) and/or a history of suicide attempts. Thus, while mental health and suicide were not the focus of the study, it is likely that they were key factors in people's experiences.

Almost half (48.5%) of clients receiving support from SHS reported that their parents had also been homeless at some point in their lives. The proportion was substantially higher for Aboriginal and Torres Strait Islander respondents (69%). Many respondents experienced significant issues in the home environment prior to the age of 18. Around half of all respondents reported that they had run away from home at some point prior to the age of 18 and 58.8 per cent reported police intervention due to inter-parental conflict.

The study found that episodes of youth homelessness may predict subsequent adult homelessness and that the role of individual family risk factors appeared critical to the experience of many adult homeless people.

**Nilsson et al. (2017)** examined the association between parents' history of homelessness with children's risk of psychiatric disorders during childhood and adolescence in Denmark. The authors used a nationwide, register-based cohort study of 1,072,882 children and adolescents aged 0–16 years, who were living or born in Denmark between 1 January 1999, and 31 December 2015.

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<sup>9</sup> '2 spirit' refers to an individual who identifies with both masculine and feminine spirits and is a term used by some Indigenous individuals to describe gender, sexual, and/or spiritual identities.

The study found that parental homelessness was associated with an increased risk of psychiatric disorders in offspring during childhood and adolescence. The incidence of any psychiatric disorder was 15.1 cases per 1000 person-years (95% CI 14.4–15.8) in offspring with at least one parent with a history of homelessness, compared with 6 per 1000 person-years (95% CI 6.0–6.1) in those whose parents had no such history (IRR 2.5 95% CI 2.3–2.7] for mother homeless, 2.3 [2.2–2.5] for father homeless, and 2.8 [2.4–3.2] for both parents homeless, after adjustment for year and offspring characteristics. This risk remained elevated after additional adjustment for factors including parental psychiatric disorders.

While the study did not address suicide or suicide risk, other evidence shows that mental ill health is a risk factor for homelessness and insecure housing, thereby further underscoring the negative effects of child and youth homelessness and the risk for intergenerational homelessness.

**Torchalla et al. (2012)** provide further evidence on the links between adverse childhood experiences and suicide risk in homeless populations. The authors studied the impact of five forms of child maltreatment subtypes and their associations with current suicide risk in a sample of 500 homeless persons in Canada. They found that four of the five childhood maltreatment subtypes were associated with suicide risk in individual models, but not in a model that included all child maltreatment subtypes. The strongest associations were found for reports of multitype child maltreatment involving all five subtypes. Mental disorders and female sex were independently associated with suicide risk. The authors concluded that clinicians should be aware that homeless clients are likely to report multitype maltreatment and should assess a variety of childhood maltreatment experiences.

## 2.5 Interventions

This review was not able to identify any substantial studies on the effectiveness of housing interventions in mitigating suicide risk among homeless populations. However, it appears that both traditional and Housing First interventions have the capacity to reduce suicide risk in homeless populations. The evidence identified the following opportunities to provide interventions.

- Interventions for suicide prevention among homeless populations should be comprehensive and comprise housing and social support as well as mental health services
- Targeted interventions should focus on engagement and targeted prevention, including access to mental health services and programs focused on social connectedness, physician suicide risk assessment and suicide prevention.
- Emergency departments and psychiatric outpatient services may be well placed to undertake suicide risk assessment of homeless people.
- Preventative and early intervention programs for children and young people in relation to parental domestic violence, alcohol and drug use problems and entry into out-of-home care arrangements are important in preventing youth homelessness.
- Generalist services for families (health, mental health, drug and alcohol, child protection, and justice services) have an important role in identifying and responding, in collaboration with local specialist homelessness services, to any risk of homelessness.
- Both, Housing First interventions and more traditional homelessness interventions that facilitate access to homeless outreach and support centres, and mental health resources, have been shown to decrease suicidal ideation and suicide attempts in homeless populations (Aquin et al. 2017). There is no conclusive evidence that housing first interventions are more effective than traditional homelessness interventions in reducing suicide risk and there remains a need to complement these with supplemental psychological treatments that have proven efficacy in reducing suicidal behaviour. One study highlights the importance of also targeting depressive symptoms and substance misuse when providing housing first in order to decrease suicidal ideation in homeless people with serious mental illness (Noel et al. 2016).
- There is Australian evidence that points to the need to better integrate mental health and homelessness services (Flatau et al. 2013b; Brackertz et al. 2020; Brackertz et al. 2018).

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## 3. At risk groups

### Key points

- Young people experiencing homelessness have elevated risk of suicide now and later in life
- College students are a cohort with elevated risk of suicide and suicidal ideation
- Older people still paying off their mortgage have higher levels of psychological distress and lower mental health wellbeing than people who have paid off their home loan
- Older adults, especially men, living in areas with a higher proportion of rental households have an increased risk of suicide
- Indigenous households experience higher rates of housing stress, which may contribute to poor mental health, however, there is no research on the links between Indigenous Australians' housing circumstances and suicide
- US veterans who are experiencing housing instability and homelessness have increased suicide risk

### 3.1 Quality of the evidence base

There is scant evidence on the links between housing and suicide for specific cohorts, highlighting an urgent need for further research.

### 3.2 Young people

See Youth homelessness (section 3.3), Intergenerational homelessness (section 3.4) and Domestic and Family Violence (section 5.2).

In summary, domestic and family violence is a key driver for youth homelessness. Youth homelessness is associated with increased rates of suicidal ideation and increased suicide risk in young people and later in life. One study has shown that almost half of adult homeless persons had experienced homelessness at one or more points in their childhood and youth (intergenerational homelessness). Consequently, there is an urgent need for domestic and family violence interventions and interventions for homelessness to put the needs of children and young people at the forefront of the intervention.

#### 3.2.1 College students

The US literature identifies college students as a group with high suicide risk with reports of between 10–46 per cent of college students having contemplated suicide and 1.5–2 per cent having made a suicide attempt in the past year (House et al. 2013). The literature indicates that youth who are suicidal may turn to their peers first for help. Therefore, gatekeeper prevention programs that teach peers how to recognise warning signs of suicide, deal effectively with a student in distress and make appropriate referrals may be an effective form of intervention.

A systematic review of gatekeeper training programs concluded that gatekeeper training can be effective as part of a multifaceted strategy to prevent suicide (Isaac et al. 2009).

**House et al. (2013)** studied the effectiveness of a gatekeeper training suicide prevention program called Campus Connect developed by the Syracuse University Counseling Center in 2006. The program emphasised emotional connectivity with students in crisis and was based on collaboration between housing/residential programs and the counselling centre. The study found that those who participated in the training showed statistically significant gains, from pre-training to post-training and in the three-month follow up, in relation to knowledge, skill and emotional connectivity. However, the impact of the program on the campus population's suicidal ideation and the number of attempted suicides was not assessed.

**Rivero et al. (2014)** examined the effectiveness of the CARE Net (Consultation and Resource Evaluation) program that aims to provide a mechanism for staff members within the Counseling Center and Department of Residential Life at a large north-eastern public US university to intervene in a timely manner with students who either threaten or attempt suicide, as well as with their parents, and, as appropriate, their roommates or suitemates. The study reports that students who successfully completed the program remained in school and demonstrated small but significant rebounds in Grade Point Average in the semester after the incident. However, the study makes no comment on the effectiveness of the program in relation to suicidal ideation or suicide attempts, which severely limits its utility for the purposes of this review.

### 3.3 Middle aged adults

The effects of foreclosure on increasing suicides has been shown to be strongest for adults aged 46–64 years (see section 2.3 Houle and Light 2014).

### 3.4 Older people

**Law et al. (2016)** studied the influences of population level factors on suicides in older adults in Australia from an ecological perspective using data from the Census of Population and Housing for suicide rates of adults aged 65 years and over for 2002–2011. They found that living in areas with a higher proportion of rental households increased the risk of suicide in older adults, especially for older men. However, these findings must be treated in context, as in Australia areas with a higher proportion of rental households are frequently also areas of higher socio-economic disadvantage, which in turn is associated with higher suicide risk.

**Ong et al. (2019)** studied the consequences of housing stress and mortgage default on older homeowners (aged 55 and over) in Australia, highlighting that the impacts of mortgage default are economic, social, and emotional. Growing numbers of middle aged and older Australians are carrying mortgage debt into retirement and paying off higher levels of debt relative to house values and income. Between 1987 and 2015, mortgage debt among older mortgagors increased by 600 per cent (from \$27,000 to over \$185,000). These trends have significant consequences for older Australians' wellbeing, retirement wealth management and government incomes policy and housing assistance programs.

The study used three nationally representative microdata sources to undertake empirical analyses (Survey of Income and Housing (SIH), Household, Income and Labour Dynamics in Australia (HILDA), ABS population projections) and designed and measured a range of mortgage stress indicators. Mental health was measured using the SF-36 Survey (a short-form survey featuring 36 questions on health and wellbeing) and the Kessler 10 (K10) psychosocial distress questionnaire.

The study found that older people still paying off their mortgage, score higher on psychological distress scales and lower on mental health wellbeing scores, than people who have paid off their home loan. Older female mortgagors generally have lower levels of mental health and higher levels of psychological distress than older male mortgagors. Unemployed women who still have a mortgage have the greatest psychological stress levels and worst mental health, while for men 'not being in the labour force' led to the worst psychological outcomes.

### 3.5 Indigenous people

**Baillie and Wayte (2006)** underline the role of housing as a social determinant of health in Indigenous communities. They state that the inadequacy of housing for Indigenous Australians has been widely acknowledged—including quality of basic services, materials, facilities and infrastructure; habitability; affordability; accessibility; legal security of tenure; and location and cultural adequacy.

Housing and health are interrelated in direct and indirect ways. Direct influences include the effect of the material conditions of housing on physical health and the effect of the associated social conditions on mental health and well-being. Housing has an indirect influence on health, at both the individual and neighbourhood or group level, as it is an important component of general socioeconomic status and influences access to services.

The authors note that crowding is a key issue for mental health; crowded conditions have been associated with poorer self-reported mental health, and the social stress associated with crowding contributes to high rates of domestic violence. According to the 2016 Census, Indigenous households were three times more likely than non-Indigenous households to be living in overcrowded dwellings (10%; about 26,400 persons), across all types of housing tenure (AIHW 2019a).

Indigenous people have low rates of home ownership, the most secure form of tenure (38% in 2016, compared to 66% for non-Indigenous Australians), and high rates of homelessness (AIHW 2019a). Low levels of secure tenure may affect ontological security, with attendant negative impacts on mental health. The negative impacts of homelessness on mental health and suicide are well documented (section 3).

In addition, many Indigenous households live in dwellings that are of poor quality. In 2014–15, 29 per cent of Indigenous Australians were living in a dwelling with major structural problems (e.g. major cracks in walls or floors, major plumbing problems).

The factors outlined above contribute to elevated level of housing stress among Indigenous households, which are contributing factors for poor mental health.

#### 3.5.1 Interventions

The evidence review was not able to identify any specific housing related interventions for suicide prevention for Indigenous people. However, the general literature on suicide prevention programs for Indigenous people highlights that mainstream programs for suicide prevention are not appropriate and points to the need for cultural appropriateness, accessibility and 'both ways' dialogue. Programs should focus on the social, emotional, cultural and spiritual underpinnings of community wellbeing and be developed in thorough consultation with Indigenous communities (Goodwin-Smith et al. 2013; Nasir et al. 2017; Nathan et al. 2020; Tsey et al. 2007).

International evidence appears to show a direct correlation between increased cultural control within First Nation communities and reduced suicide rates (Parker and Milroy 2014). The Canadian Aboriginal Horizontal Framework is an example of an innovative government policy designed to address disadvantage. The framework was developed to act as a strategic guide to funding priorities and cooperation between various levels of government and has seven pillars of equal value: health; lifelong learning; safe and sustainable communities; housing; economic opportunity; lands and resources; and governance and relationships (Parker and Milroy 2014).

### 3.6 Veterans

Several US studies highlight the increased suicide risk among veterans who are experiencing housing instability and homelessness (Blosnich et al. 2020; Bossarte et al. 2013; Culhane et al. 2019; Tsai and Cao 2019; U.S Department of Veterans Affairs 2019).

This literature suggests that suicidality among veterans peaked just before the onset of homelessness (Culhane et al. 2019) and highlights a need for increased awareness of housing status and proactive referral to housing services to decrease the risk of psychological distress and suicidal ideation associated with loss, or threat of loss, of housing (Bossarte et al. 2013).

The Australian evidence shows that homeless veterans were more likely to report high levels of psychological distress and were significantly more likely to report suicidal ideation, plans and attempts (Hilferty et al. 2019). The risk factors for veteran homelessness often overlap with those for suicide (drug and alcohol use, youth, psychological stress, less contact with friends, engaging in risky behaviours, lifetime traumatic events, including Post Traumatic Stress Disorder).

### 3.7 Gender

The evidence on how gender affects the relationship between housing related factors and suicide is unclear. Several studies identified women as being disproportionately affected (Hwang et al. 2009; Kidd et al. 2017; Ong et al. 2019; Torchalla et al. 2012) while others found that men are more affected (Law et al. 2016; Nilsson et al. 2014; Reeves et al. 2015).

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# 4. Impacts of the coronavirus pandemic on housing and suicide

The coronavirus pandemic is likely to impact the relationship between housing and suicide in several ways; these include economic channels due to the recession and social channels due to the impact of social distancing and isolation measures, as well as impacts on homelessness.

## 4.1 Impact of the recession

There are signs that the economic recession is increasing mortgage stress levels. Media reports indicate that more than 1.4 million Australian households are now in mortgage stress and almost 100,000 could soon default on their loans (ABC News 2020). Data from Digital Finance Analytics' rolling household surveys shows that at the end of May 2020, 37.5 per cent of households (1.42 million households) were in mortgage stress (Digital Finance Analytics 2020). This is likely to lead to increased rates of foreclosures and mortgage defaults over the coming years.

On 19 June 2020, the Australian Banking Association reported that 485,063 home loan mortgages had been deferred at a total value of \$175.5 billion (Australian Banking Association 2020). It is anticipated that when Government welfare supports, JobSeeker and JobKeeper, wind back in September 2020 the economic situation for many households will deteriorate even further (AHURI 2020a).

It is possible that an increasing number of mortgagees may switch to interest only loans, which will lengthen the amount of time it will take to repay mortgages and will likely elevate housing stress. There are, however, significant restrictions on who can access interest only loans, and those who do may face paying a higher interest rate.

Some analysts predict a fall in house prices of between 10–20 per cent due to increasing unemployment and resulting in debt servicing problems, forced sales and sharply falling prices (Khadem 2020). If people become trapped in negative equity scenarios (as was commonly the case with the US housing crisis following the Global Financial Crisis), this could prevent them from exiting into the private rental market without them carrying significant debts.

For lower income homebuyers (i.e. earning in the bottom 40% of Australia's income distribution) levels of mortgage stress were already high before the coronavirus pandemic. Previous AHURI research into mortgage stress revealed that in 2007–08 (during the GFC) 60.7 per cent of in lower income homebuyers who had bought in the previous three years had mortgage payments of 30 per cent or greater of household income—equating to 147,100 households (up from 38.5% in 1981–82) (AHURI 2020a).

AHURI research shows the negative impacts of mortgage stress on older homeowners' mental wellbeing (Ong et al. 2019); it is likely that younger home buyers, who tend to be more heavily mortgaged than older homeowners, will experience similar emotional distress as a result of losing income due to the pandemic and its associated economic downturn. Research on this issue and its links with suicide in Australia is urgently needed.

Forced sales among landlords could negatively affect house prices overall. Landlords may struggle to fill rental vacancies, which may put them at financial risk, especially if they are heavily negatively geared.

The recession will also affect renters. Widespread job losses and/or reduction in households working hours may increase the proportion of rental households in rental stress. Renters who deferred a proportion of their rent payments may be required to suddenly repay their loans, putting them at risk of financial stress.

## 4.2 Domestic and family violence

The social isolation and social distancing restrictions due to the coronavirus pandemic present additional pressures for families and in relation to domestic and family violence (DFV). As people are being forced to stay home to reduce transmission of the coronavirus, there have been signs of increases in cases of DFV (Cartwright 2020; Mills 2020; NSW 2020). Restrictions on movement and social interactions have meant that with less opportunity to leave the home, people experiencing DFV have lost access to social supports, both formal and informal (AHURI 2020b).

Other social distancing measures put in place to prevent the spread of the virus have inadvertently removed the safety nets that are built into the everyday social infrastructure of cities, ones that allow detection of DFV and opportunity for intervention. With schools and other institutions closed, there is less opportunity for teachers and others with mandatory disclosure obligations to notice problems and raise concerns. Doctors are providing consultations by teleconference and are less able to notice and flag signs of concern; it also means such consultations are not necessarily private and confidential (AHURI 2020b).

AHURI is currently undertaking a series of research projects that will further examine the impact of the coronavirus on housing. These can be found here at <https://www.ahuri.edu.au/news-and-media/covid-19/ahuri-announces-eight-covid-19-research-projects-to-inform-housing-policy-response-to-pandemic>.

## 4.3 Homelessness

The coronavirus pandemic may lead to elevated levels of homelessness and is affecting homeless people in several ways (AHURI 2020c):

- **Inability to self-isolate.** Rough sleepers often congregate in common areas for safety while other popular locations may provide shelter and a degree of warmth, such as public transport stations or hospital waiting rooms. Crisis accommodation may not be an appropriate option either as these facilities can become crowded and do not have the space to allow physical distancing. People who were previously couch surfing with relatives and friends may be no longer able to do so.
- **Overcrowding.** People living in severely overcrowded or transient housing may find it very difficult to maintain the appropriate physical distancing necessary to prevent spreading COVID-19 and the chance of someone bringing the infection into the dwelling is greater than for people sharing dwelling space with a small number of people.
- **Lack of access to proper sanitation.** Rough sleepers have less access to places where they can wash or disinfect hands or clothing that may potentially have been contaminated by the virus. In addition, with the virus having the ability to survive on some surfaces for several days, readily available sanitation places such as public toilets and their wash basin taps may not be cleaned often enough to destroy the virus.
- **Greater reliance on hospitals.** If a person experiencing homelessness falls ill with the COVID-19 virus they do not have a home in which to recuperate and isolate and therefore need to rely on being able to remain in hospital.

In response to these issues, governments have introduced measures to assist homelessness services responding to the coronavirus crisis, including (AHURI 2020c):

- Guidelines and directions for modifying services, including the need to recognise the negative impact the coronavirus crisis is having on mental health
- Several Australian state governments have provided funding to accommodate homeless persons in hotel rooms.

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