



National Centre for Longitudinal Data

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Housing conditions and children's health

Anastasia Sartbayeva

Housing quality is one of the main factors that affect human health. International research has demonstrated the relationship between different aspects of housing conditions and specific health outcomes, such as the impact of cold, damp and mould on asthma and respiratory conditions (for a review of literature, see Dockery et al. 2010).ⁱ

The following housing factors have been shown to affect children's health and development (Dockery et al. 2010):

- environmental allergens
- toxicants
- cleanliness, housing disrepair and safety
- building height and opportunities for outdoor play
- crowding
- housing affordability
- home ownership
- frequent residential moves
- homelessness
- neighbourhood characteristics.

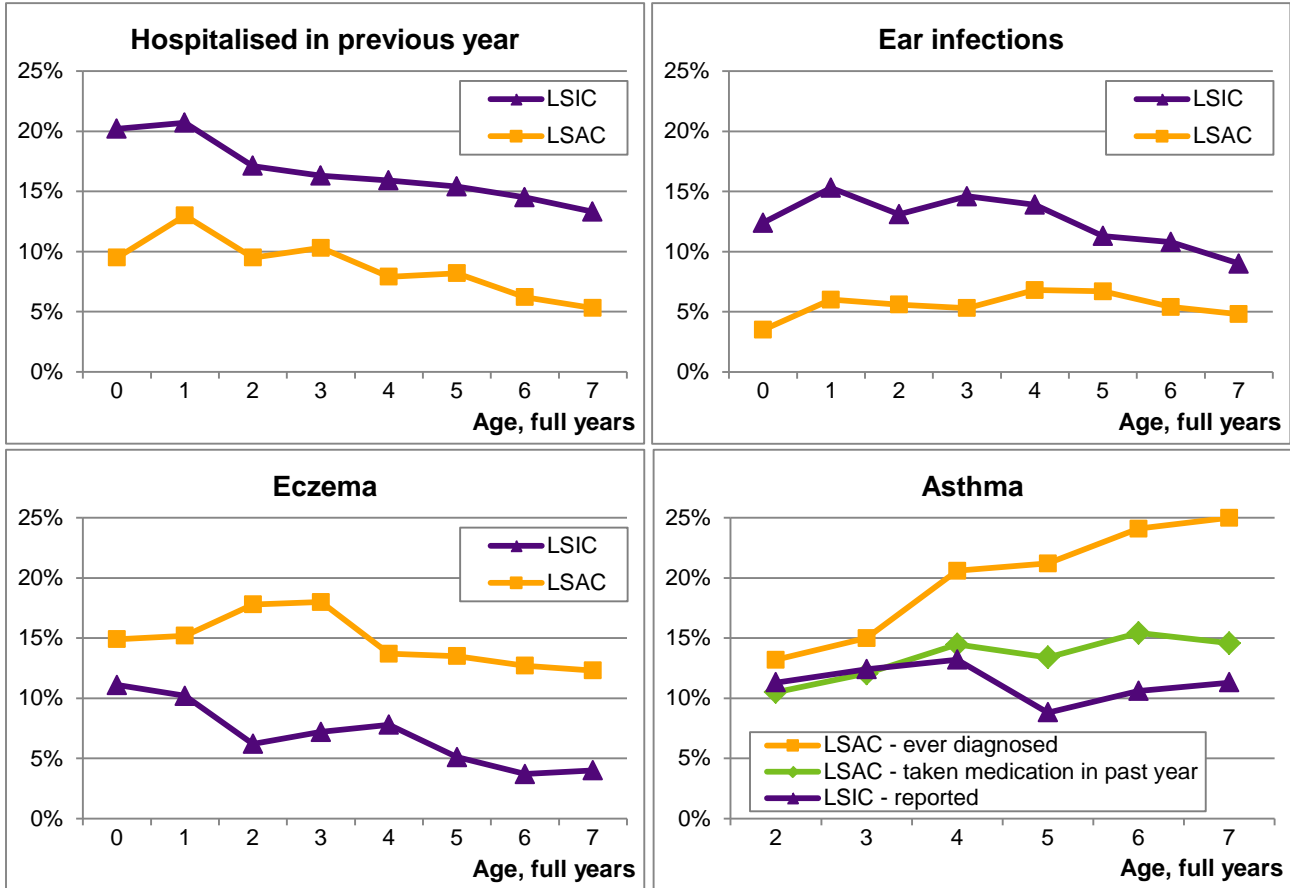
In Australia, Dockery et al. (2013)ⁱⁱ looked at the impact of housing conditions and related variables on children's outcomes using indexes of physical health, socioeconomic wellbeing and learning. The authors concluded that, although there was a statistically strong relationship between some housing-related factors and a child's physical health, socio-emotional wellbeing and learning outcomes, the role of housing in shaping children's wellbeing in Australia was quite modest overall. At the same time, the authors suggested that the significantly inferior housing circumstances of Indigenous children were likely to have a greater contribution to their lower outcomes when compared to non-Indigenous children.

This research summary extends the analysis by Dockery and colleagues to investigate the effects of housing on specific health conditions, some of which may be more related to housing quality than others. It uses data from two longitudinal studies of Australian children, *Growing Up in Australia: The Longitudinal Study of Australian Children (LSAC)* and *Footprints in Time: The Longitudinal Study of Indigenous Children (LSIC)*.

The two studies collect a wide range of data about both the housing conditions and health issues of participating children. Some comparisons are provided below (also in Figure 2):

- Indigenous children in LSIC are about twice as likely to be hospitalised as their peers in the general population (16 per cent vs 8 per cent at 4 years of age).
- Indigenous children in LSIC are more than twice as likely to contract ear infections as children in LSAC (on average, 12.5 per cent vs 5.5 per cent for children aged 7 or under).
- On the other hand, asthma and eczema were more common among children in LSAC than in LSIC.

Figure 2: Selected health indicators, LSIC and LSAC, by age in years

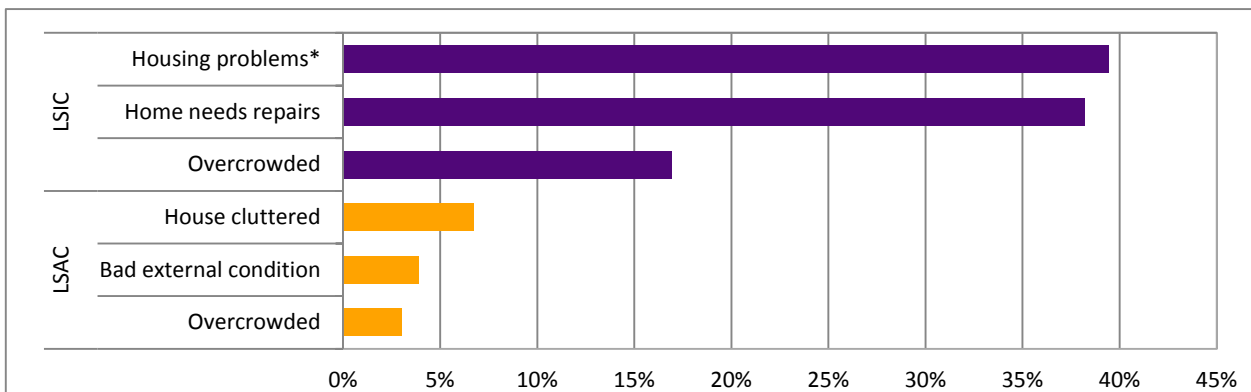


Notes:

- (1) LSAC is a nationally representative study which includes a small proportion of Indigenous children (4.1% of wave 1 sample) and does not cover remote areas. LSIC is not nationally representative, but is a reasonable representation of the geographical distribution of Aboriginal and Torres Strait Islander children, with about a quarter of its participants living in remote or very remote areas. Remoteness is therefore expected to play a large part in explaining any observed differences between the two surveys.
- (2) Questions about health conditions are asked differently in the two studies: LSAC asks about ongoing health problems, while LSIC asks about any health issues in the past year. Therefore, some conditions reported by LSIC respondents may refer to short-term complaints, and the results may overstate the prevalence of serious health issues among Indigenous children.

Both LSAC and LSIC collect information about respondents' housing, although the types of data collected in the two surveys are different (see Figure 3). One exception is overcrowding.ⁱⁱⁱ

Figure 3: Selected housing variables (pooled data, LSIC 2008–2011, LSAC 2004–2010)



* Includes all LSIC respondents who answered 'yes' to the question: 'In the last year, have you felt crowded where you live, moved house or had housing problems?'

Due to differences in the collection of housing data, a direct comparison of poorer housing is not possible **between** LSAC and LSIC; however the relationship between children's health outcomes and the presence or absence of housing issues can be investigated **within** each of the two studies.

While bad housing may directly cause worse health, it is also possible that the connection between health and housing conditions is at least partially explained by underlying socioeconomic and geographic factors such as poverty and remoteness. Indeed, this is what we find in both LSAC and LSIC for most health problems. However, some of the associations between health issues and poor quality housing remain significant even after the socioeconomic characteristics of the family have been taken into account:

- For children in LSIC, living in houses **in need of repair** is associated with an increased likelihood of eye problems, skin infections, chest infections, and of diarrhoea and colitis.
- In LSAC, **living in a cluttered home** is associated with an increased chance of hospitalisation, asthma requiring medical treatment, and of diarrhoea and colitis. Children living in cluttered houses are also less likely to have excellent health (as judged by their parent) and to have no ongoing health conditions. However, it can be argued that clutter is not strictly a housing variable related to the 'health hardware' of the house.

In LSIC, houses that need repair are more likely to be publicly rented and/or located in remote areas. Overall, about 50 per cent of respondents who lived in public housing (rented from government or a community organisation) said that their houses were in need of repairs. The same was true for about 30 per cent of private renters, and 19 per cent of respondents who owned their house outright or were paying off a mortgage. The situation is exacerbated in remote and very remote areas where more than 90 per cent of LSIC respondents live in public housing, where materials and tradespeople are less readily available, and where it takes longer to have the repairs done. Given the types of health problems among the LSIC children that are associated with living in houses that needed repairs, the connection may arise from lack of functional health hardware^{iv} (such as toilets and showers) leading to hygiene and sanitation issues.

Key findings

- In general, children in Australia live in homes that are in good physical condition: less than 5 per cent of children live in homes that are in bad external condition or overcrowded.
- In contrast, 17 per cent of Indigenous children in LSIC live in overcrowded housing, and 38 per cent live in houses that need repairs.
- For most Australian children, once the socioeconomic characteristics of their parents are taken into account, housing factors are not significantly related to their health.
- Indigenous children are more likely to experience a range of worse health outcomes if they live in houses that need repairs.

ⁱ Dockery, AM, Kendall, G, Li, J, Mahendran, A, Ong, R, & L Strazdins 2010, *Housing and children's development and wellbeing: a scoping study*, AHURI Final Report No. 149, Australian Housing and Urban Research Institute, Melbourne.

ⁱⁱⁱ Overcrowding is defined here as having more than two people per bedroom on average and thus failing the first criterion of the Canadian National Occupancy Standard.

^{iv} According to the **Housing for Health website** which was accessed 19 December 2014, the term 'health hardware' was first used in Australia by Fred Hollows to explain the physical equipment needed to ensure housing and environments supported good health.

Earlier versions of this research can be found in:

Brandrup, J 2013, 'How do housing conditions affect the health of Australian Indigenous children over time?', in *Footprints in Time: The Longitudinal Study of Indigenous Children—Report from Wave 4*, the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA), Canberra.

Bild, L, Brandrup, J, & A Sartbayeva 2013, 'How do housing conditions and housing instability affect the health of Indigenous and non-Indigenous children?', presented at LSAC and LSIC Research Conference 2013, 13–14 November 2013, Melbourne.