

The RHD Endgame Strategy: Evidence Brief #3

Considerations for a comprehensive remote housing strategy

Many people receive benefits to social and emotional wellbeing living closely with extended family. However, these benefits only have value when people have sufficient control over how many and who they choose to live with, and when there is adequate housing design and infrastructure to support the numbers. Household crowding is therefore the result of inappropriate housing, or even lack of adequate housing, for large families which is not culturally appropriate.¹

Reducing household crowding is frequently identified as a major priority by Aboriginal and Torres Strait Islander people in remote communities,^{2,3} with forty-one percent of people residing in crowded houses.⁴ Living in a crowded house appears to be associated with an increased likelihood of Strep A infections of between 1.7 and 2.8 fold.⁵ Being unable to achieve additional Healthy Living Practices including washing of people and clothing⁶ within the home environment, may also raise the risk of Strep A, ARF and RHD infection. Access to functioning health hardware and software, structurally sound homes and limited crowding to mitigate these risks can be achieved by the enforcement of greater building and environmental health standards, building new homes and repairing existing housing stock.

Develop and enforce building and environmental health standards for remote community housing

Mechanising the human right to adequate housing can be reasonably expected to improve health outcomes including for Strep A, ARF and RHD. However, poor design and construction, low-quality materials and poor maintenance of housing contributes to equipment failure of plumbing-related health hardware and inability to achieve the Healthy Living Practices.⁶ There is a well demonstrated need for building and environmental health standard in housing. Establishing and enforcing design, construction and functionality standards for housing in remote Aboriginal and Torres Strait Islander communities could provide an opportunity to improve the functionality of houses.

The National Indigenous Housing Guide was developed by the Australian Government in 1999 to supplement the Building Code of Australia, Australian Standards and jurisdictional documents.⁷ However, there are widespread concerns that many of the houses in remote Aboriginal and Torres Strait Islander communities do not meet the standards of the Guide.^{7,8} The need for enforceable national and jurisdictional remote-housing standards has been identified as a priority by the review of the National Partnership on Remote Housing.⁷

Modify existing housing to reduce overcrowding

In addition to the need for new houses, improving the design of existing housing stock to reduce the functional impact of overcrowding may be beneficial.⁹ Facilitating increased physical space between people, particularly for sleeping, may reduce the close physical contact which is associated with Strep A and scabies transmission.¹⁰ A variety of programs and approaches to increase access to functional living space have been attempted, including addition of more bedrooms, more verandas and more functional yard space. Housing with enclosed functional yard space has been identified as a preference in a number of communities.¹¹ No evaluation of the health impact of expanding functional space was identified on literature review.

Build new housing stock to reduce household crowding

The health effects of building new housing in remote Aboriginal and Torres Strait Islander communities has been evaluated in a small number of studies. In the *Housing Improvement and Child Health Study*, new houses were built in 10 NT communities between 2004 – 2005, with an average of 11 new houses per community (range: 7 – 15).¹² No concurrent renovation or hygiene programs were conducted. The construction of new houses did not reduce household crowding (defined as the mean number of people per bedroom in the house on the night before the survey). Reducing the number of people in each bedroom by two or more did not statistically reduce the risk of skin infections.¹³ It was suggested that a much larger increase in investment for housing, environmental health and health promotion may be needed to demonstrate impact.¹²

By the most conservative estimates, at least 5,550 new dwellings are required in remote areas to reduce household crowding by 20 – 30% by 2028.¹⁴ For a number of technical reasons, this is also acknowledged to be a substantial underestimate and it is likely the number of new dwellings required is much higher. Based on 2017 costs, the construction of even the minimum number of homes is estimated to be at least \$2.7 billion.¹⁴

Building new houses can reduce exposure to crowded households if it is part of a comprehensive package of household infrastructure management and includes environmental health promotion activities. The most appropriate new houses are built in consultation with the community and add additional value by training/employing local tradespeople.

Although sufficient numbers of new houses in communities have a dramatic impact on crowded living, new houses, in isolation, do not guarantee this outcome.⁹ Perversely, families may relocate from houses which are not necessarily crowded, but do not have functional facilities, to live in newer accommodation with better resources. For example, a number of families in houses without functioning showers or washing machines may move into a newly constructed house with functional amenities. In this way, new houses may exacerbate crowding unless new construction is not coupled with repair and maintenance of existing houses.⁹ Population increases can also offset benefits of the construction of new houses.¹⁵ The provision of new housing stock should also be coupled with repair and maintenance programs of existing houses to reduce this risk and ensure equitable access to Healthy Living Practices.

Recommendations

- Reducing household crowding is consistently identified as one of the major health priorities for Aboriginal and Torres Strait Islander peoples and peak bodies.
- Of all the environmental risk factors for Strep A infection, ARF and RHD, household crowding has the strongest evidence of association.⁵
- Reducing household crowding requires a comprehensive approach under the leadership of Aboriginal and Torres Strait Islander people and includes:
 - Aboriginal and Torres Strait Islander control of decision-making and resources;
 - Building sufficient new houses which are fit for purpose;
 - Repair, refurbishment and expansion of new houses; and
 - Comprehensive housing management programs.

About the END RHD CRE

In 2014, The End Rheumatic Heart Disease Centre of Research Excellence (END RHD CRE) was established to address the urgent need for a comprehensive, evidence-based plan to eliminate rheumatic heart disease across Australia.

Bringing together leading experts from 16 institutions across Australia and backed by a grant from the National Health and Medical Research Council (NHMRC), the CRE has synthesised the collective experience of communities, clinicians, Aboriginal Community Controlled Health Organisations, and government and non-government organisations – as well as more than 25 years of research – to tackle this need head on.

The result is *The RHD Endgame Strategy: The blueprint to eliminate rheumatic heart disease in Australia by 2031*. Outlining the best existing evidence-based strategies to prevent new cases of RHD in Australia and improve the lives of those already living with the disease, The RHD Endgame Strategy was launched in October 2020 and can be viewed at telethonkids.org.au/rhd-endgame.

Acknowledgements

The RHD Endgame Strategy is a product of collaboration between researchers, Aboriginal and Torres Strait Islander leaders, communities and people with lived experience.

Telethon Kids Institute acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the land and waters of Australia, and the lands on which this report was produced. We also acknowledge the Nyoongar Wadjuk, Yawuru, Kariyarra and Kurna Elders, their peoples and their land upon which the Institute is located, and seek their wisdom in our work to improve the health and development of all children.

References

1. Lowell A, Maypilama L, Fasoli L, et al. The 'invisible homeless' - challenges faced by families bringing up their children in a remote Australian Aboriginal community. *BMC Public Health* 2018; **18**(1): 1382.
2. The Lowitja Institute. Our Choices, Our Voices. Darwin: Close the Gap Campaign Steering Committee for Indigenous Health Equality, 2019.
3. Melody S, Bennett E, Clifford H, et al. A cross-sectional survey of environmental health in remote Aboriginal communities in Western Australia. *Int J Environ Health Res* 2016; **26**(5-6): 525-35.
4. Australian Health Ministers' Advisory Council. Aboriginal and Torres Strait Islander Health Performance Framework, 2017. Canberra: AHMAC, 2017.
5. Coffey PM, Ralph AP, Krause VL. The role of social determinants of health in the risk and prevention of Group A Streptococcal infection, acute rheumatic fever and rheumatic heart disease: a systematic review. *PLoS Negl Trop Dis* 2018; **12**(6): e0006577.
6. Healthabitat Pty Ltd. The Healthy Living Practices. 2019. <http://www.healthabitat.com/the-healthy-living-practices> (accessed 5 October 2020).
7. D'Souza R, Ostro J, Shah PS, et al. Anticoagulation for pregnant women with mechanical heart valves: a systematic review and meta-analysis. *Eur Heart J* 2017; **38**(19): 1509-16.
8. Aboriginal Peak Organisations Northern Territory. Good housing starts with community control. 2018. <http://www.amsant.org.au/apont/wp-content/uploads/2018/03/20180309-Communique-Aboriginal-Housing-Forum-2018.pdf> (accessed 19 June 2020).
9. Pholeros P. Will the crowding be over or will there still be overcrowding in Indigenous housing? Lessons from the Housing for Health projects 1985 - 2010. *Develop Prac* 2010; **1**(27): 8-18.
10. Oliver JR, Pierse N, Stefanogiannis N, Jackson C, Baker MG. Acute rheumatic fever and exposure to poor housing conditions in New Zealand: a descriptive study. *J Paediatr Child Health* 2017; **53**(4): 358-64.
11. Fien J, Charlesworth E, Lee G, Baker D, Grice T, Morris D. Life on the edge: housing experiences in three remote Australian Indigenous settlements. *Habitat Int* 2011; **35**(2): 343-49.
12. Bailie RS, McDonald EL, Stevens M, Guthridge S, Brewster DR. Evaluation of an Australian Indigenous housing programme: community level impact on crowding, infrastructure function and hygiene. *J Epidemiol Community Health* 2011; **65**(5): 432-7.
13. Bailie RS, Stevens M, McDonald EL. The impact of housing improvement and socio-environmental factors on common childhood illnesses: a cohort study in Indigenous Australian communities. *J Epidemiol Community Health* 2012; **66**(9): 821-31.
14. Australian Government Department of the Prime Minister and Cabinet. Remote Housing Review: a review of the National Partnership Agreement on Remote Indigenous Housing and Remote Housing Strategy (2008-2018). Canberra: Commonwealth of Australia, 2017.
15. Fien J, Charlesworth E. 'Why isn't it solved?': Factors affecting improvements in housing outcomes in remote Indigenous communities in Australia. *Habitat Int* 2012; **36**(1): 20-5.