



Housing

New Zealand College of Public Health Medicine Policy Statement

Policy statement

The New Zealand College of Public Health Medicine (NZCPHM) recognises housing as a key determinant of health. The NZCPHM is concerned that many New Zealanders do not have access to the adequate, safe, warm, dry, affordable houses which are essential for health and wellbeing. The NZCPHM calls for action to improve housing quality and heating as well as access to affordable housing. The NZCPHM recognises these initiatives as cost-effective measures to improve population health and reduce avoidable hospital admissions.

Background

Shelter is a fundamental need. In New Zealand we have too few houses, many poor quality houses and issues with housing affordability. A disproportionate number of people on low incomes live in older housing stock, with Māori and Pacific peoples over-represented in low-income households in areas with poorer quality housing.¹ Many New Zealand families share accommodation with other families to save money because they cannot afford adequate housing, which leads to overcrowding. The most recent statistics indicate that 10% of New Zealand households are overcrowded; with overcrowding being more common for Māori (23%) and Pacific people (43%).² Overcrowding is associated with an increased risk of crowding-related serious infectious diseases, and this is contributing to the relatively poor health of New Zealand children.^{3,4}

Unaffordable fuel and unsafe heating are also significant issues for many families. These factors contribute to families living in substandard housing and to overcrowding. New Zealand houses are considerably colder than the World Health Organization recommends (houses should be maintained above 18 degrees)⁵ and there is evidence that more than a third of New Zealanders live in houses with visible mould.⁶ The cost of heating poor quality housing falls unequally on low-income households, contributing to the increasingly recognised issues of fuel poverty and housing affordability.⁷ Fuel poverty arises from a combination of three factors: household income, fuel or energy costs and the energy efficiency of the house. This means that many people are unable to heat their house, or only able to heat a small portion of it. It has been estimated that in New Zealand 34% of households use unflued gas heaters, and 5% use them as the sole heating source.⁸ Unflued gas heaters add moisture and by-products of combustion such as nitrogen dioxide and carbon monoxide to the indoor environment. This can affect health.

Housing and health

Housing is a key determinant of health and an important mediating factor in health inequalities and poverty. The health consequences of inadequate housing are substantial and the complex causal pathways between housing and health are becoming better understood and documented.

There is evidence linking:⁹⁻¹⁷

- Overcrowding with communicable diseases such as meningococcal disease, acute rheumatic fever and tuberculosis.
- Home hazards and lack of safety devices with falls and injuries in both children and adults.
- Temperature extremes and air pollution with respiratory and coronary events.
- Damp and mould with respiratory illness (such as exacerbations of asthma).
- Unflued gas heaters with respiratory illness (such as exacerbations of asthma).
- Exposure to fuel-burning smoke and hazardous indoor gases with cancer.
- Stressors related to cold, damp and unaffordable housing with mental health.
- Housing type with the quality of interactions within neighbourhoods, social cohesion, trust and a sense of community.

Housing interventions to improve health

World-leading research undertaken in New Zealand has found that improved health outcomes can be achieved through housing interventions such as retrofitting insulation and providing improved heat sources.¹⁸ These improved health outcomes have included:^{19, 20}

- Fewer exacerbations of respiratory illness (less wheeze for those with asthma).
- Fewer general practitioner visits.
- Less time off work/school.
- Improved self-rated health.
- A trend towards reduced hospitalisations for respiratory and coronary conditions.
- Reduced energy use.

An economic evaluation of the Warm Up New Zealand: Heat Smart Programme (providing subsidies for retrofitting insulation and heating pre-2000 New Zealand homes) demonstrated a benefit-cost ratio of 3.9, which means that the benefits are 3.9 times higher than the costs.²¹

Housing improvement intervention programmes such as the *Healthy Housing Programme* (a collaboration between Housing New Zealand Corporation and District Health Boards) have also demonstrated that housing interventions can reduce potentially avoidable hospital admissions.²²

Health and energy co-benefits of housing interventions

A schematic diagram indicating the mechanisms for health and energy co-benefits from these housing interventions is shown in

A variety of housing related policy measures are shown in **Error! Reference source not found.** Many of these measures have energy co-benefits.

Figure 1. Housing interventions and health improvement²³

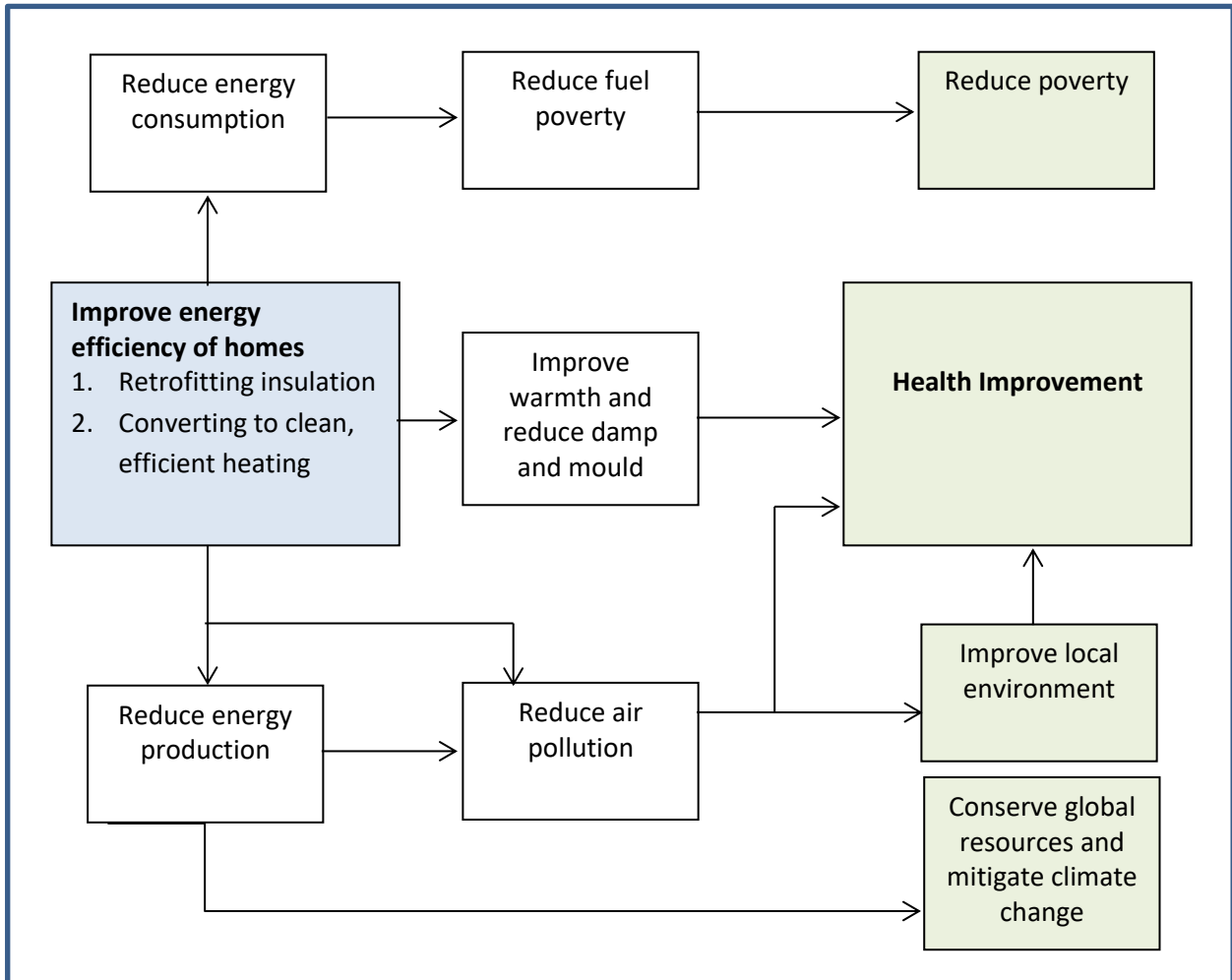
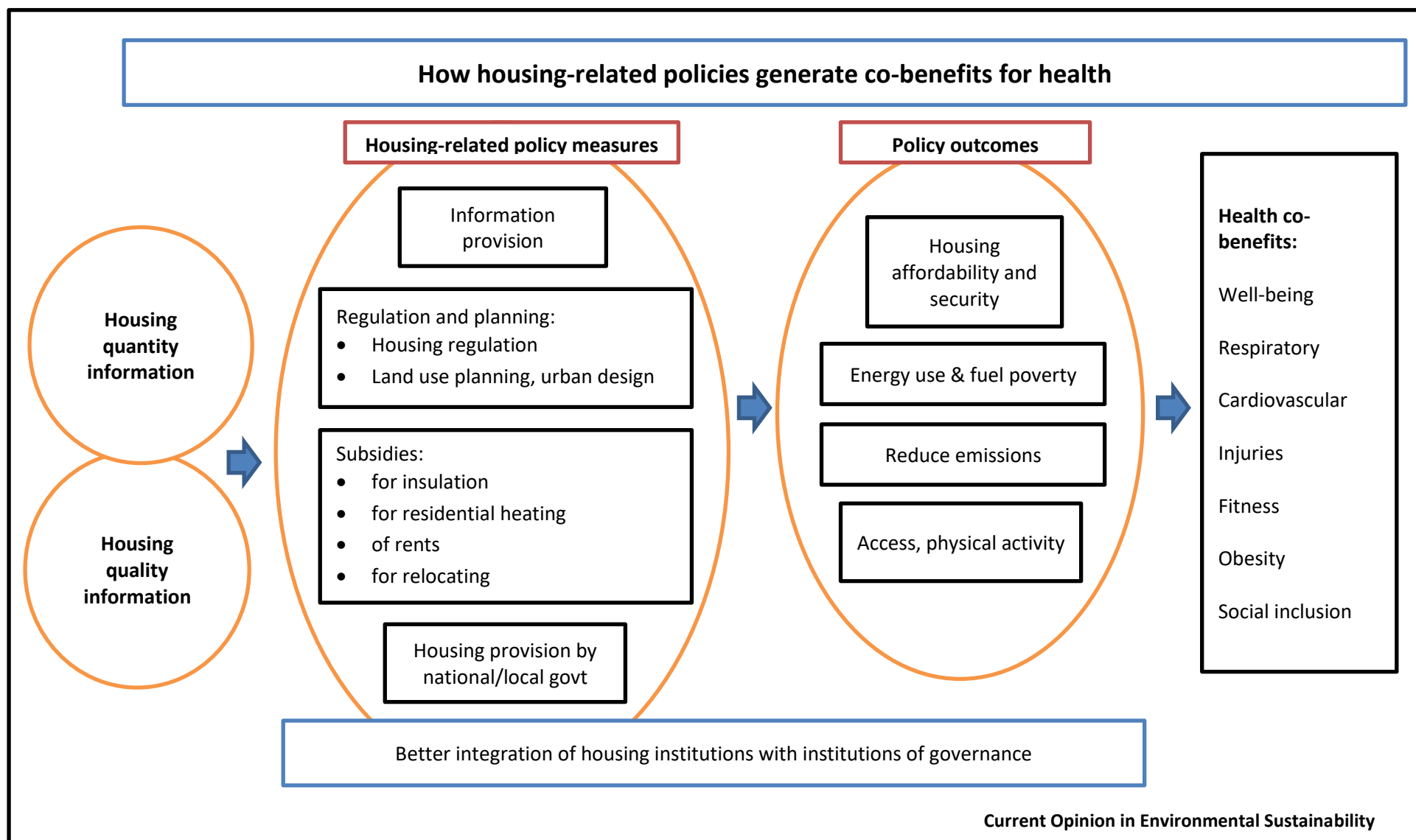


Figure 2. Housing policies and health co-benefits²⁴



Summary and recommendations

People need adequate, warm, dry, affordable housing as a prerequisite for health. In New Zealand housing inadequacy is contributing to the poor health of families and children. Almost one quarter of Māori and half of Pacific peoples live in overcrowded housing, and one third of New Zealand homes have visible mould on walls. Unflued gas heaters are present in almost one third of New Zealand homes. This is state of affairs is preventable and unfair; as a nation we can do much better. Housing interventions have been demonstrated to improve health, reduce inequities in health, and reduce the health and financial costs on households, the healthcare system and society more broadly. Housing interventions also have energy efficiency co-benefits.

The NZCPHM calls for all New Zealand families to have access to adequate, safe, affordable housing that occupants are able to heat sufficiently, by:

- Making adequate housing affordable for low-income New Zealanders.
- Improving housing quality through regulated minimum standards for all New Zealand houses (for example the Housing Warrant of Fitness)²⁵ backed by an evidence-based assessment tool (for example the Healthy Housing Index).^{26, 27}
- Ongoing investment in the evidence-based housing interventions such as Healthy Housing programmes, retrofitting insulation and providing safe heating options. These interventions are evidence based and cost-effective.
- Housing and energy policies having broader objectives of sustainability, urban policy, housing affordability and social inclusion.

Links with other NZCPHM policies

Climate Change

Rheumatic Fever

Health Equity

Sustainability

Māori Health

Pacific Peoples' Health

The First 1000 Days of Life

Child Poverty and Health

References and further information

1. Robson B, Cormack D. Social and economic indicators. In: Robson B, Harris R, editors. Hauora: Māori standards of Health IV A study of the years 2000-2005. Wellington: Te Ropu Rangahau Hauora a Eru Pomare; 2007.
2. Statistics New Zealand. Subnational crowding tables 1991–2006. 2013 [cited 21 May 2013]; Available from: http://www.stats.govt.nz/browse_for_stats/people_and_communities/housing/subnational-crowding-tables-1991-2006.aspx
3. Baker MG, Howden-Chapman P. Time to invest in better housing for New Zealand children. New Zealand Medical Journal. 2012;125:6-10.

4. Baker MG, Telfar Barnard L, Kvalsvig A, Verrall A, Zhang J, Keall M, et al. Increasing incidence of serious infectious diseases and inequalities in New Zealand: A national epidemiological study. *The Lancet*. 2012;379:1112-9.
5. Ormandy D, Ezratty V. Health and thermal comfort: From WHO guidance to housing strategies. *Energy Policy*. 2012;49:116-21.
6. Howden-Chapman P, Saville-Smith K, Crane J, Wilson N. Risk factors for mould in housing: A national survey. *Indoor Air*. 2005;15:469-76.
7. Bentley R, Baker E, Mason K, Subramanian SV, Kavanagh AM. Association between housing affordability and mental health: A longitudinal analysis of a nationally representative household survey in Australia. *American Journal of Epidemiology*. 2011;174(7):753-60.
8. Ministry for the Environment. Warm Homes Technical Report: Social drivers Phase 1: Interim progress report. Wellington2005 [cited 15 June 2013]; Available from: <http://www.mfe.govt.nz/publications/energy/warm-homes-social-drivers-phase1-nov05/warm-homes-social-drivers-phase1-nov05.pdf>.
9. Braubach M, Jacobs D, Ormandy D, editors. WHO Environmental Burden of disease associated with inadequate housing. Bonn: World Health Organization European Office; 2011.
10. Howden-Chapman PL, Chandola T, Stafford M, Marmot M. The effect of housing on the mental health of older people: The impact of lifetime housing history in Whitehall II. *BMC Public Health*. 2011;11.
11. Baker M, Das D, Venugopal K, Howden-Chapman P. Tuberculosis associated with household crowding in a developed country. *Journal of Epidemiology and Community Health*. 2008;62(8):715-21.
12. Baker M, McNicholas A, Garrett N, Jones N, Stewart J, Koberstein V, et al. Household crowding a major risk factor for epidemic meningococcal disease in Auckland children. *Pediatric Infectious Disease Journal*. 2000;19(10):983-90.
13. Jaine R, Baker M, Venugopal K. Acute rheumatic fever associated with household crowding in a developed country. *Pediatric Infectious Disease Journal*. 2011;30(4):315-9.
14. Larabee K, Phipatanakul W. The Respiratory Health Effects of Nitrogen Dioxide in Children With Asthma. *Pediatrics*. 2012;130(S1):S10.
15. Gillespie-Bennett J, Pierse N, Wickens K, Crane J, Howden-Chapman P, Heating atH, et al. The respiratory health effects of nitrogen dioxide in children with asthma. *European Respiratory Journal*. 2011;38(2):303-9.
16. Keall M, Baker M, Howden-Chapman P, Cunningham M, Cunningham C. Home injury hazards and home injury in New Zealand. *Injury Prevention*. 2012;18(S1):A48.
17. Stafford M, Marmot M. Neighbourhood deprivation and health: does it affect us all equally? *International Journal of Epidemiology*. 2003;32(3):357-66.
18. Thomson H, Thomas S, Sellstrom E, Petticrew M. The health impacts of housing improvement: A systematic review of intervention studies from 1887 to 2007. *American Journal of Public Health*. 2009;99(S3):S681-92.
19. Howden-Chapman P, Matheson A, Crane J, Viggers H, Cunningham M, Blakely T, et al. Effect of insulating existing houses on health inequality: Cluster randomised study in the community. *British Medical Journal*. 2007;334(7591):460-4.
20. Howden-Chapman P, Pierse N, Nicholls S, Gillespie-Bennett J, Viggers H, Cunningham M, et al. Effects of improved home heating on asthma in community dwelling children: randomised controlled trial. *BMJ*. 2008;337.

21. Grimes A, Denne T, Howden-Chapman P, Arnold R, Telfar-Barnard L, Preval N, et al. Cost benefit analysis of the Warm Up New Zealand: Heat Smart Programme. Wellington: Motu, Covic, He Kainga Oranga/Housing and Health Research Programme, University of Otago, Department of Mathematics, and Victoria University for the Ministry of the Environment; 2012 [cited 20 June 2013]; Available from: http://www.healthyhousing.org.nz/wp-content/uploads/2012/05/NZIF_CBA_report-Final-Revised-0612.pdf.
22. Jackson G, Thornley S, Woolston J, Papa D, Bernacchi A, Moore T. Reduced acute hospitalisation with the healthy housing programme. *Journal of Epidemiology and Community Health*. 2011;65(7):588-93.
23. Green G. Housing, energy, health and poverty. In: Price C, Tsouros A, editors. *Our Cities, Our Future*. Copenhagen: World Health Organization Healthy Cities Project Office; 1996.
24. Howden-Chapman P, Chapman R. Health co-benefits from housing-related policies. *Current Opinion in Environmental Sustainability*. 2012;4(4):414-9.
25. Expert Advisory Group on Solutions to Child Poverty. *Solutions to child poverty in New Zealand: Evidence for action*. Children's Commissioner, 2012.
26. Keall M, Baker MG, Howden-Chapman P, Cunningham M, Ormandy D. Assessing housing quality and its impact on health, safety and sustainability. *Journal of Epidemiology and Community Health*. 2010;64:765-71.
27. Keall MD, Crane J, Baker MG, Wickens K, Howden-Chapman P, Cunningham M. A measure for quantifying the impact of housing quality on respiratory health: A cross-sectional study. *Environmental Health: A Global Access Science Source*. 2012;11(1).

Acknowledgement

This Policy Statement is based on research by He Kainga Oranga, The Housing and Health Research Programme based at the University of Otago, Wellington. The statement also draws on the Canterbury DHB Housing Position Statement and Briefing Paper Housing, Home Heating and Air Quality: a Public Health Perspective 2012. The statement has also been peer reviewed by New Zealand housing and health experts, with thanks.

Adopted by Council: 2 August 2013