
INDOOR WINTER TEMPERATURES IN 20 SOCIAL HOUSING UNITS

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New Zealand dwellings constructed prior to 1978 were not required to be insulated at the time of construction. Poor insulation and low capacity heating appliances have been found to lead to indoor temperatures below World Health Organisation levels (Howden-Chapman, Matheson et al. 2007). Low income households are most vulnerable cold housing as they can often least afford to purchase heating. The HEEP study revealed that while low income houses value increased warmth, they are unable to achieve comfortable temperatures "despite expending proportions of their income on energy which would be considered overseas to place the household in the fuel poverty category" (Isaacs, Camilleri et al. 2006). A questionnaire was completed by the occupants of 20 social housing units in Palmerston North to measure the occupant's perceptions of their indoor environment. All units were 1 bed and either constructed from concrete block or light timber framing constructed in blocks each of 4 attached units. 90% of the occupants of these dwellings were aged over 65 years and 60% gave their household income as less than \$25,000 per year with a further 35% of participants preferring not to give income data. Result showed that some houses were of comfortable temperatures possibly due to the compact floor area limiting the volume of air needing to be heated.

References

Howden-Chapman, P., A. Matheson, et al. (2007). "Effect of insulating existing houses on health inequality: Cluster randomised study in the community." *British Medical Journal* **334**(7591): 460-464.

Isaacs, N., M. Camilleri, et al. (2006). "Energy Use in New Zealand Households: Report on the Year 10 Data for the Household Energy End-use Project (HEEP)."

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