UNIVERSITY of OTAGO
Te Whare Wānanga o Otāgo

media release

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Healthy housing study reduces asthma severity

A study of 412 New Zealand homes has found the health of asthmatic children improves significantly when ineffective heaters are replaced with cleaner, more cost-effective heating sources.

The Housing, Heating and Health Study – led by University of Otago Wellington researcher Professor Philippa Howden-Chapman – was carried out over the 2005 and 2006 winters. Households in the Hutt Valley, Porirua, Christchurch, Dunedin and Bluff took part in the study. Each household had asthmatic children aged six to 12 years and the existing main form of heating was a plug-in electric heater or unflued gas heater.

These latest findings follow an internationally-acclaimed study released by Professor Howden-Chapman's Housing and Health Research Programme earlier this year, which revealed the savings in health costs as a result of insulation outweighed the cost of the insulation by two to one.

Professor Howden-Chapman says the latest results are significant.

"We found that the positive changes recorded in the health of these children were equivalent to a significant pharmaceutical intervention. These children experienced health benefits, which had a major impact on their lives and the lives of their families.

"Coughing and wheezing was reduced and they experienced fewer colds and flu during the winter. This resulted in fewer GP visits and less days off school."

During the 2005 winter, part of the funding was used to insulate the 65 per cent of homes that were not already insulated, before collecting baseline data. This included average temperatures, condensation, the amount of mould and levels of nitrogen dioxide – in addition to the data around children's health.

The heating in half the houses was then upgraded before the 2006 winter. Households had the choice of installing a heat pump, wood-pellet burner or a flued gas heater. A year later, new heaters were also installed in the remaining houses.

Professor Howden-Chapman says the average daily temperature increased between 1ºC and 2ºC and more than 40 per cent of the participants never felt cold during the winter months, compared to 5 per cent before.

“Condensation was reduced and, as you would expect, there was also less mould and unpleasant damp smells in the homes. We also saw levels of nitrogen dioxide halved.”

The information around child health and household temperatures were the first of several results expected out of the study. Researchers are processing the massive amount of data collected over the two years and further findings will be released as they come to light. Analysis around the households’ fuel bills will be available later this year.

The study was a collaboration between the Universities of Otago, Massey, Victoria and Auckland and BRANZ Ltd.

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Notes:

Please note, it is New Zealand Asthma and Respiratory Foundation Balloon Day on 5 May.