



Investigating the Big 'C' and Other Diseases

The College of Health is starting life with a diverse range of health investigations already underway.

Various streams of work, with a combined budget of \$4.2 million, range from whether mobile phones raise the risk of brain cancer in children to the possibility that unpasteurised milk provides protection from asthma and allergies.

The Centre for Public Health Research, an important component of the new college, will continue to lead these important Health Research Council and other government-funded investigations. Opened in 2000, the centre's research programmes cover all aspects of public health with a focus on non-communicable diseases and occupational and environmental health and Māori and Pacific health.

A group led by centre Director Professor Jeroen Douwes received \$1.2 million to investigate the links between unpasteurised milk and asthma. They are assessing whether raw milk is associated with a lower prevalence of allergies and asthma and improved lung function.

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Director of the Centre for Public Health Research, Professor Jeroen Douwes

Studies in farmers' children have indicated that raw milk may protect against allergies and asthma, but the reasons are unclear. The three-year study started in October last year and involves a survey of 300 non-farming families who regularly drink raw milk, and 150 families who have never consumed unpasteurised milk.

Douwes says that the "natural experiment" will assess if raw milk is associated with a lower risk of allergies and asthma in a general population. It will also help to identify the anti-allergic components within raw milk, and has potential to lead to effective interventions for allergies and asthma.

Fellow centre researcher, Dr Andrea 't Mannelte, is leading a

group investigating risk factors for brain cancer in children and adolescents. The group received \$466,148 for New Zealand-based research as part of a multinational study of mobile phone use and the risk of brain cancer. The study will interview 63 New Zealand children and adolescents aged 10-24 diagnosed with brain cancer, and 126 others in the same age group without it. Local results will be collated with research from 14 other countries.

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As part of separate work, the centre is undertaking New Zealand's first-ever comprehensive survey investigating links between the workplace and motor neurone disease.

With Health Research Council funding of \$2.8 million awarded in 2011, researchers led by Douwes are investigating whether people in occupations such as printing are at greater risk of developing the disease. The Motor Neurone Disease Association of New Zealand supports the study.

Motor neurone disease attacks the nerve cells that control muscle movement. Degeneration of the motor neurones leads to weakness and wasting of muscles, causing increasing loss of mobility in the limbs, and difficulties with speech, swallowing and breathing.

The study, which will link in with existing international studies, will recruit people with the disease and a comparable group without it, Douwes says.

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A concurrent study at the centre, investigating occupational exposure to the fumigant methyl bromide, will draw on the same research methodology.

Although extremely toxic to humans, methyl bromide is used to fumigate soil and imported goods being held in quarantine, as well as export products such as logs and fruit.

Douwes says this puts workers who open fumigated containers and workers undertaking the fumigation at risk of neurological and breathing disorders.

The study will seek to determine the number of workers exposed to methyl bromide and compare them with non-exposed workers. Neurotoxic effects will be assessed using a combination of questionnaires and computer-assisted tests to measure

cognitive function, reaction time, memory, attention and other neuropsychological outcomes.

The centre is meanwhile continuing work on separate occupational health research projects with \$2.8 million of research grants awarded in previous funding rounds.

They include studies of occupational asthma in sawmill workers and cleaners, causal exposures of occupational cancer in meat workers and an intervention study in joinery workers and furniture makers to reduce exposure to asthma-causing wood dust.

"It's always good to get big grants but I really see this as a triumph for occupational health," Douwes says.

"Others compare us to the United Kingdom but we're more comparable to Denmark, Norway, Sweden and the Netherlands, though they have better research capacity.

"In New Zealand we invest a lot less into occupational health funding despite the fact that we have between 17,000 and 20,000 people develop occupational diseases per year. If we are to reduce this we need to invest in research, and research that will result in effective interventions."



Other researchers at the Centre for Public Health Research include Associate Professor Barry Borman and research fellow Andrea 't Manne'tje.