

# Building Research in Occupational Health in New Zealand

Centre for Public Health Research
Massey University
Wellington, New Zealand

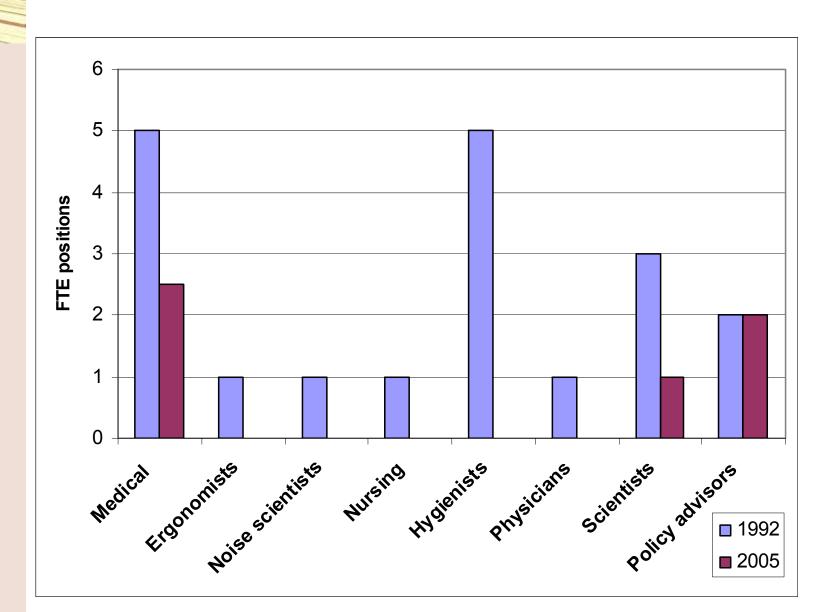


#### Occupational health in New Zealand

| 1992 | Creation of Occupational Safety and Health (OSH)                                |
|------|---|
| 2002 | Symposium on Priorities in Occupational Health and Safety                       |
| 2003 | Creation of National Occupational Health and Safety Advisory Committee (NOHSAC) |
| 2005 | Department of Labour (DoL) Workplace Health and Safety Strategy                 |
| 2008 | Building Research in Occupational Health in New Zealand (BROHNZ)                |



#### Decline in OSH resources at DoL head office

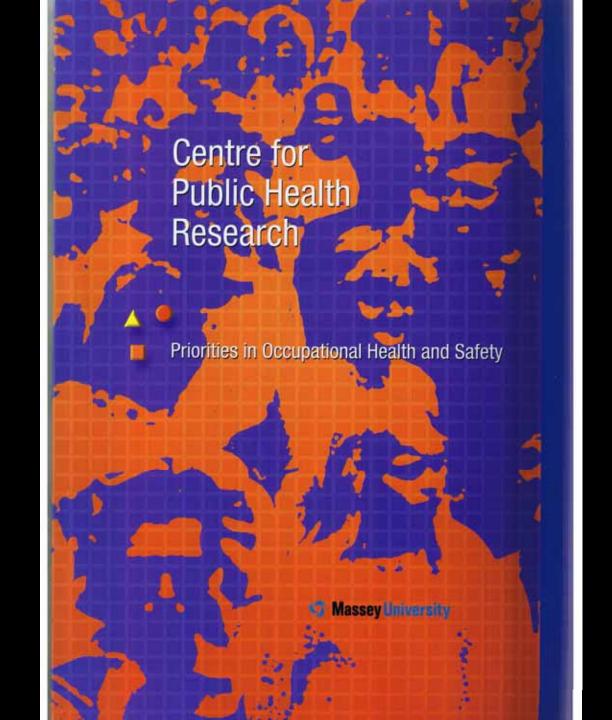






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- Department of Labour (DoL) Workplace 2005 Health and Safety Strategy
- 2007 DoL/HRC Requests for Proposals (RFP) for occupational health research



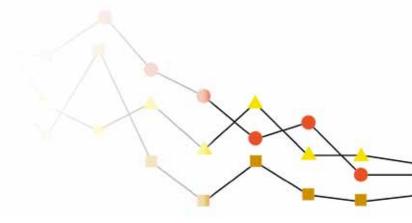


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## National Occupational Health Safety Advisory Committee (NOHSAC)



#### The Committee

- Professor Neil Pearce
   Centre for Public Health Research, Massey University
- Dr Evan Dryson
   Occupational Medical Specialists Ltd, Auckland
- Professor Philippa Gander
   Sleep/Wake Research Centre, Massey University
- Professor Anne-Marie Feyer
   Director, Health Advisory Practice, PricewaterhouseCoopers, Sydney
- Mr Selwyn McCracken/Professor John Langley
   Injury Prevention Research Unit, University of Otago

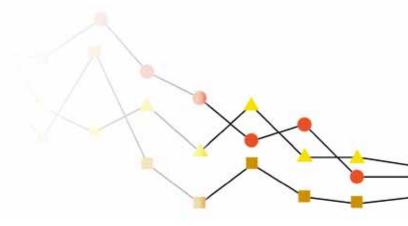
#### The role of the Committee

#### **NOHSAC:**

- provides an independent assessment to the Associate Minister of Labour on the major occupational health and safety issues for the New Zealand workforce.
- advises on the measures that would deliver the greatest benefit for the prevention of occupational disease and injury, and in developing an evidence-based approach to occupational health and safety issues.

#### NOHSAC Published Reports

- Burden of Occupational Disease and Injury (1)
- Surveillance of Occupational Disease and Injury (2/3)
- Social and Economic Costs of Occupational Disease and Injury (4)
- Surveillance of Workplace Exposures (5/6)
- National profile of occupational health and safety in New Zealand (7/8)
- Efficacy of OSH Instruments (9)
- The changing work environment (10)



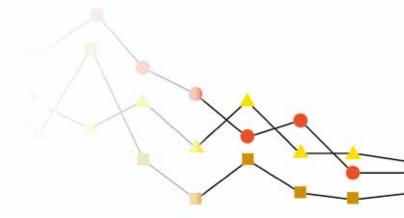


## **BURDEN** of OCCUPATIONAL **DISEASE** and New Zealand REPORT TO THE ASSOCIATE MINISTER OF LABOUR

NEIL PEARCE EVAN DRYSON ANNE-MARIE FEYER PHILIPPA GANDER SELWYN McCRACKEN MARK WAGSTAFFE

## Burden of Disease and Injury in New Zealand

- The overall aim of the project was to provide a thorough and critical review of the burden of both fatal and non-fatal occupational disease and injury in New Zealand.
- This report is a starting point, based on what is currently known, or can be reasonably inferred from international evidence.



#### Estimates of the burden of occupational ill-health in New Zealand



NOHSAC Technical Report

#### The Burden Of Occupational Disease And Injury In New Zealand

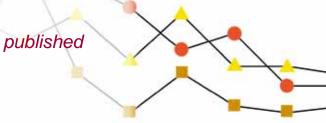
Tim Driscoll
Andrea 't Mannetje
Evan Dryson
Anne-Marie Feyer
Philippa Gander
Selwyn Mccracken
Neil Pearce
Mark Wagstaffe



Peer reviewed publication

#### Quantitative estimates of work-related death, disease and injury in New Zealand

Andrea 't Mannetje Neil Pearce



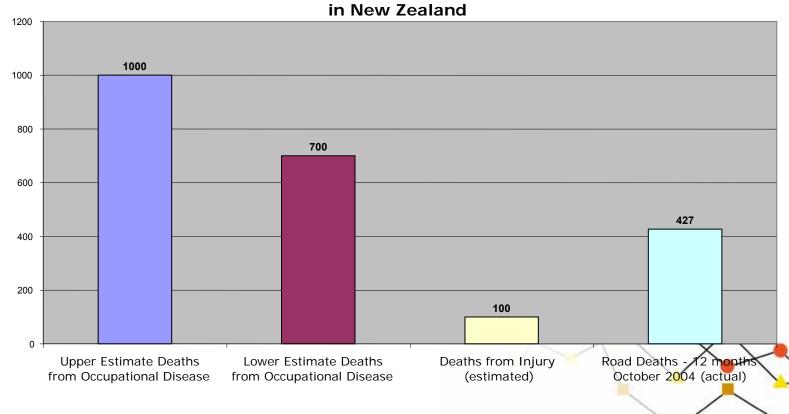


#### Burden of Occupational Disease and Injury

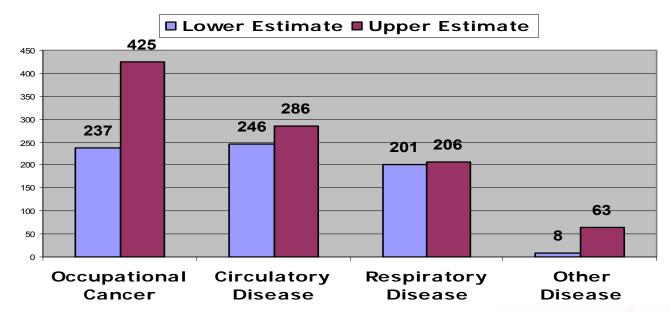
- The report estimated that each year in New Zealand there are:
  - about 700–1,000 deaths from occupational disease, particularly cancer, respiratory disease, and ischaemic heart disease
  - about 100 deaths from occupational injury
  - 17,000–20,000 new cases of work-related disease
  - about 200,000 occupational accidents resulting in ACC claims
- Annual costs of \$4.9 billion (3.4% of GDP).
- Annual costs rise to \$20.9 billion if the value of suffering and premature death is included

#### Summary findings





#### Summary findings Annual Death from Work Related Disease



#### Cancer Exposures

## The 237-425 work-related deaths from occupational cancer each year are caused by:

- lung cancer due to exposure to asbestos, arsenic, beryllium, cadmium, chromium, diesel fumes, nickel,silica and environmental tobacco smoke
- mesothelioma due to asbestos exposure
- leukaemia from benzene exposure and low-frequency electromagnetic field exposure
- bladder cancer (from textile dyes, paints, pigments, leather, rubber, solvents and poly-cyclic aromatic hydrocarbons).

#### Circulatory Disease Exposures

The 246-286 work-related deaths from circulatory diseases each year are primarily due to:

- work strain (including the effects of shift work)
- exposure to carbon monoxide from engine exhausts
- exposure to environmental tobacco smoke.

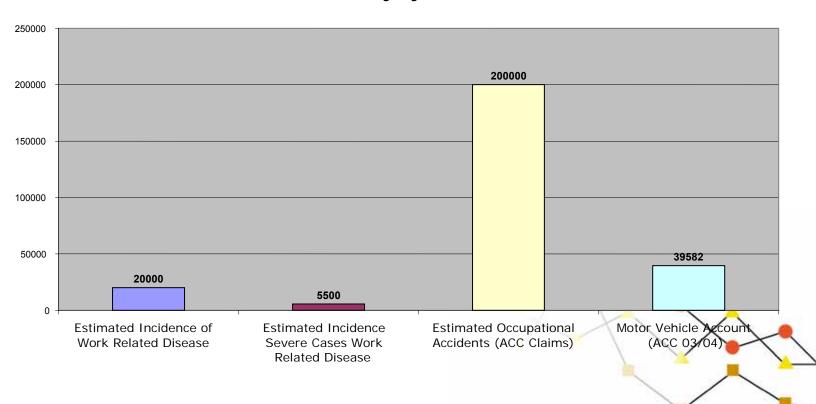
#### Respiratory Disease Exposures

The 200-205 work-related deaths from respiratory disease each year are caused by:

- chronic obstructive pulmonary disease due to exposure to organic dust, microbial dust, endotoxins, welding fumes and environmental tobacco smoke
- occupational asthma
- asbestosis.

#### Summary findings

#### Estimates of the Annual Incidence of Work Related Disease and Injury

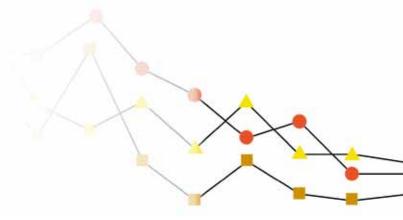


#### Recommendations from the report

- It is essential that a single clearly identifiable organisation, such as OSH, takes the lead in, and ultimate responsibility for, occupational health and safety, rather than this task being handled by a variety of agencies for which occupational health and safety is a secondary responsibility.
- The work of OSH should involve of an "all of government" approach, with OSH complementing rather than duplicating the work of other agencies such as the Ministry of Health and ACC.

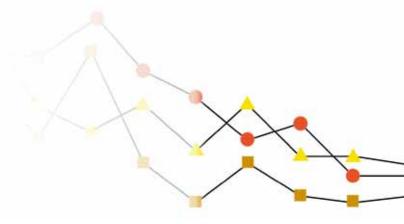
#### Recommendations from the report

- There should be a markedly increased focus on occupational health. Work-related cancer, respiratory disease, musculoskeletal disease and work place fatigue should be particular priorities.
- This should not be at the expense of reducing current activities undertaken by OSH in relation to health and safety.



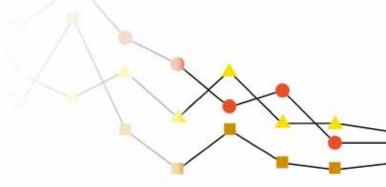
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#### Barriers to effective surveillance

- Lack of expertise to manage and administer surveillance systems
- Inadequate hazard/exposure assessment
- Data ownership and access issues
- Knowledge gaps
- Reporting
- Primary purpose of data collection
- Standardisation, accuracy and integrity and work related fields



#### General Recommendations

- Establish an expert group
- Establish an independent unit for the surveillance of occupational disease and injury
- Establish an independent agency for the surveillance of occupational disease and injury
- Establish an integrated concept driven occupational disease and injury surveillance system (ODISSY) within the independent agency

#### Specific Recommendations

- Improve recording of Occupation in NZHIS data
- Extend and improve the coding of Industry in NZHIS and DoL data
- Improve data accuracy
- Extend and improve NODS
- Improve recording and investigation of work related disease and injury
- Collect additional information on work relatedness, occupational history and exposure history.





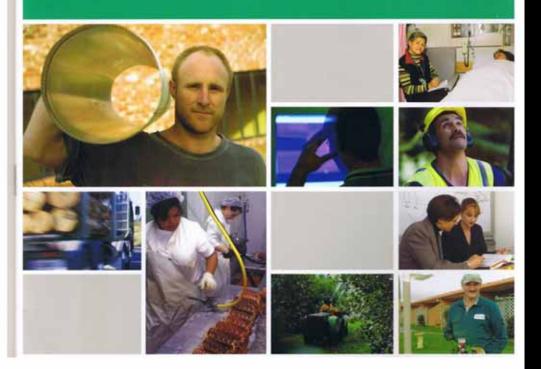
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#### WORKPLACE HEALTH AND SAFETY STRATEGY FOR NEW ZEALAND TO 2015

Rautaki mõ te Haumaru me te Hauora o te Wāhi Mahi mõ Aotearoa ki te 2015

Hon Ruth Dyson, Associate Minister of Labou





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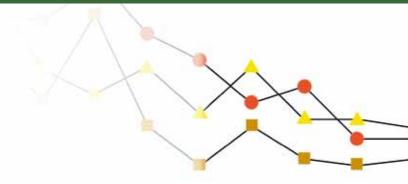
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#### Building Research

in Occupational Health

in New Zealand



#### Current occupational health research at CPHR

Workforce

exposure

**Endotoxin** 

and

Occupatio

nal cancer

**Mechanisms** 

Burden/ policy **Farming** 

and asthma

|                | (OCANZ)         | una aotimia | asthma              | survey          |                | norbioles |           | tumours   | substances     |
|----------------|-----------------|-------------|---------------------|-----------------|----------------|-----------|-----------|-----------|----------------|
| Funding        | HRC/ACC/<br>DoL | HRC         | HRC                 | HRC/ACC/<br>DoL | HRC/<br>DoL    | HRC       | NIH       | NIH       | ACC            |
| Type/<br>years | Program         | Program     | Project/<br>Program | Project<br>RFP  | Project<br>RFP | Project   | Project   | Project   | Project<br>RFP |
|                | 2002-2008       | 2002-2008   | 2005-2008           | 2004-2007       | 2005-2007      | 2006-2009 | 2007-2009 | 2007-2009 | 2008           |
| Exposures      |                 |             |                     |                 |                |           |           |           |                |
| Risk factors   |                 |             |                     |                 |                |           |           |           |                |

**PCP** 

**Phenoxy** 

herbicides

Occupation

and NHL

**EMFs** and

brain

**Airborne** 

hazardous



#### Centre for Public Health Research: Pls on Programme Grant



**Neil Pearce** 



Jeroen Douwes



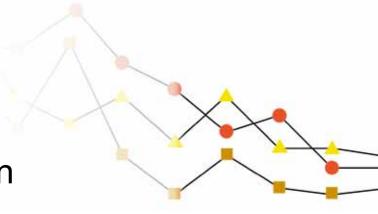
Andrea 't Mannetje



Dave McLean



Lis Ellison-Loschmann





#### Centre for Public Health Research: Co-investigators on Programme Grant



Ridvan Firestone



**Evan Dryson** 



**Chris Walls** 



Sunia Foliaki



Christine van Dalen



Amanda Eng



Tania Slater





#### New Zealand collaborators

- Research Centre for Māori Health and Development (Chris Cunningham)
- Malaghan Institute of Medical Research (Graham Le Gros)
- University of Auckland (Innes Asher)
- Public Health Intelligence, Ministry of Health (Barry Borman)
- Wellington Hospital (Joanne Dixon)
- Anwyl Specialist Medical centre (Lissa Judd)



#### International collaborators

- Utrecht University Institute for Risk Assessment Sciences (IRAS) (Hans Kromhout)
- US National Cancer Institute (Aaron Blair)
- International Agency for Research on Cancer (Paolo Boffetta)
- Centre de Recerca en Epidemiologia Ambientale (CREAL), Barcelona (Jan-Paul Zock)
- University of California, Berkeley (Allan Smith)
- University of British Columbia, Vancouver (Paul Demers)
- University Medical Centre Groningen, The Netherlands (Pieter Jan Coenraads)



### Building Research in Occupational Health in New Zealand (BROHNZ)

- Occupational asthma in New Zealand sawmill workers
- Occupational dermatitis in New Zealand cleaners
- Case-control study of potentially modifiable risk factors for congenital malformations
- Occupational exposures and occupational health in Māori
- Workplace exposure to carcinogens in New Zealand

## Building Research in Occupational Health in New Zealand (BROHNZ)

|               | Asthma in saw<br>mill workers | Dermatitis in cleaners | Congenital malformations | Occupational health in Māori | Workplace exposure to carcinogens |
|---------------|-------------------------------|------------------------|--------------------------|------------------------------|-----------------------------------|
| Study         | A                             | В                      | С                        | E                            | "F"                               |
| Exposures     |                               |                        |                          |                              |                                   |
| Risk factors  |                               |                        |                          |                              |                                   |
| Mechanisms    |                               |                        |                          |                              |                                   |
| Burden/policy |                               |                        |                          |                              |                                   |



## Building Research in Occupational Health in New Zealand (BROHNZ): what will the programme contribute?

- New scientific knowledge in well-established areas of occupational health research, particularly occupational asthma, occupational cancer and exposure assessment
- The application of existing 'technologies' to the development of new programmes of research in occupational dermatitis, congenital malformations and occupational health in Māori
- Synergies between these different fields of occupational health research
- Retention of existing occupational health research expertise
- Workforce development



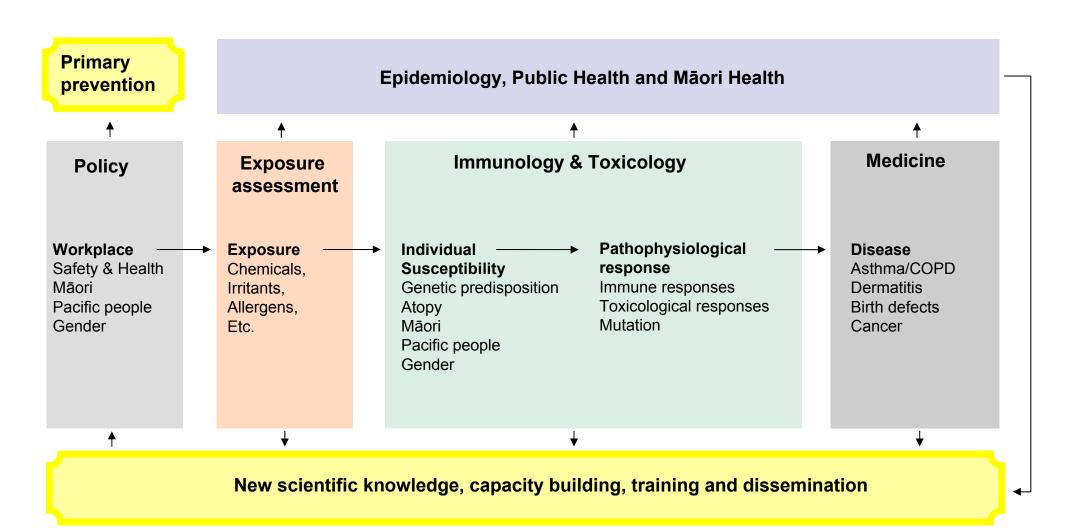
## Building Research in Occupational Health in New Zealand (BROHNZ)

#### Unique mix of expertise and experience:

- Epidemiology
- Occupational hygiene
- Exposure assessment
- Occupational medicine
- Māori health
- Pacific health
- Public health and occupational health policy
- Immunology
- Biostatistics



#### Building Research in Occupational Health in New Zealand (BROHNZ): An Interdisciplinary Approach





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