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

![Bar chart showing the decline in FTE positions for different roles from 1992 to 2005.](chart.png)
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
2007  DoL/HRC Requests for Proposals (RFP) for occupational health research
Centre for Public Health Research

Priorities in Occupational Health and Safety

Massey University
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 (BROHZNZ)
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)
THE BURDEN of OCCUPATIONAL DISEASE and INJURY in New Zealand

REPORT TO THE ASSOCIATE MINISTER OF LABOUR

NEIL PEACE
ETAN DRYSDALE
ANNE-MARIE FEVRE
PHILIPPA GANSTER
SILWYN 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

published
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

Estimates of annual deaths from disease and injury in New Zealand

Upper Estimate Deaths from Occupational Disease: 1000
Lower Estimate Deaths from Occupational Disease: 700
Deaths from Injury (estimated): 100
Road Deaths - 12 months October 2004 (actual): 427
Summary findings

Annual Deaths from Work Related Disease

<table>
<thead>
<tr>
<th>Disease</th>
<th>Lower Estimate</th>
<th>Upper Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Cancer</td>
<td>237</td>
<td>425</td>
</tr>
<tr>
<td>Circulatory Disease</td>
<td>246</td>
<td>286</td>
</tr>
<tr>
<td>Respiratory Disease</td>
<td>201</td>
<td>206</td>
</tr>
<tr>
<td>Other Disease</td>
<td>8</td>
<td>63</td>
</tr>
</tbody>
</table>
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

- Estimated Incidence of Work Related Disease: 20,000
- Estimated Incidence of Severe Cases Work Related Disease: 5,500
- Estimated Occupational Accidents (ACC Claims): 200,000
- Motor Vehicle Account (ACC 03/04): 39,582
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 workplace 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.
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)
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.
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)
### Occupational health in New Zealand

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>Creation of Occupational Safety and Health (OSH)</td>
</tr>
<tr>
<td>2002</td>
<td>Symposium on Priorities in Occupational Health and Safety</td>
</tr>
<tr>
<td>2003</td>
<td>Creation of National Occupational Health and Safety Advisory Committee (NOHSAC)</td>
</tr>
<tr>
<td>2005</td>
<td>Department of Labour (DoL) Workplace Health and Safety Strategy</td>
</tr>
<tr>
<td>2008</td>
<td>Building Research in Occupational Health in New Zealand (BROHNZ)</td>
</tr>
</tbody>
</table>
BROHNZ Building Research in Occupational Health in New Zealand
## Current occupational health research at CPHR

| Occupatio
nal cancer (OCANZ) | Farming and asthma | Endotoxin and asthma | Workforce exposure survey | PCP | Phenoxy herbicides | Occupation and NHL | EMFs and brain tumours | Airborne hazardous substances |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding</td>
<td>HRC/ACC/DoL</td>
<td>HRC</td>
<td>HRC/ACC/DoL</td>
<td>HRC/DoL</td>
<td>HRC</td>
<td>NIH</td>
<td>NIH</td>
<td>ACC</td>
</tr>
<tr>
<td>Exposures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanisms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burden/policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Centre for Public Health Research: PIs 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
Chris Walls
Christine van Dalen
Tania Slater

Evan Dryson
Sinia Foliaki
Amanda Eng
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)

<table>
<thead>
<tr>
<th></th>
<th>Asthma in saw mill workers</th>
<th>Dermatitis in cleaners</th>
<th>Congenital malformations</th>
<th>Occupational health in Māori</th>
<th>Workplace exposure to carcinogens</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study</strong></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>E</td>
<td>“F”</td>
</tr>
<tr>
<td><strong>Exposures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Risk factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mechanisms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Burden/policy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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

- **Primary prevention**
- **Policy**
  - Workplace Safety & Health
  - Māori
  - Pacific people
  - Gender
- **Exposure assessment**
  - Exposure
  - Chemicals, Irritants, Allergens, Etc.
- **Immunology & Toxicology**
  - Individual Susceptibility
    - Genetic predisposition
    - Atopy
    - Māori
    - Pacific people
    - Gender
  - Pathophysiological response
    - Immune responses
    - Toxicological responses
    - Mutation
- **Medicine**
  - Disease
    - Asthma/COPD
    - Dermatitis
    - Birth defects
    - Cancer

New scientific knowledge, capacity building, training and dissemination