healthcare and estimated hazard ratios (HR) and 95% confidence intervals (CI).

Results Multiple atlases of occupational injuries was constructed to visualise trends in location, industry, injury characteristics, and severity. Accessibility to healthcare, specifically specialty health care, affected risk of increased severity, claim duration, and disability.

Conclusions This innovative way of combining and visualising data may identify risk factors for occupational injury, including those that may be spatially or community-based. It may provide new strategies for proactive injury prevention or severity reduction efforts

Oral Presentation

Other

0424   **RISK OF MESOTHELIOMA AND RISK OF EXPOSURE TO ASBESTOS IN PEOPLE SUPPOSEDLY UNEXPOSED TO ASBESTOS**

[1]Nicholas de Klerk*, [2]Len Gordon, [3]Helman Alfonso, [3]Alison Reid, [1]Nola Olsen, [1]Robin Mina, [1]Peter Franklin, [1]Susan Peters, [3]Fraser Brims, [4]Jennie Hui, [1]Bill Musk. [1]University of Western Australia, Perth, Australia; [2]Caltex Australia, Perth, Australia; [3]Curtin University, Perth, Australia; [4]PathWest Laboratory Medicine, Nedlands, Australia

Objectives Malignant mesothelioma (MM) is a rare and generally fatal cancer, usually caused by asbestos, although about 5%–10% of cases report no asbestos exposure. This study aimed to identify sources whereby people in Western Australia (WA) may be unknowingly exposed to asbestos or to other exposures which may cause MM.

Methods Cases with no known asbestos exposure were selected from the WA Mesothelioma Register. Matched controls were selected from hospital patients admitted for conditions unrelated to asbestos. Occupational histories were coded by an industrial hygienist. Data were analysed using conditional logistic regression.

Results Eligible cases were far fewer than anticipated. After 9 years there were 38 MM cases (from a total of more than 400 reported cases of MM over the same time period), 65 other cancer controls and 69 medical controls recruited. Odds ratios did not differ by type of control so both sets of controls were combined. Thirty-eight MM participants and 134 controls were recruited. Risk of MM was increased (OR=3.1, 95% CI 1.0–9.6) after no known, but likely, exposure to asbestos at work.

Conclusions Because of its widespread use, very few people in WA have never been exposed to asbestos and careful elucidation of occupational and environmental histories usually uncovers likely exposures sufficient to cause MM. This study suggests that most cases of MM in people with apparently no known exposure to asbestos occur, at a low rate, among the large numbers of people who have had small amounts of incidental asbestos exposure.

Oral Presentation

Risk Assessment

0425   **AN OCCUPATIONAL EPIDEMIOLOGY MODEL FOR CLIMATE CHANGE IMPACT ASSESSMENT**

[1,2]Tord Kjellstrom*, [3]Matthias Otto, [3]Bruno Lemke, [4]Chris Freyberg, [5]David Briggs, [6]Lauren Lines. [1]Centre for Technology Research and Innovation, Limassol, Cyprus; [2]Australian National University, Canberra, Australia; [3]Nelson-Marlborough Institute of Technology, Nelson, New Zealand; [4]Massey University, Palmerston North, New Zealand; [5]Imperial College, London, UK; [6]Canterbury University, Christchurch, New Zealand

Thermal physiology science shows the health threats to workers caused by exposure to heat when doing heavy physical labour. Climate change increases environmental heat levels in most of the world and it is a key issue for climate change and health research. Our model links climate and workforce data (current and predicted) and estimates work capacity loss at individual and population level and related economic loss. The model incorporates climate conditions, population estimates, workforce distributions, heat exposure estimates, exposure-response relationships, and socio-economic impact functions. The basis of the model is occupational epidemiology.

Much of the data upon which heat stress health risk functions are based comes from thermal physiology laboratory research. While this research has provided valuable information about human function at different heat exposures, the individuals studied are generally not the same mix of ages and physical conditions of typical working populations. Very few published studies have included the quantitative occupational epidemiology analysis needed for climate change related health risk assessments. For example, different model settings produce annual moderate intensity work hours lost due to heat (in the shade) by the 2050s at 0.7%–1.6% for USA and 1.1%–3.0% for China. Many of these lost hours will reduce the annual GDP, estimated at 34 trillion USD in the USA and 58 trillion in China (2050). Even a small loss creates many billion USD of economic losses. Our model can identify evidence missing for reducing the uncertainties in impact estimates, which can guide decisions about climate change mitigation and adaptation.

Poster Presentation

Chemicals

0426   **CHRONIC CADMIUM INTOXICATION WITH RENAL INJURY AMONG WORKERS IN A SMALL-SCALE SILVER SOLDERING COMPANY**

Won-Jun Choi*, Seong-Kyu Kang. Gachon University Gil Medical Centre, Incheon, Republic of Korea