# Abstracts

## Minisymposium 6

## Occupational health surveillance

### M6.1 INTERNATIONAL REVIEW OF OCCUPATIONAL DISEASE AND INJURY SURVEILLANCE SYSTEMS

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This presentation will describe the methods and early results from a significant evidence review of surveillance systems for occupational disease and injury that has been commissioned by the National Occupational Health and Safety Advisory Committee of New Zealand (NOHSAC). Tracking systems form the cornerstone of injury and illness surveillance, yet it is clear that a diverse variety of methods and measures have been adopted in different countries, and by their health and safety systems. The relative merits of these are not entirely clear. Key problems within occupational health include estimation of incidence and prevalence of disease and injury; trends within these parameters; and distribution of disease and injury across variables such as occupational class, geographical location, or population subtype, for example. Important information about causation and prevention rests on reliable and valid data. The goal of this project is to conduct a systematic review of the evidence on surveillance systems by searching the available literature and interviewing relevant experts from a number of countries. The methodology for ranking surveillance systems according to effectiveness and utility will be described, along with a review of the methodological issues that arise when considering the reliability and validity of methods and measures for determining incidence, prevalence, trends, and distribution of occupational disease and injury. The findings from this review are intended to contribute to the reduction in the burden of occupational disease and injury.

### M6.2 SURVEILLANCE OF OCCUPATIONAL CANCER IN NEW ZEALAND

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Based on evidence from epidemiological studies and surveillance systems in other countries, it can be estimated that there are about 235–413 deaths from occupational cancer and about twice this number of incident cases of occupational cancer in New Zealand each year. However, in 2001/2002 only four cases of occupational cancer were compensated by the Accident Compensation Corporation. Similarly, during 1992–1997, only about 19 cases a year of mesothelioma, 10 cases a year of asbestos related lung cancer, and 2 cases a year of other occupational cancers were notified through the Occupational Safety and Health (OSH) Notifiable Occupational Disease System (NODS). In 2001 OSH, in conjunction with the Massey University Centre for Public Health Research, commenced a project in which all cases of three types of cancer commonly notified to the New Zealand Cancer Registry were invited to be interviewed by OSH staff to obtain an accurate occupational history. The three types of cancer were bladder cancer, non-Hodgkin's lymphoma, and leukaemia. Following interviews, the OSH Cancer Panel assessed each case for occupations known from internationally published literature to be associated with the cancer type. The preliminary findings are consistent with estimates from epidemiological studies. For example, taking the specific example of bladder cancer, there are about 168 deaths in New Zealand each year, and it can be conservatively estimated from overseas studies that about 20 of these (12%) are occupationally related, but in recent years there had been no notifications for occupational bladder cancer to the NODS system. The OSH Cancer Panel review of 210 incidence bladder cancer cases registered with the New Zealand Cancer Registry during 2001 concluded that 48 cases (23%) had had significant exposure to an established occupational carcinogen. This approach, which involves a review of all cases of specific cancer types, rather than on voluntary notifications, therefore has considerable potential for ascertaining the true population burden of occupational cancer.

### M6.3 SURVEILLANCE OF OCCUPATIONAL ASTHMA

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Occupational asthma has become the leading type of occupational respiratory disease in many developed countries. This condition tends to affect younger workers at an earlier stage in their working lives, in contrast to other occupational lung diseases with longer latency, such as the pneumoconioses and mesothelioma. This can have an important effect on the quality of life and prospects for future employment of young workers. In addition, there is an increasing number of asthmagenic agents being identified in workplaces in a wide range of industries, suggesting an increasing potential 'at risk' population. Obtaining good quality data on the incidence of occupational asthma is very challenging. Traditional sources of data on work related conditions, such as workers' compensation data, tend to grossly under-report occupational asthma. Because of this, notification schemes based on physician reporting of cases have been established in many countries. One of the best known of these is the Surveillance of Work-related and Occupational Respiratory Disease (SWORD) programme in the UK, which has demonstrated that rates of occupational asthma in the UK have not significantly dropped over the past 15 years, despite the introduction of prevention strategies. A comparison of incidence rates of occupational asthma in these surveillance programmes indicates wide variation, with 37 workers/million/year found in SWORD, 43 for SHIELD in the Midlands of England, 79 for PROPULSE in Canada, 153 in Finland, and 31 in our own surveillance programme (SABRE) in one state of Australia. There are many reasons for such variation apart from true differences in population burden between countries, including different diagnostic criteria, over-reporting or under-reporting of cases, and differences in the estimates of the population at risk for calculating incidence rates. Our validation study of cases, undertaken by blinded review of case notes by a panel of two independent doctors, has shown that while agreement between reporting doctors and the panel doctors was only fair (kappa = 0.32 and 0.34), this agreement increased (kappa = 0.53 and 0.54) when the analysis was restricted to those cases for whom the likelihood of diagnosis was rated as high by the reporting doctors. This suggests that confidence of diagnosis is an important consideration in such surveillance programmes.