

- Obtain physician, subject matter and end user feedback on the protocol content and implementation feasibility
- Develop a training guide for physicians and educational materials for miners
- Pilot test the surveillance protocol among a small group of artisan miners

**Method** The Minamata Conference on Mercury highlighted the importance of surveillance protocols in identifying, treating and preventing mercury exposure among miners. As such, we will use materials from the World Health Organisation (WHO) and International Labour Organisation (ILO) to develop the protocol. We will collaborate with physicians, occupational health and small-scale mining experts to identify key content and obtain feedback regarding each section of the protocol. Once we have a finalised protocol, we will pilot test the protocol among a small group of artisan miners and incorporate lessons learned into the final product.

**Results** We will develop a surveillance protocol that will capture prevalence, occurrence, treatment and preventive efforts related to mercury exposure. The initial pilot testing will provide valuable feedback regarding the ease of use, content comprehension, effective treatment and preventive efforts associated with mercury exposure.

**Conclusions** Treating, preventing and reducing mercury exposure is a priority of the mining industry. In order to effectively reduce and eliminate mercury exposure it is important to develop an effective surveillance protocol tailored to artisan and small-scale miners.

**0308 PREVALENCE OF LEUCOPENIA AMONG INDUSTRY WORKERS 2000–2009**

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**Objectives** To estimate the prevalence of leucopenia among industrial workers 2000–2009.

**Methods** The study population comprises workers from manufacturing industries of the Bahia State, Brazil, who had annual compulsory medical checkups in a national not-for-profit occupational safety and health care system during the study period. We retrieved computerised medical records, clinical and laboratory exams, and also workplace risk assessment, occupational and socio-demographic data. Leucopenia was defined as having leucocytes counting less than 4000.

**Results** From a total of 64 454 workers with valid blood counting data, 12 303 (19.09%) had leucopenia over the study time. Prevalence of leucopenia was 21.87% in 2005, 20.73% in 2006 showing a declining trend until 2009 when reached 15.89% ( $p < 0.001$ ). Leucopenia was higher among male workers than women ( $p < 0.001$ ) and in the rubber and plastic industry.

**Conclusions** Blood cell counting is compulsory monitored in industry, by data are rarely analysed and results made public. Preliminary results of our analysis show that there is a declining trend of leucopenia prevalence suggesting a possible positive impact of the Benzene National Agreement on workers' health in the rubber and plastic industry in Bahia.

**0312 MESOTHELIOMA MORTALITY IN ARGENTINA 1990–2010**

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**Objectives** To estimate the number of cases and proportionate mesothelioma mortality in Argentina over the period of 1990–2010.

**Method** Data are from death certificates, Mortality Database (DEIS), Health Ministry of Argentina. Mesothelioma was defined using the following codes of the International Classification of Diseases, 9<sup>th</sup> Rev. 151, 161/2, 164, 195, 199, 212, 229, 235, 495, 500/04, 511, used from 1990–1997; and ICD-10<sup>th</sup> Rev. codes J60, J90, C32, C45, from 1998 through 2010. Proportional mortality was estimated for each calendar year.

**Results** A total of 1734 of mesothelioma deaths were reported, varying widely, from 99 in 1995 to 16 in 1997. There was an increasing (44.0%) trend of deaths overtime. The proportionate mesothelioma mortality in 1990 was 0.3/1000 and showed a linear declining trend until 0.01/1000 in 2010.

**Conclusions** Argentina ban extraction, production, and the asbestos trade in 2001 but little is known about its impact or prospects on workers' health. The number of mesothelioma deaths is growing and it is plausible to continue to increase given its long latency period. Argentinian occupational health and safety authorities need to implement a national surveillance system capable to monitor risk factors and health outcomes for better planning and commitment with workers' health and wellbeing.

**0315 OCCUPATIONAL EXPOSURE TO AIR POLLUTION AND BLADDER CANCER**

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**Objectives** To present the rationale behind the qualitative IARC evaluation of outdoor air pollution and the new findings on bladder cancer derived from occupational epidemiological studies.

**Method** The International Agency for Research on Cancer recently used a series of systematic reviews to classify 'outdoor air pollution' as carcinogenic to humans (Group 1). Meta-analytic techniques, including forest plots and the I2 statistic, were used by the IARC Working Group to guide the hazard identification process.

**Results** The IARC Group 1 evaluation was based on an increased risk of lung cancer but the Working Group also noted limited epidemiological evidence for an increased risk of bladder cancer, after accounting for tobacco smoking, from studies of workers occupationally exposed to potentially high levels of outdoor air pollution. These studies were of both cohort and case-control designs and directly evaluated the association of cancer of the bladder with metrics of exposure to outdoor air pollution, traffic or traffic fumes or specific occupations (bus, taxi, and truck drivers).

**Conclusions** Although positive associations were observed in a number of studies that adjusted for smoking, the interpretation of the results is complicated by co-exposures and crude assessment of exposure in some studies.