

**Conclusions** The response rate was what was expected for this population and the majority indicated that they report all incidents which suggests that an online information system will be used and provide a valuable resource. With 40% of staff not complete with their Hepatitis B vaccines an information system will allow nurses to track these employees more effectively.

## Session: U. Cancer epidemiology III

### 157 OCCUPATION AND CANCER: AN ALTERNATIVE TOOL FOR EVALUATING THE EVIDENCES

<sup>1</sup>O E Oddone, <sup>2</sup>C P Crosignani, <sup>2</sup>S A Scaburri, <sup>2</sup>B E Bai, <sup>2</sup>M C Modonesi, <sup>1</sup>I M Imbriani.  
<sup>1</sup>University of Pavia, Pavia, Italy; <sup>2</sup>Italian National Cancer Institute, Milan, Italy

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**Objectives** Meta-analysis and pooled analysis are considered as a gold standard to summarise and to sift the biomedical evidences. In the framework of the Occupational Cancer Monitoring (OCCAM), it was developed a tool to assess the existence of an association between industrial sectors and cancer risk of a specific site so called "Literature Matrix" (LM), storing only positive literature results. The aim of this work is to challenge the adjusted results of this tool with those of meta-analysis studies.

**Methods** To evaluate the effectiveness of LM to provide useful summary risk estimates, we compared formal meta analyses with the set of "positive" results provided by the matrix. Among the several associations provided in LM, some were selected for present study. For this exploratory study we limited comparisons to 7 areas: agriculture and hematopoietic cancers as a whole, agriculture and non-Hodgkin lymphoma (NHL), agriculture and leukemia, agriculture and multiple myeloma, transports sector and female breast cancer (compared with two different meta-analysis), transports sector and lung cancer and painters and bladder cancer.

**Results** LM data, after adjustment with trim and fill method, show a substantial agreement with the correspondent meta-analysis, although results driven from LM data tend to an expected overestimation, but in most cases very slight. Results from LM data are always included between the limits of 95% CI of the correspondent meta-analysis, with the exception of Agriculture/NHL and Agriculture/All hematopoietic cancers. Results from LM data not adjusted are constantly farer from meta-analytic results, with the only exception of Painter/Bladder cancer analysis.

**Conclusions** The collection of only positive results derived from the scientific literature, and the use of an appropriate statistical correction, allows for a useful estimation of cancer risk by site and economic branch and it can be used for interpreting results of surveillance systems and for public health purposes.

### 158 OCCUPATIONAL EXPOSURE TO CARCINOGENS IN DIFFERENT SUBTYPES OF SINONASAL CANCER. RESULTS FROM 100 CONSECUTIVE HOSPITAL BASED CASES IN ITALY

<sup>1</sup>M Bonzini, <sup>1</sup>Parassoni, <sup>1</sup>Facchinetti, <sup>1</sup>Borchini, <sup>2</sup>Turri Zanoni, <sup>2</sup>Castelnuovo, <sup>1</sup>Marco Mario.  
<sup>1</sup>Epidemiology and Preventive medicine research Centre, University of Insubria, Varese, Italy; <sup>2</sup>Otorhinolaryngology Unit, University of Insubria, Varese, Italy

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**Objective** Sino-nasal cancer (SNC) is a rare and potentially fatal disease with a high occupational attributable fraction, being wood, leather dust, metals and solvents well recognised

carcinogenic agents. The importance of occupational exposure varies across different histological subtypes and is disputed for tumors different from adenocarcinoma (AC). We quantified the etiological role of occupational exposure in a large hospital based cohort.

**Methods** We systematically evaluate 100 consecutive SNC cases after surgical treatment in Varese Hospital (Feb-2010/Oct-2012) through a standardised and validated questionnaire developed with the National Registry for SNC cases.

**Results** We evaluated 62 AC, 22 squamous-cell-carcinoma, 16 other (29% women). Mean age at diagnosis was 63. Aprevious occupational exposure was recognised for 59% of cases. The proportion of occupational cases was sensibly higher for AC (83%) than for all other histotypes (19%). For AC the recognized risk factors in the great majority of cases were leather and wood dusts (46% both).

Conversely, for others histotypes different and less common exposures, such as chromium and formaldehyde, resulted more important. In particular we recognised 3 professional cases previously in the photolithographic industry. Mean latency period, 50 years (min 20-max 72), and mean duration of exposure = 26y (min 4-max 54) were similar across histotypes.

**Conclusions** Occupational exposure plays a key role in the etio-pathogenesis of SNC, not only for AC (with wood and leather dust that confirmed their impact in term of public health) but also for other histotypes with formaldehyde and chromium as important and often misrecognised occupational factors.

### 159 NEW EPIDEMIOLOGICAL EVIDENCE ON THE HUMAN CARCINOGENIC POTENTIAL OF ACRYLONITRILE EXPOSURE

<sup>1</sup>M Marsh, <sup>1</sup>Downing, <sup>1</sup>Liu, <sup>2</sup>Symons. <sup>1</sup>University of Pittsburgh, Pittsburgh, United States of America; <sup>2</sup>E. I. du Pont de Nemours and Company, Newark, United States of America

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**Objectives** Acrylonitrile (AN) is an industrial chemical used in the production of fibres, plastics, synthetic rubbers, resins and pharmaceuticals. AN has been studied extensively in exposed workers and experimental animals, yet many questions remain regarding its carcinogenic potential in humans. In 1999, the International Agency for Research on Cancer (IARC) reclassified AN as a "possible" (Group 2B) human carcinogen based largely on findings from four epidemiological studies. AN is currently under review by the US Environmental Protection Agency and is a candidate for an upcoming IARC re-evaluation.

**Methods** The University of Pittsburgh, Department of Biostatistics, Center for Occupational Biostatistics and Epidemiology (COBE) is engaged in a series of epidemiology studies designed to advance knowledge regarding the human carcinogenicity of AN exposure. These studies are funded by the AN Group and INEOS Nitriles, Inc. and include:

An update and expansion of an earlier historical cohort study of workers exposed to AN at the Lima, OH production site owned by INEOS Nitriles. This site was one of eight AN production sites studied in the 1990s by the US National Cancer Institute (NCI) and independently studied by COBE in the same time period.

A sensitivity analysis based on the INEOS Lima cohort, designed to adjust lung cancer risks in relation to AN exposure for potential confounding by smoking. While individual-level smoking data are available for most subjects, these data appear to be severely misclassified, rendering them uninformative.