**Oral presentation**

**0379 SHOULD WE TAKE MAJOR MACRO-ECONOMIC AND POLITICAL DEVELOPMENTS INTO ACCOUNT WHEN ASSESSING LONG-TERM OCCUPATIONAL EXPOSURES FOR EPIDEMIOLOGICAL RESEARCH?**

1Kasra Kromhout, 2Remko Houba, 3Susan Peters, 4Joachim Schüz, 4Kurt Straif, 5Sergey Kuzminsky, 6Evgeny Kovalevsky, 7Sara Schorfeld, 8Valerie McCormack, 9Roel Vermeulen, 10Utrecht University, Utrecht, The Netherlands; 4Netherlands Expertise Centre for Occupational Respiratory Disorders, Utrecht, The Netherlands; 11University of Western Australia, Perth, Australia; 12International Agency for Research on Cancer, Lyon, France; 13Medical Research Center for Prophylaxis and Health Protection in Industrial Workers, Yekaterinburg, Russia; 14Russian Academy of Medical Sciences, Moscow, Russia

**Objectives** Recent analyses of long-term trends in respirable dust and quartz concentrations from the long term monitoring program of the European Industrial Minerals Association (IMA-Europe) Dust Monitoring Program (covering the years 2000–2013) showed striking downward temporal trends in exposure which came to a halt at around the year 2009. Careful analyses and discussion with occupational health and safety representatives pointed at a direct detrimental effect of the current economic crisis on measured concentrations. This observation led us to hypothesise that similar disruptions of downward temporal trends in occupational exposures might also be visible in other databases with longitudinal exposure measurements.

**Method** Temporal trend analysis was estimated in the three databases (ExpoSYN and URALASBEST) each covering more than 50 years of occupational exposure monitoring. More flexible spline analyses rather than standard log linear (multiplicative) models were used to look for reversed trends.

**Results** In all three databases macro-economic and political developments seemed to influence downward trends in occupational exposure concentrations. Effects of economic crises like those of the early 1980s, early 1990s and the most recent one as well as the period of political and economic reform in Russia were clearly visible as reduced downward or even reversed temporal trends in occupational exposure concentrations.

**Conclusions** The study suggests that macro-economic and policy developments are needed for more accurate and precise estimations of long-term exposure and will result in more reliable quantitative risk estimates.

**0382 CANJEM: A GENERAL POPULATION JOB EXPOSURE MATRIX BASED ON PAST EXPERT ASSESSMENTS OF EXPOSURE TO OVER 250 AGENTS**

1Jerome Lavreau, 2France Lablache, 3Lesley Richardson, 4Mark Goldberg, 5Marie-Elise Parent, 6Jack Siemiatycki, 7University of Montreal Hospital Research Center (CRCHUM), Montreal, Canada; 8University of Montreal, Montreal, Canada; 9McGill University, Montreal, Canada; 10INRS-Institut Armand Frappier, Montreal, Canada

**Objectives** To create a general population job-exposure matrix (JEM) from a database of expert assessments performed during four community-based case-control studies of cancer (lung, breast, brain, and multisite) conducted in Montreal since the 1980s.

**Method** The expert assessments were performed by the same team of chemists, who assigned exposure to a predefined list of agents to each job held by subjects based on job histories and descriptions of tasks and work environment obtained through interview. The estimated metrics include measures of intensity, frequency and likelihood of exposure. The JEM dimensions include agent, occupation (Canadian, U.S. and international classifications) and era. For each cell, probability of exposure was computed as the proportion of individual jobs exposed. Among the exposed within a cell, CANJEM provides median frequency of exposure, the mode of exposure intensity categories and median time weighted intensity.

**Results** CANJEM includes information from 6222 men and 2563 women, totalling 31 780 individual jobs held between 1921 and 2005, representing approximately 50 expert-years of exposure assessment. Well known agents among the most frequently encountered include carbon monoxide (22% of individual jobs exposed), organic solvents (17.5%), and formaldehyde (10.6%). The JEM covers 303 occupations, 280 agents, and 4 eras (<1930, 1930–1969, 1970–1984, >1984). Overall, 20% of the cells have a non-null proportion of jobs exposed, 12% with a proportion greater than 5%.

**Conclusions** CANJEM constitutes one of the largest current sources of retrospective occupational exposure information in North America, useable to support exposure assessment efforts in epidemiology and estimate populations of workers exposed to harmful agents.