Objectives To depict the present situation regarding ENM-workers medical and epidemiological surveillances in France and discuss its advancement.

Methods During 2008–2010 the InVS conducted an exploratory study based on in site visits of French facilities using/producing ENM with aim to explore the ENM exposure circumstances, ENM-workers medical surveillance and other epi-surveillance development prerequisites. This "field" information was completed with systematic scientific and statutory bibliography reviews and discussions within two working groups. One included scientists from the French Institute for Public Health Research (IReSP) and focused the epi-surveillance development aspects, while another included physicians from the Occupational medical inspection department at the Ministry of Labour and focused medical surveillance aspects.

Results Since neither epidemiologic nor individual medical surveillance existed specifically for ENM-workers despite a likelihood of exposure in some facilities, InVS developed a protocol for an integrated surveillance system of French workers potentially exposed to ENM. It consists of a multi-step methodology starting with an ENM-exposure registry. ENM-workers will be identified using a 3-level approach: 1-selection of companies concerned with ENM exposure (based on questionnaire and compulsory declaration), 2-in site exposure assessment and identification of the job/tasks with ENM exposure (based on job-exposure-matrix construction, further supplemented with measurements), and 3-registration of ENM-workers (based on inclusion criteria and additional self-questionnaire). The registration is planned for three years focusing two ENM, carbon nanotubes and nano-TiO_2. The two corresponding prospective cohorts will pursue epidemiologic surveillance objectives and serve as a basis for performing cross-sectional/panel studies with specific research objectives.

Conclusion The French ENM-workers surveillance is actively developing. Companies and workers inclusion questionnaires are designed and protocol is operational for starting in early 2013, after approval from national ethical committees (still awaited). The results coming from the first six-month operation should be informative in terms of data quality, numbers of facilities and workers with ENM-exposure likelihood.

Session: Mini symposium II: Occupational cancer in Europe (SHECAN)

190 SHECAN - METHODOLOGY FOR EXPOSURE ASSESSMENT: MAKING THE MOST OF LIMITED DATA

[1]MG N Gorman Ng, [1]van Tongeren, [2]Hutchings, [3]Mistry, [3]Corden, [1]Lamb, [1]Sanchez-Jimenez, [1]Shafrir, [3]Sobey, [2]Rushton, [1]Cherrie. [1]*Institute of Occupational Medicine, Edinburgh, United Kingdom;* [2]*Department of Epidemiology and Biostatistics, Imperial College London, London, United Kingdom;* [3]*AMEC, London, United Kingdom*

10.1136/oemed-2013-101717.190

Introduction The prevalence and level of exposure for each assessed agent was estimated for every European member state and relevant industry. These estimates provided the basis for the heath impact assessment. Detailed exposure data were unavailable for many member states and industries. The strategies used to create these estimates using limited available data will be discussed using the estimates produced for respirable crystalline silica (RCS) as an example.

Methodology For 18 out of 25 assessed agents data from the CAREX project were used to estimate exposure prevalence. The proportion of exposed workers in each industry was averaged across countries for which data from 2000 or later were available. The average proportion was multiplied by the number of employees in the industry in each of the remaining member states in 2006 (from the Structural Business Statistics and Labour Force Survey available from EUROSTAT) to estimate the number of exposed workers. For agents that were not included in CAREX, exposure prevalence was estimated using data from trade associations and other stakeholders; from available exposure databases; or by assuming that all workers in exposed industries were exposed.

The level of exposure was assessed using data from the published scientific literature, European Risk Assessment Reports, exposure databases, and trade associations. Industries were classified as high, medium or low exposure and a representative geometric mean (GM) and geometric standard deviation (GSD) was selected for each "medium" and "high" exposure industry. The overall weighted GM and GSD for each substance was estimated across all medium/high exposed industries with Monte Carlo simulation.

Discussion Due to limited data availability, estimates were conservative in every instance. Had more data been available both the prevalence and exposure level estimates may have been lower, demonstrating the need for exposure measurement data from industry to be made available for research.

191 SHECAN - METHODOLOGY FOR THE HEALTH IMPACT ASSESSMENT: THE STRENGTHS AND WEAKNESSES OF THIS APPROACH

L Rushton, Hutchings. *Imperial College London, London, United Kingdom*

10.1136/oemed-2013-101717.191

Objective To provide current estimates of occupational cancers in the EU associated with the relevant substances and future trends under different scenarios of change of exposure; these data provide the input into the socioeconomic assessment.

Methods We calculated attributable fractions together with numbers of deaths and cancer registrations, Disability Adjusted Life Years (DALYs) and Years of Life Lost using risk estimates from published literature and national data sources to estimate proportions exposed.

Results More than 1,000 attributable cancers were estimated to occur in the next 60 years for each of eleven substances if no action is taken; total estimated attributable deaths over this period were >700,000. Respirable crystalline silica (RCS) and diesel engine exhaust were particularly important giving an estimated 470,000 and 430,000 incident cancers between 2010 and 2069. There were only seven substances or mixtures where there was a health benefit in terms of avoided cancer cases over the 60 years from introducing an OEL giving between 0.2% and 39% reduction in deaths from the baseline estimate. The largest benefits arise from the introduction of OELs for RCS, hardwood dust, hexavalent chrome and rubber fume. The highest percentage reduction in incident cases was for the OEL for rubber fume (39%), followed by hardwood dust at 1 mg/m^3 (28%) and RCS at 0.05 mg/m^3 (23%).

Conclusions Assumptions made in our methodology and uncertainties and inaccuracies in the data may have introduced biases into our estimates. Potential sources of bias include