Results FEV1 decreased significantly with the cumulative exposure and mean exposure levels. The estimated decrease was close to 200 mL per year of high exposure, which corresponds roughly to levels of wheat dust higher than 10 mg/m^3. Peak expiratory flow and several acute symptoms correlate with recent exposure level. Recovery of the respiratory function six months after exposure to wheat dust and evolution of exposure indicators in workers blood (IgG and IgE) will be discussed.
Conclusions These results show a chronic effect of exposure to wheat dust on bronchial obstruction. Short term effects and reversibility will be assessed using the full study results.

0154 A NEW, EFFICIENT WEB-BASED TOOL TO COLLECT AND CODE LIFETIME JOB HISTORIES IN LARGE POPULATION-BASED STUDIES: THE COPD PROJECT IN THE UK BIOBANK COHORT

Sara De Matteis, Lesley Rushton, Debbie Jarvis, Magda Wheatley, Hadia Azhar, Paul Cullinan. *Imperial College, London, UK*

10.1136/oemed-2014-102362.59

Objectives The manual collection and coding of job histories is the standard method for assessing occupational exposure, but may be infeasible for large population-based studies such as the UK Biobank cohort. We aimed to develop a new web-based tool to automatically collect and code individual lifetime job histories in the UK Biobank cohort for investigating the causes and burden of work-related COPD in the UK.
Method UK Biobank is a population-based cohort of 502 682 subjects, aged 40–69 years, recruited in 2006–2010. Baseline spirometry data, current employment and smoking histories were collected. We developed a job questionnaire based on the hierarchical structure of the standard occupational classification (SOC) 2000 to allow participants to automatically self-collect and code their lifetime job histories. The web-based prototype (www.imperial.ac.uk/biobank/questionnaire) was pre-piloted in May–August 2013 among key job sectors using snowball sampling together with a feedback survey.
Results 171 subjects participated in both the pre-piloting and feedback survey. 91% completed the questionnaire in <20 min, 85% considered the instructions clear, and 80% found their job categories/titles easily. Overall, 96% judged the questionnaire to be clear and easy. A revised questionnaire has now been designed and will be accessible from different media including PCs/laptops, tablets and smart phones to encourage high response. A demonstration version will be made available to conference participants.
Conclusions Our web-based job questionnaire is an efficient new standard tool for collecting and automatically coding lifetime job histories in large population-based studies and is adaptable for use in many occupational health research projects.

0155 USE OF A PREDICTION MODEL OF ASTHMA WITH ANTIASTHMA DRUG CLAIMS FOR EPIDEMIOLOGICAL SURVEILLANCE OF ASTHMA IN SELF-EMPLOYED WORKERS IN FRANCE

[1]Yuriko Iwatsubo, [1]Marie Houot, [1]Delphine Lauzeille, [2]Claudine Kamali, [1]Frédéric Moisan, [1]Ellen Imbernon. *[1]French Institute for Public Health Surveillance, Saint-Maurice, France; [2]Régime Social Des Indépendants, La Plaine Saint-Denis, France*

10.1136/oemed-2014-102362.60

Objectives To estimate prevalence and risk of current asthma among affiliates to the health insurance for self-employed workers according to economic activities.
Method We defined current asthma using a prediction model developed in a study conducted in 2006 among workers aged between 18 to 65, affiliated to the *Régime Social des Indépendants* (RSI) in three French regions. The model used as predictors antiasthma drug claims data and the prescriber's medical speciality. In 2013, we obtained from the RSI, economic sectors and drug claims data of all French affiliates on whom we applied our prediction model. We used logistic regression to estimate asthma risk of each economic sector versus all the others.
Results The population comprised 967391 workers. In men, the asthma prevalence was 5.6%. Elevated odds-ratios were observed in the production of food products (OR=1.70 [95% CI 1.63–1.78]), recycling (OR=1.44 [95% CI 1.23–1.70]), health and social work (OR=1.34 [95% CI 1.16–1.54]) and land transport (OR=1.08 [95% CI 1.03–1.13]). In women, the asthma prevalence was 7%. High odds-ratios were observed in education (OR=1.27 [95% CI 1.08–1.50]), manufacture of medical and precision instruments (OR=1.25 [95% CI 0.99–1.58]), land transport (OR=1.11 [95% CI 0.98–1.25]) and hotel/restaurants (OR=1.10 [95% CI 1.05–1.15]).
Conclusions Prevalence estimated by the model was close to that observed among self-employed workers within a national survey conducted in 2003. Elevated risks were observed in several industries known to be at risk but also in those not expected. Prediction model approach will allow asthma surveillance in workers without interview with health insurance organisation data when occupational data are available.

0156 PREDICTORS OF SICKNESS ABSENCE IN PREGNANCY- A DANISH COHORT STUDY

[1]Mette Lausten Hansen, [1]Ane Marie Thulstrup, [2]Jette Kolding Kristensen, [3]Mette Juhl, [4]Cecilia Høst Ramlau-Hansen. *[1]Department of Occupational Medicine, Danish Ramazzini Center, Aarhus University Hospital, Aarhus, Denmark; [2]Department of Public Health, Section of General Practice, Aarhus University, Aarhus, Denmark; [3]The Research Unit Women's and Children's Health, The Juliane Marie Center, Rigshospitalet, Copenhagen, Denmark; [4]Department of Public Health, Section for Epidemiology, Aarhus University, Aarhus, Denmark*

10.1136/oemed-2014-102362.61

Objectives To investigate if parity, fertility treatment, body mass index (BMI), time to pregnancy (TTP), and engagement in physical exercise are risk factors for sickness absence during pregnancy weeks 10 to 30.
Method We use data from The Danish National Birth Cohort (DNBC) and the Danish Register for Evaluation of Marginalisation (DREAM). DNBC contains information on 100 418 pregnancies included from 1996 until 2002. Around pregnancy weeks 12–16 the participants were interviewed by telephone and provided information on potential predictors, on occupational exposures, lifestyle factors and health. We excluded women, who were no longer pregnant at the time of the interview, were unemployed, multiple pregnant or had an obstetrical event within one year before the DNBC pregnancy. This resulted in a study population of 65 047 pregnancies. Outcome data were retrieved from DREAM, which contains information on sickness absence on a weekly basis. Data will be analysed using multivariate logistic regression models.

Results Mean age of the participants was 30.5 years, 46% were nulliparous, 6.3% received fertility treatment, mean BMI was 23.6 kg/m^2. Prevalence of sickness absence until pregnancy week 30 was 36%. Preliminary results indicate that sickness absence is related to fertility treatment and obesity. Women receiving fertility treatment had increased odds of sickness absence in pregnancy week 30; OR: 1.31 (95% CI: 1.21–1.42). Obese women had increased odds of sickness absence compared to normal weight women; OR: 1.37 (95% CI: 1.28–1.48). More statistical analyses will be conducted.
Conclusions Final results and conclusions will be presented at the conference.

0157 THE USE OF EPIDEMIOLOGIC DATA TO EVALUATE THE ECONOMIC BURDEN OF OCCUPATIONAL RISKS: MODELLING THE COST OF DISEASES ATTRIBUTABLE TO JOB STRAIN IN FRANCE

[1,2]Hélène Sultan-Taïeb, [3,4]Jean-François Chastang, [5]Malika Mansouri, [3,4]Isabelle Niedhammer. *[1]Université Du Québec À Montréal (UQAM), Montréal, Québec, Canada; [2]Centre de Recherche Interdisciplinaire Sur Le Bien-Être, La Santé, La Société Et L'environnement (CINBIOSE), Montréal, Québec, Canada; [3]INSERM, U1018, CESP Centre for Research in Epidemiology and Population Health, Epidemiology of Occupational and Social Determinants of Health Team, Villejuif, France; [4]Laboratoire D'Économie Et Gestion, Université de Bourgogne, Dijon, France; [5]Université de Versailles St-Quentin, UMRS 1018, Versailles, France*

10.1136/oemed-2014-102362.62

Objectives To estimate the annual costs of coronary heart diseases (CHD) and mental disorders (MD) attributable to job strain exposure according to Karasek's model in France for the year 2003 from a societal perspective.
Method We produced attributable fraction estimates which were applied to the number of cases (morbidity and mortality) and the costs of CHD and MD. Relative risk estimates came from a systematic literature review of prospective studies. We conducted meta-analyses based on this selection of studies. Prevalence of exposure to job strain came from the national SUMER survey conducted in France in 2003.
Results Between 8.8 and 10.2% of CHD morbidity and between 9.4 and 11.2% of CHD mortality was attributable to job strain for men. Between 15.2 and 19.8% of MD was attributable to job strain for men, and between 14.3 and 27.1% for women. The total costs of CHD and MD attributable to job strain exposure ranged from 1.8 to 3 billion euros for the year 2003 (0.12–0.19% GDP). Medical costs accounted for 11% of the total costs, value of life costs accounted for 13–15% and sick leave costs for 74–77%. The cost of CHD was estimated at 113–133 million euros and the cost of MD was between 1.7–2.8 billion euros in 2003.
Conclusions This study on the economic burden of diseases attributable to job strain in France provides relevant insights for policy-makers when defining public health priorities for prevention policies.

0162 PREVALENCE OF OCCUPATIONAL EXPOSURE TO LEAD IN AUSTRALIA

[1]Tim Driscoll, [2]Renee Carey, [3]Deborah Glass, [3]Geze Benke, [2]Susan Peters, [2]Alison Reid, [2]Lyn Fritschi. *[1]Sydney School of Public Health, University of Sydney, Sydney, NSW, Australia; [2]Western Australian Institute for Medical Research, University of Western Australia, Perth, WA, Australia; [3]Department of Epidemiology and Preventive Medicine, Monash University, Melbourne, VIC, Australia*

10.1136/oemed-2014-102362.63

Objectives To determine the prevalence of work-related exposure to lead, the main circumstances of work-related exposure to lead in the general workforce, and the use of workplace control measures designed to decrease exposure to lead, in Australia.
Method The information came from the Australian Work Exposures Study (AWES) project, a nationwide survey which investigated the current prevalence of work-related exposure to 38 known or suspected carcinogens, including lead, among Australian workers, based on reported job tasks. Only those persons designated as having probable work-related exposure to lead were included in the analysis. Assessments were extrapolated to the national workforce with reference to the 2011 Census.
Results The results suggest approximately 6.6% of Australian workers were occupational exposed to lead. Almost all exposed workers were male, about half workers worked in technical occupations and almost half worked in the construction industry. The main tasks associated with probable exposures were, in decreasing order, soldering; painting old houses, ships or bridges; plumbing work; cleaning up or sifting through the remains of a fire; radiator repair work; machining metals or alloys containing lead; mining; and welding leaded steel. The use of appropriate respiratory control measures was inconsistent. Exposure levels were assessed as being high or medium in most cases, taking into account information on work tasks and the controls being used by workers.
Conclusions The study suggests exposure to lead in the Australian workforce is higher than expected based on estimates from other countries. There is considerable scope for better use of exposure control measures.

0163 JOB STRAIN AND BURNOUT AMONG NURSES WORKING IN DIFFERENT HEALTHCARE SETTING

[1]Weishan Chin, [2]Li-Jie Wang, [3]Judith Shu-Chu Shiao, [1,2]Yue-Liang Leon Guo Guo, [1]Shan-wei Yang. *[1]Institute of Occupational Medicine and Industrial Hygiene, National Taiwan University School of Public Health, Taipei, Taiwan; [2]Department of Environmental and Occupational Medicine, National Taiwan University and NTU Hospital, Taipei, Taiwan; [3]Department of Nursing, College of Medicine, National Taiwan University (NTU) and NTU Hospital, Taipei, Taiwan; [4]Department of Environmental and Occupational Medicine, National Taiwan University Hospital, Taipei, Taiwan*

10.1136/oemed-2014-102362.64

Objectives To assess job strain and burnout status among female nurses working in primary clinics, secondary referral hospitals, and public health units in Taiwan.
Method Study participants included female nurses from (1) all primary clinics (PC) hiring more than two registered nurses; (2) a nation-wide representative sample of secondary referral hospitals (SRH), selected using stratified random sampling; and (3) all public health units (PHU) hiring more than two registered nurses. To candidate participants, a structured, self-administered questionnaire was disseminated, which included demographic information, work conditions, the Chinese Job Content Questionnaire, and the modified Chinese Copenhagen Burnout Inventory.
Results A total of 6087 questionnaires were sent, and 4046 (66.5%) were satisfactorily completed. Compared with PC nurses, nurses working in SRHs and PHUs had higher job strain (adjusted odds ratio, aOR=1.7, 95% confidence interval, CI=1.3–2.1 for SRH; aOR=2.4, 95% CI=1.7–3.4 for PHU), personal burnout (aOR=2.6, 95% CI=1.8–3.6 for SRH; aOR=3.4, 95% CI=2.1–5.7 for PHU), work-related burnout