In the 1970s, South Africa was the world’s third largest producer of asbestos. The amphiboles, amosite and crocidolite, were mined in large quantities along with chrysotile. Most asbestos was exported but some was used locally to manufacture products including asbestos cement (AC)roof sheets which were used to build houses and schools. Although asbestos was banned in South Africa in 2008, there are over a million houses with AC roofs. Asbestos Regulations promulgated in 2002 prescribe the method for working with and demolishing asbestos containing materials and a key step is the identification of asbestos. The NIOH provides a national service to identify asbestos in materials and from 2003 to 2016, some 2657 samples have been analysed, including 155 roofs. Of these, 133 (87%) contained asbestos and 97 (72%) of the AC roofs contained amphibole asbestos fibres either alone or in a mixture. This suggests that several million people are living under a roof containing amphibole asbestos. Studies that sampled the air for asbestos fibres in a township built with AC roofs indicate that fibres are not normally liberated from the roofs. Another study in the same township has shown that over many years, asbestos can be leached from roofs by rainwater and fibres can be found in the soil below roofs which have no gutters. The legacy of AC roofs on homes and schools is a concern for residents and parents. The magnitude of the problem raises concerns about the safe removal, disposal and cost to replace these roofs.

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Oral Presentation

Cancer

0255 LIFETIME CANCER RISK IN THE BRITISH RUBBER INDUSTRY: A RETROSPECTIVE COHORT WITH 49 YEAR FOLLOW-UP

1Mira Hidajat*, 2Damien McNevney, 3Will Mueller, 4Peter Ritchie, 5John Cherry, 2Andrew Darrant, 5Raymond Agius, 1Frank de Vocht, 1University of Bristol, Bristol, UK; 2Institute of Occupational Medicine, Edinburgh, UK; 3Henrietta Watts University, Edinburgh, UK; 4Health and Safety Executive, Bootle, UK; 5University of Manchester, Manchester, UK

IARC concluded (IARC, 1982, 1987) there is sufficient evidence of a causal association between occupational exposures in the rubber-manufacturing industry and cancer. However, because of the complexity and variety of substances used in the process, a great deal of uncertainty regarding which specific exposures give rise to the increases in cancer remains. Moreover, since exposures in the rubber industry have decreased considerably and efforts have been made to remove confirmed carcinogens from the production process, it is unclear if increased cancer risks are attributable to historical exposures.

To quantitatively evaluate exposure-response associations between specific long-term occupational exposure and cancer mortality, we updated a cohort of 40,867 men aged 35+ who were employed in the British rubber industry in 1967. A previous follow-up to 1976 identified excess risk of bladder cancer in men, excess death from lung cancer across the industry and excess stomach cancer mortality in the tyre sector.

Extending the mortality follow-up to 49 years, we are currently processing mortality data from NHS Digital and linking it to a population-specific quantitative job-exposure matrix for rubber (process) dust, rubber fumes, and n-Nitrosamines based on available data from the EU-EXASRUB project.

We hope to begin exposure-response analyses in April 2017 (and present the results at the conference). Few occupational cohorts of this size have such lengthy follow-up, so the present analyses will provide an important overview of lifetime exposure-specific cancer mortality risks of specific exposures historically and currently encountered in the industry.

Other

0256 LABOUR MARKET SEGREGATION AND GENDER DIFFERENCES IN SICKNESS ABSENCE: TRENDS IN 2005–2013 IN FINLAND

1Taina Leinonen*, 2Eira Viikari-Juntura, 3Kirsi Hursafvel-Pursiainen, 4Lauri Vinta, 5Mikko Laaksonen, 6Inna Autti-Rämö, 7Svetlana Solovieva, 1Institute of Occupational Medicine, Edinburgh, UK; 2Finnish Institute of Occupational Health, Helsinki, Finland; 3The Social Insurance Institution of Finland, Helsinki, Finland; 4Health and Safety Executive, Bootle, UK; 6Institute of Occupational Medicine, Edinburgh, UK; 7Finnish Centre for Pensions, Helsinki, Finland

Introduction Women have higher work disability rates than men, but less is known of changes in this gap over time. We examined gender differences in sickness absence trends focusing on sectoral and occupational gender segregation in the labour market.

Methods We used large representative register data on Finnish wage-earners aged 25–59 and generalised estimation equations based on repeated logistic regression to estimate the annual risk of having any long-term sickness absence.

Results Between 2005 and 2013, the predicted proportion of those with all-cause sickness absence decreased from the initial levels of 10.6 among men and 15.1 among women by 16.7% and 13.6%, respectively. The decreases were particularly large among male and female manual workers and among female upper non-manual employees, and there was further variation between different industrial sectors. Excess decrease among men mainly coincided with the peak of the economic recession in 2009. Widening of the gender gap was not influenced by differential distributional changes by employment factors, sociodemographic factors and previous sickness absence between the employed male and female risk populations, but it was influenced by differential within-group changes in sickness absence at the time of the recession between male- and female-dominated industrial sectors and occupational classes.

Conclusions Widening of the gender gap in sickness absence was largely explained by excess decrease in sickness absence in male-dominated sectors and occupations which were hit especially hard during the recent economic recession. The association may be related to reduced illness behaviour among employees experiencing greater labour market insecurity.

Poster Presentation

Psychosocial

0257 ASSOCIATIONS OF INDIVIDUAL LEVEL AND JOB-GROUP LEVEL ESTIMATES OF PSYCHOSOCIAL WORK FACTORS WITH DEPRESSIVE SYMPTOMS

Ole Melkevik*, Reiner Rugulies, Ida E.R. Madsen. National Research Centre for the Working Environment, Copenhagen, Denmark

Background Job exposure matrix (JEM) methodology is useful in occupational psychosocial epidemiology for eliminating reporting bias and analysing low-prevalence outcomes in register based populations. This investigation aims to compare patterns of associations between psychosocial factors, assessed by JEM estimates and individual-level estimates, respectively, with depressive symptoms and to test the linearity of the associations.

Methods In this cross-sectional analysis, we used data from the Danish Work Environment Cohort Study 2000 (n=8583) to generate JEM and individual-level estimates of quantitative demands, work pace, influence, opportunities for development, emotional demands, and role conflicts at work. JEM estimates were attained from regression models providing sex- and age specific estimates for each job-group. Depressive symptoms were measured with the MHI-5 scale of the Short Form 36 questionnaire. The shape of the association between psychosocial exposures and depressive symptoms were assessed by use of linear splines. Using F-tests we tested whether reducing model flexibility (i.e. number of splines) led to statistically significant changes in model fit.