regulation implied that the period of which the employer must pay full salary to the sick-listed employee before being compensated by the municipality “employer period”, was extended from 21 days to 30 days. The longer employer period may have influenced how companies manage sickness absence, as well as hiring and firing procedures. The regulation may have had an effect on the dynamics of the labour market as a whole and to some extent in subgroups of certain exposure of occupational health if the regulation favours certain types of industries. In the present study we investigate to what extent such regulation impact the labour market affiliation as a whole and in the context of occupational health.

Methods The labour market affiliation will be analysed by the use of the Danish Working Environment Cohort Study 2010, and the 2012 survey of the National Occupational and Health. Both surveys will be linked with the newly released register “Labour market accountant” (AMR) on salary and social payments. The labour market affiliation will be analysed by a well-established Multi-state model containing five major stages with three trans durable stages; work, sickness absence, and unemployment, and two absorbing stages; disability pension, and early retirement scheme. The two surveys will make it possible to analyse the effect on the labour market affiliation before and after the regulation was initiated.

Poster Presentation

Cancer

0088

CHARACTERISTICS OF NON-HODGKIN'S LYMPHOMA PATIENTS AMONG A COHORT OF SEMICONDUCTOR-MANUFACTURING WORKERS

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Objective The Occupational Safety and Health Research Institute (OSHRI) established a cohort consisting of workers in six semiconductor-manufacturing companies to determine cancer incidence. The data gathered until 2014 revealed that 43 non-Hodgkin's lymphoma (NHL) cases occurred. This study aimed to identify the characteristics of these cases.

Methods In 2008, OSHRI established a cohort based on company personnel records and national cancer registration data that could be obtained from Statistics Korea on former and current workers of six semiconductor-manufacturing factories in South Korea since 1998. This study analysed the characteristics of NHL cases that occurred in this cohort.

Results In the cohort, 43 NHL cases occurred. Of those cases, 23 were men and 20 were women. The highest incidence of 20 cases occurred in the workers in their 30s. The years 1995–1999 and 2000–2004 were the most common time periods for entry into the company with 11 and 10 cases, respectively. The types of occupations included: 33 manufacturing workers, 7 non-manufacturing workers, and 3 who could not be precisely categorised.

Conclusion Although NHL as an illness that is known to occur at a relatively old age, the prevalence of NHL among former and current semiconductor workers, occurring at a younger working age, may suggest causality based on occupation. As such, identifying their demographic characteristics is a necessary step towards identifying the occupational hazards in the semiconductor industry and the risk factors for development of NHL.

Oral Presentation

Ageing Workforce

0089

PREDICTING WORKING BEYOND RETIREMENT IN THE NETHERLANDS: AN INTERDISCIPLINARY APPROACH INVOLVING OCCUPATIONAL EPIDEMIOLOGY AND ECONOMICS

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Objectives No study so far has combined register-based socioeconomic information with self-reported information on health, demographics, work characteristics and social environment in one study. The aim of this study is to investigate whether socioeconomic, health, demographic, work characteristics and social environmental characteristics independently predict working beyond retirement.

Methods Questionnaire data from the Study on Transitions in Employment, Ability and Motivation was linked to data from Statistics Netherlands. A prediction model was built consisting of the following blocks: socioeconomic, health, demographic, work characteristics and social environment. First, univariate analyses were performed ($p < 0.15$), followed by correlations and logistic multivariate regression analyses with backward selection per block ($p < 0.15$). All remaining factors were combined into one final model ($p < 0.05$). Internal validation was performed.

Results In the final model, only factors from the blocks health, work and social environmental characteristics remained. In the final model, better physical health, >2 days/week intensively physically active, higher body height and working in healthcare predicted working beyond retirement. If respondents had a permanent contract or worked in handcraft, or had a partner that did not like them to work until the official retirement age, they were less likely to work beyond retirement. Area under the curve was 73% ($p < 0.05$). Explained variance was 18.3%. Internal validation led to an area under the curve of 68%.

Conclusion Health, work characteristics and social environment predicted working beyond retirement, but register-based socioeconomic and demographic characteristics did not independently predict working beyond retirement. This study shows that working beyond retirement is multifactorial.

Oral Presentation

Other

0090 THE SYNERGY PROJECT

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The SYNERGY project was established in 2007 to provide a scientific basis for recognition of lung cancer as an occupational disease in workers exposed to more than one lung carcinogen. It represents the largest database of case-control studies on lung cancer with complete life course information on occupation and tobacco smoking. Data from 19 370 lung cancer cases and 23 674 controls are available from 16 case-control studies conducted between 1985 and 2010. Cases were recruited from hospitals or cancer registries, and in most studies eligible if: 1) <75 years; 2) resident for at least one year and 3) confirmed diagnosis of lung cancer by histology or cytology. Controls were recruited from the general population (81%) or hospitals (19%), and were individually or frequency matched to cases by sex and age. Information was predominantly collected by interviews with the study participants themselves, though next-of-kin respondents were accepted in five of the studies if subjects were unavailable (9.1% of cases, 6.6% of controls). Ethical approvals for the original studies were obtained in each country and for the SYNERGY project from the IARC Ethics Committee. The database comprises around 14% never smokers, whereof 822 cases. Women represent around 20% of the study population. The strengths of SYNERGY includes bringing together epidemiologists and exposure assessment experts from around the world to advance occupational cancer epidemiology, 2) power to study small risks, 3) providing quantitative exposure estimates for population-based case-control studies, and 4) allowing sub-group analyses, e.g. by gender, histology and smoking status.

Oral Presentation

Methodology

0091 EVALUATING THE EPIDEMIOLOGICAL EVIDENCE – A COMPARISON OF FRAMEWORKS FOR ASSESSING INDIVIDUAL STUDIES

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To be presented in an accepted mini-symposium

Introduction Frameworks and tools developed to evaluate observational studies of environmental and occupational exposures for systematic reviews draw from similar efforts in the field of healthcare management to achieve increased transparency in assessment conclusions.

Methods This presentation compares approaches developed by U.S. and European government and academic institutions that evaluate risk of bias and sensitivity for observational studies of environmental and occupational exposures. An international collaborative project to adapt a risk of bias tool developed by

the Cochrane Collaborative (Risk of Bias in Non-Randomised Studies of Interventions) that will address the varied study designs and exposure assessment methods used in these types of studies is described.

Results Several commonalities are identified, including the use of signalling questions to guide evaluations, outcome-specific rather than study-specific evaluations, and avoidance of numeric scores. All frameworks evaluate participant selection/attrition/exclusion, confounding, reliability and validity of exposure and outcome assessments, and selective reporting. Less consistently used domains are analytic methods, sensitivity, and conflict of interest. The frameworks use different approaches to derive an overall conclusion about risk of bias or confidence.

Conclusion As with narrative reviews, structured frameworks depend heavily on expert judgement requiring the involvement of reviewers with the correct discipline-specific expertise. The transparency of the overall evidence integration in a systematic review depends on the knowledgeable and clear presentation of study evaluation conclusions.

The views expressed are those of the author and do not necessarily represent the views or policies of the U.S. Environmental Protection Agency.

Poster Presentation

Respiratory

0092 A CRITICAL EVALUATION OF FRACTIONAL EXHALED NITRIC OXIDE (FeNO) AND PULMONARY FUNCTION TEST LEVELS IN BAKERY AND PLASTICS WORKERS

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This study aimed to investigate whether the irritants used in bread and plastic industry cause irritation in the respiratory tract to determine the benefits of adding FeNO measurement method to periodical controls in various business branches.

Our cross-sectional study was carried out 88 workers in the plastics and bread sectors in Istanbul. Our control group consists of 49 people. FeNO levels were measured and the relationship between these parameters and pulmonary function test parameters was investigated. When FeNO levels in control and work groups were investigated, they were found over 25 ppb in 8 persons working in bakery, 11 in plastics, and in 9 of the control group.

When parameters related with respiratory function were evaluated, people whose parameters were found to be lower than 80% were as follows respectively: PEF levels of 29 people (64,4%) working in bakery in and FEF_(25-75%) levels of 5 people (11,1%); whereas PEF values of 26 people (60,5%) among the workers of plastics and FEF_(25-75%) levels of 5 people (11,6%) were found to be less than 80%. A statistical significance was found between FeNO and PEF levels which were under 80%. In workers whose FeNO levels were found under 25 ppb and those whose PEF levels were under 80% were found to be significantly high (p=0.03).

Measuring FeNO levels will be helpful to identify the various environmental respiratory irritants at workplaces before