health concern for workers in Asia. Taiwan is the third country in the world after Japan and Korea where national governments announced criteria to recognise overwork-related CVDs. However, the public's worries persisted, as the criteria seemed unable to solve the problem of long working hours in these countries. In the December 2016 and early 2017, a series of regulatory changes in Taiwan has received significant attentions, triggered by increasing social criticism indicating that Taiwanese regulations lagged behind international labour standards and many highly industrialised countries. As a result, increases in research addressing overwork-related CVDs issues and in the reported CVD cases could be a good reflection of the national policy change. We first compared the trends of research focus in Taiwan with those in Japan and Korea, respectively. We further collected 10 year data for Taiwan and Japan to investigate the impact of introducing a new policy. We found consistent and plausible correlations between the implementation of new policy and the number of recognised overwork-related CVDs. On the other hand, our results of Taiwan suggested a systematic problem of under-recognition of occupational diseases. Although the industrial development contributed to the country's economic growth substantially, the country will need to keep bearing the underlying burden of overwork-related CVDs.

Oral Presentation

Injuries

0085 INJURY REPORTING, EMPLOYER LODGEMENT AND COMPENSATION PAYMENT DELAYS AND DURATION OF WAGE REPLACEMENT IN INJURED WORKERS

[1]Fiona Cocker, [2,3]Peter Smith*, [1]Helen Kelsall, [1]Malcolm Sim. *[1]Monash University, Melbourne, Victoria, Australia; [2]Institute for Work and Health, Toronto, Canada; [3]Dalla Lana School of Public Health, University of Toronto, Toronto, Canada*

10.1136/oemed-2017-104636.63

Objective To determine if delays in the workers' compensation process, indicated by failures in claim filing, adjudication and provision of wage replacement (WR), are associated with poorer RTW outcomes.
Methods This study examined standard workers' compensation claims with an injury date between January 2007 and December 2012, with at least one-day of WR, and which were not terminated for reasons other than RTW within the first 12 months of the claim (n=80,322). Logistic regression models explored the association between: i) delays in the injured workers (IWs) claim lodgement, the IWs employer's lodgement of the claim with the insurer, and receipt of first compensation payment, and accumulating 52 weeks of WR; and ii) socio-demographic/economic, occupational, and injury-related factors and the aforementioned delays.
Results All delays were associated with increased odds of reaching 52 weeks of WR. The more delays, the greater odds of a long-term claim. Different factors were associated with each different delay.
Conclusions The predictive ability of delays in claim lodgement and processing and receipt of compensation payments demonstrate where improved claims management and adjudication could reduce the proportion of workers on long term WR.

Oral Presentation

Shift Work

0086 SHIFTWORK, CIRCADIAN DISRUPTION AND BREAST CANCER: A FIRST APPLICATION OF THE CHRONOBIOLOGICAL THEORY AND PRACTICAL CHALLENGES WITHIN THE AUSTRALIAN BCEE STUDY

[1]Lin Fritschi, [2]Valèrie Groß, [2]Ursula Wild, [3]Jane Heyworth, [4]Deborah Glass, [2]Thomas Erren*. *[1]Curtin University, Perth, Australia; [2]University of Cologne, Cologne, Germany; [3]University of Western Australia, Perth, Australia; [4]Monash University, Melbourne, Australia*

10.1136/oemed-2017-104636.64

Background In 2007, the International Agency for Research on Cancer [IARC] classified shiftwork involving circadian disruption [CD] as probably carcinogenic to humans. We hypothesised that CD occurs if individuals work during their preferred sleep time (i.e. their biological nights).
Objective We intended to refine the measure of exposure to shiftwork involving CD within the Breast Cancer, Environment and Employment Study (BCEES).
Methods For each participant, we classified jobs with regard to whether their work times overlapped with their individual biological night. Preferred sleep times were obtained through the first two questions of the Horne-Östberg morningness-eveningness questionnaire [MEQ] ("perfect day" approach Groß et al., *Medical Hypotheses*2017).
Results Re-classifications were confined to shifts which include work - in part or in full - between midnight and 7 am. Circadian disruption was defined as an overlap of the preferred sleep time and the assessed shift times (+2 hours e.g. for travelling). We found a small, non-statistically significant association between shiftwork involving CD and breast cancer risk not different from prior results (Fritschi et al., *British Journal of Cancer*2013). Assessment of total CD was limited as numbers of chronodisrupted shifts associated with work between 0000–0700 and working times such as 0800–1600 or 1400–2200 could not be assessed.
Conclusions Whether accumulated CD doses due to variable work times during variable individual biological nights are carcinogenic must remain open at this stage. To provide interpretable answers, information on all shifts during the working life with potential CD for individuals with different biological nights must be considered.

Oral Presentation

Policy/Impact

0087 THE IMPACT ON LABOUR MARKET AFFILIATION OF CHANGES IN SICKNESS ABSENCE BENEFIT LEGISLATION USING A NEWLY DEVELOPED DANISH REGISTER ON SALARY AND SOCIAL PAYMENTS, 2010–2014

Jacob Pedersen. *National Research Centre for the Working Environment, Copenhagen O, Denmark*

10.1136/oemed-2017-104636.65

Objectives January 2012 the Danish law on sickness absence benefit was regulated in terms of the employer period. The

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 extend 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 marked 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

Jung-min Sung*, Sang-gil Lee, Eun-A Kim. *KOSHA, Ulsan, Republic of Korea*

10.1136/oemed-2017-104636.66

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 30 s. 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

[1]Cécile Boot*, [1]Micky Scharn, [1]Astrid de Wind, [3]Goedele Geuskens, [1,2]Martijn Huisman, [1]Maarten Lindeboom, [1]Allard Van der Beek. *[1]VU University Medical Centre, Amsterdam Public Health research institute, Amsterdam, The Netherlands; [2]VU University, Amsterdam, The Netherlands; [3]TNO, Leiden, The Netherlands*

10.1136/oemed-2017-104636.67

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.