value=0.00). Respondents who identified as morbidly obese were 36% more likely to report more stress than satisfaction (p value=0.00); those who identified as underweight were 40% more likely to report more stress than satisfaction at work (p value=0.03).

This analysis shows that certain groups are at higher risk of experiencing more stress than satisfaction at work. This can serve as a baseline to monitor stress levels and changes in employees' weight over time and can help target wellness interventions at the appropriate groups.

Oral Presentation

Risk Assessment

0347 ANALYSIS OF MORTALITY IN A POOLED COHORT OF CANADIAN AND GERMAN URANIUM PROCESSING WORKERS WITH NO MINING EXPERIENCE

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Purpose Long-term health risks of occupational exposures to uranium processing were examined to better understand potential differences with uranium underground miners and nuclear reactor workers.

Methods Two cohort studies of workers from Port Hope, Canada (1950–1999) and Wismut, Germany (1946–2008) employed in uranium milling, refining, and processing were pooled. Poisson regression was used to evaluate the association between cumulative exposures to radon decay products (RDP) and gamma-rays and causes of death potentially related to uranium processing.

Results The pooled cohort included 7431 workers (2 70 201 person-years of follow-up). Mean RDP exposures were lower than in miners while gamma-ray doses were higher than in reactor workers. Both exposures were highly correlated (weighted $r=0.89$). Risks of lung cancer and cardiovascular diseases (CVD) in males were increased but not significant and compatible with risks estimated for miners and reactor workers, respectively. Higher RDP-associated CVD risks were observed for exposures 5–14 years prior to diagnosis compared to later exposures and among those employed <5 years. Risks of solid cancers excluding lung cancer were increased, but not significant, both for males and females, while all other causes of death were not associated with exposures.

Conclusions In the largest study of uranium processing workers to systematically examine radiation risks of multiple outcomes from RDP exposures and gamma-rays, estimated radiation risks were compatible with risks reported for uranium miners and nuclear reactor workers. Continued follow-up and pooling with other cohorts of uranium processing workers are necessary for future comparisons with other workers of the nuclear fuel cycle.

Poster Presentation

Working Conditions

0350 RETURN-TO-WORK FOR MULTIPLE JOBHOLDERS WITH A WORK-RELATED MUSCULOSKELETAL DISORDER: A POPULATION-BASED, MATCHED COHORT IN BRITISH COLUMBIA

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The objective of this study is to examine the association between multiple jobholding and return-to-work (RTW) for workers with a work-related musculoskeletal disorder (MSD). We hypothesise that multiple jobholders (MJHs) are less likely to RTW compared to single jobholders (SJHs), due to their higher sickness absence threshold, more unstable employment contracts, and higher workload.

We used administrative workers' compensation data to identify workers with accepted MSD lost-time claims and an injury date between 2010–2014 in British Columbia, Canada ($n=125,639$ SJHs and 9,029 MJHs). The outcome was time until RTW within one year following the first time-loss day. The MJH and SJH cohorts were balanced using coarsened exact matching, which yielded a matched cohort of 8,992 MJHs and 8,992 SJHs. The outcome was estimated using cox proportional hazard models.

MJHs were less likely to RTW within one year after the first time-loss day compared to SJHs (Hazard Ratio (HR) 0.78; 95% confidence interval (CI) 0.76–0.81). This applied to men and women, but the reduced likelihood to RTW was larger for male MJHs (HR 0.73; 95% CI 0.70–0.77) than for female (HR 0.83; 95% CI 0.79–0.87). Furthermore, this result was stronger for those with $\leq$ five pre-injury weekly workdays (HR 0.76; 95% CI 0.73–0.79), compared to those with six or seven days pre-injury weekly workdays (HR 0.94; 95% CI 0.86–1.02).

MJHs are disadvantaged compared to SJHs in terms of RTW following a work-related MSD. Identifying differences between MJHs and SJHs is the first step to improve RTW outcomes for this vulnerable segment of the workforce.

Poster Presentation

Other

0351 NATIONAL PREVALENCE OF OCCUPATIONAL NOISE EXPOSURE

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Noise-induced hearing loss (NIHL) is common and is one of the major costs to occupational compensation schemes. NIHL can

also result in reduced quality of life and employment opportunities for the worker. Despite this considerable burden, there is little understanding of occupational noise exposure on a national scale. Recognition of occupational noise exposure is particularly important for small businesses which employ the majority of workers, and are less likely to monitor occupational health concerns.

We undertook a national phone survey of nearly 5000 workers in Australia using our validated online application, OccIDEAS. In order to mirror a dosimeter survey, each person was asked about their last working day. Each worker was allocated one of 52 job-specific modules which contained questions about relevant tools, tasks and the time spent on each tool/task. The answers were linked to a custom database containing typical noise levels for each tool/task. Partial noise exposures were calculated, added and normalised to an eight hour shift.

On their previous working day, 16% of respondents (23% of males and 7% of females) had an estimated exposure (LAeq,8h) equal to or over the recommended exposure limit of 85 dB. Of those exposed above the limit, 80% were males. A substantial proportion of those exposed above the exposure limit reported that they did not wear hearing protection at all during the day.

These results can be used to target interventions at particular occupational and demographic groups to reduce the incidence of NIHL in the future.

Oral Presentation

Exposure Assessment

0352 DOES THE SIZE OF A COMPANY MAKE A DIFFERENCE TO THE PREVALENCE OF EXPOSURE?

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About two-thirds of workers in high-income countries work in micro (<5 employees) small (5–20 employees) and medium (20–200 employees) sized companies. Nevertheless, regulatory bodies and many research projects predominantly work with large companies (>200 employees) perhaps because they are more convenient to study. For example, a survey of exposure to silica in the UK undertook 44 site visits, with none of the visits involving sole-trader or micro companies.

We undertook a national population-based survey of nearly 5000 Australian workers to examine the occupational prevalence of exposure to 27 asthmagen groups. Seventy percent worked in companies with <200 workers and nearly 20% worked in micro-companies. The overall prevalence of any exposure showed no trend with company size. However, there was considerable variation by agent. For example, flour exposure was most common in medium and small companies,

while epoxy and isocyanate exposures were most common in micro companies. The prevalence of exposure was highest in large companies for only 5/27 asthmagen groups and, except for industrial cleaning and sterilising agents, these were relatively rare exposures (medications, ethylene oxide, reactive dyes, and flowers).

Our study shows that taking a population-based approach in studies describing exposure is likely to give a better overall picture of where the majority of people are exposed to the hazards. This approach permits the targeting of prevention to the places where we can benefit the greatest number of workers. Nationally-representative studies are needed to ensure that our understanding of occupational exposure is based on evidence, not convenience.

Poster Presentation

Cancer

0353 NAVIGATING CANCER AT SEA – AN EXTENDED FOLLOW-UP ON CANCER INCIDENCE IN A DANISH COHORT OF SEAFARERS

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Objective As the traditional perils at sea counting shipwrecks, accidents, piracy and infectious diseases have subsided at least for ships embarking from the Western world, the burden of cancer among seafarers has emerged as a focus point for further health improvements. Even aboard modern ships, occupational hazards are numerous and the aim of this study is to offer updated information on the incidence of specific cancers among both male and female Danish seafarers.

Method All seafarers employed on Danish ships during 1986–1999 were identified through records from the Danish Seafarer Registry providing a cohort of 33 340 men and 11 291 women. Using the unique Danish personal identification number, information on cancer and vital status was linked to cohort members from the Danish Cancer Registry and the Danish Civil Registration System. Standardised incidence ratios for specific cancers were estimated using national rates.

Results Compared to the general population, the overall incidence of cancer was increased for both male and female seafarers (SIR 1.16, 95% CI 1.13–1.20 and SIR 1.12, 95% CI 1.05–1.20). This excess was primarily driven by increases in gastrointestinal, respiratory and urinary cancers among the men, while the women also had increases in cervical and ovarian cancer. The SIR for melanoma of the skin and lip cancer was increased for women and men respectively, while an excess of pleural cancer only affected the men.

Conclusion Cancer among Danish seafarers continue to be primarily lifestyle-related. However, occupational exposure to UV-radiation, asbestos and other chemicals may affect the morbidity pattern as well.