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

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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

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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

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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

(aOR=2.4, 95% CI=1.8–3.1 for SRH; aOR=3.0, 95% CI=2.0–4.5 for PHU), and client-related burnout (aOR=1.6, 95% CI=1.2–2.3 for SRH; aOR= 2.1, 95% CI=1.2–3.5 for PHU) while adjusted for significant variables.

Conclusions We concluded that nurses worked in public health units and secondary referral hospitals had higher job strain and work-related burnout as compared to primary clinics. Further study should examine the stressors from these workplaces and follow up the health effects of high strain and burnout status.

0164 METAGENOMIC DETECTION OF BACTERIA IN AEROSOL SAMPLES IN ANIMAL SLAUGHTERHOUSES TO DEVELOP EXPOSURE PROFILES FOR AN EPIDEMIOLOGICAL ANALYSIS

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Objectives Significant excess risks of lung cancer and haematologic neoplasms have been observed in slaughterhouse workers in eight New Zealand studies, and numerous studies conducted elsewhere. No specific causal agents have been identified, although a biological aetiology is suggested as the risk is highest in those areas where workers are exposed to live animals or to biological material containing animal urine, faeces or blood. This study aimed to assess the airborne bacterial microflora in the slaughterhouse environment in order to develop exposure categories for reanalysis of a meat workers' cohort.

Method Bulk air samples (n = 31) were collected for between 5 and 8 h in five areas in both sheep and beef slaughterhouses using a SASS3100 sampler (fitted with a proprietary SASS filter) located between 0.5 and 2 metres from the worker. Nucleic acid was extracted from each filter and amplified using commercially available kits, then sequenced on an Illumina MiSeq instrument. Bioinformatics analyses conducted included comparative taxonomic analyses, gene function (including virulence factor) analyses, and principal component analyses to compare profiles in samples taken in different areas.

Results Of the bacteria identified over 95% were in the classes Actinobacteria, Firmicutes and Proteobacteria. Clear differences in all parameters were apparent in the different areas, however, and the full results of the comparative analyses and the development of exposure profiles will be presented.

Conclusions Metagenomic analysis of bioaerosol samples represents a promising method for the development of exposure categories for the epidemiological analysis of the effect of biological exposures in an occupational environment.

0168 SOMATISING TENDENCY, OCCUPATIONAL STRAIN AND MUSCULOSKELETAL SYMPTOMS: RESULTS FROM A LONGITUDINAL STUDY AMONG ITALIAN NURSES

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Objectives Musculoskeletal symptoms are a common cause of disability, with major impact on workforce wellbeing, absenteeism and productivity. Several, mainly cross-sectional, studies have linked such symptoms to physical workload, and also to psychological and socio-cultural factors.

We investigated whether prolonged or increasing job strain, tendency to somatise and other individual characteristics, are associated with worsening musculoskeletal pain.

Method As part of the CUPID study, we investigated a cohort of nurses employed on medical wards at the Varese University Hospitals (Italy). Participants were asked, at baseline and after one year of follow-up, about individual and occupational risk factors, psychological characteristics (including tendency to somatise), occupational strain (by Siegrist's Effort/Reward Imbalance Questionnaire-ERI), and musculoskeletal symptoms. Associations of worsening musculoskeletal pain with perceived job strain were assessed by multivariate log-binomial regression.

Results Occupational stress was associated with pain in the lower back (LBP) and neck/shoulder (NSP) in both cross-sectional questionnaires.

Comparing baseline and follow-up answers, workers who reported an increase in perceived stress showed more frequent worsening of both LBP (prevalence of worsening symptoms=41%, OR when compared with not stressed=1.7, 95% CI=1.1–2.7) and NSP (prevalence of worsening=51%, OR=1.2, 95% CI=0.8–1.8).

This relationship persisted after adjustment for gender, age and BMI, and exposure to physical workload, and was more evident among subjects with a tendency to somatise (OR=2.8. 95% CI=1.0–7.4 for LBP; OR=1.6, 95% CI=0.8–3.2 for NSP).

Conclusions Our observation suggests that tendency to somatise modifies individual responses to "triggering exposures", such as psychological workload, with important implications for the health, and productivity of workers.

0169 SINONASAL CANCERS: IS INTESTINAL TYPE ADENOCARCINOMA THE ONLY RELATED TO OCCUPATIONAL EXPOSURES? RESULTS FROM AN ITALIAN CASE-CONTROL STUDY

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Objectives Epithelial sinonasal cancers (SNC) are rare, severe diseases associated to the exposure to several well-established carcinogens (IARC). The etiologic role of these carcinogens in different histological subtypes is still disputed, with several studies focusing on intestinal-type adenocarcinoma (ITAC) as the most (and maybe the only) occupational-related subtype. To assess the role of occupational exposures in SNC aetiology we designed a case control study, in which occupational exposures prevalence in two group of ITAC cases and non-ITAC were compared to controls.

Method In a large Italian hospital we enrolled 50 consecutive surgical non-ITAC cases (mainly squamous-cell carcinoma), 50 consecutives ITAC cases and 50 non-neoplastic patients (controls). Previous occupational exposures to wood and leather dust, solvents, metals, formaldehyde were investigated through a