

males and 13.2% for females. One occupational group was associated with an increased MetS risk in both sexes. Six additional occupational groups had an increased risk for MetS among men, four among women. Highest risks were found for male 'stationary plant and machine operators' (hazard ratio (HR): 1.94; 95% CI: 1.26–3.00) and female 'food preparation assistants' (HR: 1.80; 95% CI: 1.01–3.22).

**Conclusion** Findings indicate that occupational group matters for men and women in MetS development, and that differences in MetS prevalence across occupations are not merely a reflection of selection of metabolically unhealthy workers into specific occupations. The striking sex differences in the occupational distribution of MetS indicates that preventive measures should, with some exceptions, target men and women separately.

### 0-345 ASSOCIATIONS AMONG WORKING HOURS, ROTATING SHIFT WORKS, AND RISK OF CARDIOVASCULAR DISEASES IN TAIWAN: ANALYSES FROM THE NATIONAL LEVEL TO THE COMPANY LEVEL

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**Introduction** Long working hours and rotating shifts are risk factors for cardiovascular disease. National policies and corporate actions play an important role in sound working hours and shifts. Imbalanced rotation speed and working hours may double the burden of cardiovascular disease. We investigated the incidence of work-related cardiovascular disease before and after government relaxed disease recognition criteria in Taiwan. We further used a traditional manufacturing factory as an example to analyze the association between corporate health promotion activities and workers' cardiovascular disease risks.

**Methods** At the national level, we collected data on the number of work-related cardiovascular disease and average working hours per month before and after policy changes. At the corporate level, we collected data on shift types, working hours, health promotion activities, and 10-year risk of manifesting clinical cardiovascular disease. Our statistical analyses included applying mixed-effect models, a mediation analysis, and a generalized estimating equation.

**Results** The relaxation of national criteria for recognizing work-related cardiovascular disease has resulted in a 2.5-fold increase in the incidence rate. This effect was mediated by working hours. Our case study showed workers who worked 12 hours per shift had a higher risk of cardiovascular disease than those who worked 8 hours per shift. Workers who needed to rotate shifts and spent more time on each shift had a higher risk of cardiovascular disease than those who shifted but spent less time on each shift. Workers who participated in health promotion activities had a lower risk of cardiovascular disease.

**Conclusion** National policies relaxing disease recognition criteria have helped more workers received compensation. Criteria that quantitatively point out the hazard of prolonged working hours to cardiovascular disease prompt reductions in working hours at the corporate level. Our case study highlights potentially additional benefits of health promotion activities on the prevention of work-related cardiovascular disease.

## COVID19–1

### 0-125 OCCUPATIONAL CHARACTERISTICS ASSOCIATED WITH SARS-COV-2 INFECTION IN THE UK BIOBANK DURING AUGUST-NOVEMBER 2020

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**Objective** Occupational exposures may play a key role in SARS-CoV-2 infection risk. We used a job-exposure matrix (JEM) linked to the UK Biobank to measure occupational characteristics and estimate associations with a positive SARS-CoV-2 test.

**Methods** People reporting job titles at their baseline interview at assessment centers in England were included. We excluded healthcare workers and people  $\geq 65$  years old by March 2020. Jobs were linked to a JEM based on the US O\*NET database. For each job, O\*NET-based scores (range=1–5) were assigned for characteristics relevant for SARS-CoV-2 infection: physical proximity, exposure to diseases/infection, outdoors-exposed to weather, and outdoors-under cover. O\*NET variables were used to determine whether jobs could be done remotely based on two algorithms. We evaluated SARS-CoV-2 tests occurring between August 5th and November 10th, 2020 (time when UK was not shutdown with a 5-day lag added). Cox regression was used to calculate adjusted hazard ratios (aHRs) as estimates of associations with a positive SARS-CoV-2 test accounting for age, sex, race, education, deprivation, assessment center, household size, and income.

**Results** Our inclusion/exclusion criteria identified 115,581 people, including 1746 with a positive SARS-CoV-2 test. A one-point increase in physical proximity score was associated with 1.12 times higher risk of a positive SARS-CoV-2 test (95% CI=1.03–1.22). A one-point increase in exposure to disease/infections score was associated with 1.08 times higher risk of a positive SARS-CoV-2 test (95%CI=1.01–1.15). There were borderline associations between outdoors work and a positive SARS-CoV-2 test (outdoors-exposed to weather aHR=1.05, 95%CI=1.00–1.10; outdoors-under cover aHR=1.08, 95% CI=1.00–1.17). People reporting jobs that could not be done remotely had higher risk of a positive SARS-CoV-2 test regardless of the algorithm used to classify jobs (aHRs=1.16 and 1.18).

**Conclusion** Numerous occupational characteristics were associated with increased risk of a positive SARS-CoV-2 test even after accounting for demographic and socioeconomic differences between workers.

### 0-162 IMPACT OF THE COVID-19 PANDEMIC ON KEY WORKERS IN ENGLAND: FINDINGS FROM THE HEALTH AND EMPLOYMENT AFTER FIFTY (HEAF) STUDY

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**Introduction** In the UK, workers who were essential to maintain communications, travel, food and healthcare were deemed